

Curriculum for MD/MS Ayurveda
(PRESCRIBED BY NCISM)

अभ्यासात्प्राप्यते दृष्टिः कर्मसिद्धिप्रकाशिनी ।

Semester III-VI
Agad Tantra and Vidhi Vaidyaka
(Clinical Toxicology and Medical Jurisprudence)
(SUBJECT CODE : AYPG-AT)

(Applicable from 2024-25 batch, from the academic year 2025-26 onwards until further notification by NCISM)



आयुषे सर्वलोकानाम्



Competency

Copability

SKILLS

Skill
Training



BOARD OF AYURVEDA
NATIONAL COMMISSION FOR INDIAN SYSTEM OF MEDICINE
NEW DELHI-110026

PREFACE

Agadatantra, existed as one of the significant branch of Asthanga Ayurveda, which gloried Ayurveda among world countries due to its magical powers of managing snakebite which are dreaded by the medical sciences of the world at that era. The treatment strategies present in Susruta Samhita and other related treatises were translated to several foreign languages due to its practical utility in cases of toxic exposures. India nurtured the development of Agadatantra in several regions as local dialects which contributed to the immense popularity of this science. Loss of patronage from the authorities during the post-independence era, when, only the modern medical science got the fund from the State treasuries. Ayurveda in general and the specialities and their niches of strong holds were neglected and much of these treasure of knowledge got erased by time.

Ayurveda academy in the post-independence era sidelined this clinical branch merely to a para-clinical subject which oriented students towards the modern counterpart of this subject namely 'Forensic science and Toxicology'. As time elapsed this subject was merely taught during their second professional course with very little stress being given to the toxicological aspects as mentioned in Ayurvedic texts. This drastic step has erased many years of research and intellectual exercise that might have contributed immensely to the clinical framework of Ayurvedic practice.

As a measure to revive the lost traditions of toxicological emergencies mentioned in Samhita and to extend its present day relevance, Agadatantra has been elaborately incorporated into the current academy in both undergraduate and post-graduate education. To impart a more practical oriented and competency based curriculum in postgraduate studies, a drastic change in the curriculum of the first year MD- Agadatantra course has been brought about. Experiential learning based, competency based and practical oriented topics has been included in the second semester of the MD- Agadatantra course to equip scholars to undertake a more evidence based and clinically oriented curriculum including diverse topics that cater to the future development of the subject providing opportunities in practice, teaching and research.

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We want that education by which character is formed, strength of mind is increased, the intellect is expanded, and by which one can stand on one's own feet.

-Swami Vivekananda



NCISM

(NATIONAL COMMISSION FOR INDIAN SYSTEM OF MEDICINE)

Curriculum MD/ MS Ayurveda

Agad Tantra and Vidhi Vaidyaka (AYPG-AT)

Summary & Credit Framework

Semester III-VI

Module Number & Name	Credits	Notional Learning Hours	Maximum Marks of assessment of modules (Formative Assessment)
Semester No : 3			
Paper No : 1 (Visha chikitsa Vigyan – Sthavara jangama visha vigyaneeyam)			
M1 Study of Sthavara Visha	3	90	75
M2 Study of Sarpa Visha	2	60	50
Paper No : 2 (Visha chikitsa Vigyan – Gara-Dooshi visha vigyaneeyam)			
M9 Study on Gara visha	1	30	25
M10 Study on Dooshi Visha	1	30	25
Paper No : 3 (Bharatiya Nyaya Vaidyak Shastra)			
M17 Legal Procedure	2	60	50
M18 Legal aspects of Medical practice	2	60	50
Paper No : 4 (Prayogika Agadatantra)			
M25 Study of Agada and Vishaghna Yoga	3	90	75
M26 Pharmacodynamics of Agada and Vishaghna Yoga	2	60	50
Total	16	480	400
Semester No : 4			
Paper No : 1 (Visha chikitsa Vigyan – Sthavara jangama visha vigyaneeyam)			
M3 Study of Vruschika and Luta Visha	2	60	50
M4 Study of Alarka, Mushaka and Keeta Visha	2	60	50

Paper No : 2 (Visha chikitsa Vigyan – Gara-Dooshi visha vigyaneeyam)			
M11 Applied aspects of Garavisha and Dooshi Visha	2	60	50
M12 Occupational diseases and Epigenetic Toxicity	2	60	50
Paper No : 3 (Bharatiya Nyaya Vaidyak Shastra)			
M19 Thanatology	3	90	75
M20 Medico-legal Autopsy	1	30	25
Paper No : 4 (Prayogika Agadatantra)			
M27 Analytical Study of Visha and Vishaghna Yoga.	3	90	75
M28 Pharmacovigilance and Toxicovigilance	1	30	25
Total	16	480	400
Semester No : 5			
Paper No : 1 (Visha chikitsa Vigyan – Sthavara jangama visha vigyaneeyam)			
M5 Agadatantra Approach to Janpadadwasaniya Vikara	2	60	50
M6 Substance and Alcohol Abuse	2	60	50
Paper No : 2 (Visha chikitsa Vigyan – Gara-Dooshi visha vigyaneeyam)			
M13 Twak Vikara (Dermatological manifestations) due to Visha exposure	3	90	75
M14 Agadatantra approach to Drug induced toxicity	2	60	50
Paper No : 3 (Bharatiya Nyaya Vaidyak Shastra)			
M21 Injury and its Medico-legal importance	2	60	50
M22 Sexual offences, pregnancy, delivery and their Medico-legal aspects	2	60	50
Paper No : 4 (Prayogika Agadatantra)			
M29 Experimental Toxicology	3	90	75
Total	16	480	400
Semester No : 6			
Paper No : 1 (Visha chikitsa Vigyan – Sthavara jangama visha vigyaneeyam)			
M7 Ecotoxicology and Biomagnification	2	60	50
M8 Visha Upadrava	1	30	25
Paper No : 2 (Visha chikitsa Vigyan – Gara-Dooshi visha vigyaneeyam)			
M15 Virudha Ahara	3	90	75
M16 Agadatantra perspective of Cancer	2	60	50

Paper No : 3 (Bharatiya Nyaya Vaidyak Shastra)			
M23 Personal Identity and its Medico-legal importance	3	90	75
M24 Medical Negligence	1	30	25
Paper No : 4 (Prayogika Agadatantra)			
M30 Toxicogenomics	1	30	25
M31 Survey and study of the traditional and folklore Vishachikitsa Sampradaya	1	30	25
M32 Vishopyogeeyam – Therapeutic use of poisons	2	60	50
Total	16	480	400
Grand Total	64	1920	1600

Credit frame work

AYPG-AT consists of 32 modules totaling 64 credits, which correspond to 1920 Notional Learning Hours. Each credit comprises 30 hours of learner engagement, distributed across teaching, practical, and experiential learning in the ratio of 1:2:3. Accordingly, one credit includes 5 hours of teaching, 10 hours of practical training, 13 hours of experiential learning, and 2 hours allocated for modular assessment, which carries 25 marks.

Important Note: The User Manual MD/MS Ayurveda is a valuable resource that provides comprehensive details about the curriculum file. It will help you understand and implement the curriculum. Please read the User Manual before reading this curriculum file. The curriculum file has been thoroughly reviewed and verified for accuracy. However, if you find any discrepancies, please note that the contents related to the MSE should be considered authentic. Each paper has 16 credits and each semester covers 16 credits across 4 papers. In case of difficulty and questions regarding the curriculum, write to syllabus24ayu@ncismindia.org.

Credit Analysis Overview					
Sem/Paper	Paper No 1	Paper No 2	Paper No 3	Paper No 4	Credits
Semester 3	M-1 3 Crs M-2 2 Crs	M-9 1 Crs M-10 1 Crs	M-17 2 Crs M-18 2 Crs	M-25 3 Crs M-26 2 Crs	16
Semester 4	M-3 2 Crs M-4 2 Crs	M-11 2 Crs M-12 2 Crs	M-19 3 Crs M-20 1 Crs	M-27 3 Crs M-28 1 Crs	16
Semester 5	M-5 2 Crs M-6 2 Crs	M-13 3 Crs M-14 2 Crs	M-21 2 Crs M-22 2 Crs	M-29 3 Crs	16
Semester 6	M-7 2 Crs M-8 1 Crs	M-15 3 Crs M-16 2 Crs	M-23 3 Crs M-24 1 Crs	M-30 1 Crs M-31 1 Crs M-32 2 Crs	16
Credits	16	16	16	16	64

Semester VI University examination					
Theory			Practical*		
Paper	Marks	Total	Practical Heads	Marks	Total
Paper -1	100	400	Long case or procedure/Major practical as applicable	100	400
			Short case or procedure/Minor practical	50	
Paper -2	100		Spotters	50	
			Assessing teaching ability	20	
Paper -3	100		Assessing presentation skills	20	
			Viva (4 examiners: 20 marks/each examiner)	80	
Paper -4	100		Dissertation Viva	40	
			Logbook (Activity record)	20	
			Practical/Clinical Record	20	
Semester VI University examination – 800 Marks					

* Details in 6H table

Course Code and Name of Course

Course code	Name of Course
AYPG-AT	Agad Tantra and Vidhi Vaidyaka (Clinical Toxicology and Medical Jurisprudence)

Table 1 : Course learning outcomes and mapped Program learning outcomes

CO No	A1 Course learning Outcomes (CO) AYPG-AT At the end of the course AYPG-AT, the students should be able to-	B1 Course learning Outcomes mapped with program learning outcomes.
CO1	Demonstrate the competency to be an academician, clinician, trainer and researcher in Agadatantra.	PO1,PO2,PO5
CO2	Apply basic principles of Agadatantra and toxicology in preventing, diagnosing, and managing diseases.	PO1,PO2,PO3
CO3	Diagnose and manage acute and chronic poisoning caused by Sthavara, Jangama, and Kritrima Visha, along with their contemporary relevance	PO2,PO3,PO7
CO4	Identify and articulate medical ethics concerning the patient, profession, society, State, and humanity.	PO4,PO6,PO7
CO5	Articulate the laws governing the practice of medicine, medical negligence, and the investigation of crimes.	PO4,PO6,PO7
CO6	Identify, analyze, and prepare reports on medico-legal cases. Acquire professional skills in forensic medicine to handle medico-legal issues effectively.	PO7,PO8
CO7	Demonstrate different laboratory techniques for toxicological analysis and interpret the reports for medico-legal purposes	PO3,PO7,PO8
CO8	Prepare different Agada and identify the therapeutic approaches of Agada yoga and Visha dravya in clinical practice.	PO5,PO7,PO8
CO9	Critically appraise research updates, healthcare programs, and social awareness related to Agadatantra.	PO5,PO7,PO8

Table 2 : Course contents (Modules- Credits and Notional Learning Hours)

Paper No : 1 (Visha chikitsa Vigyan – Sthavara jangama visha vigyaneeyam)						
Semester No : 3						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
1	M-1 Study of Sthavara Visha Descriptive study of Sthavara Visha (Vanaspati Visha and Dhatu Visha) Descriptive study of Upavisha M1U1 Study of Vanaspathi Visha - Sthavara visha samanya Lakshana - Sthavara Visha : Adhishtananusara visha lakshana - Sthavara visha Veganusara Lakshana and Chikithsa M1U2 Study of Dhatu visha - Haratala & Manasila visha Lakshana & Chikitsa - Ashuddha Haratala & Manasila visha (sevana) Lakshana & Chikitsa	3	15	30	45	90

	• Acute & Chronic Arsenic Poisoning • Ashuddha Parada visha (sevana) Lakshana & Chikitsa • Acute & Chronic Mercury Poisoning • Ashuddha Naaga visha (sevana) Lakshana & Chikitsa • Acute & Chronic Lead Poisoning • M1U3 Study of Vegetable poisons in contemporary era Study of Sthavara visha (vegetable poisons) in contemporary era • M1U4 Study of Upavisha • Upavisha in different Classical texts • Upavisha Lakshana and Chikitsa					
2	M-2 Study of Sarpa Visha Sarpa visha - its classification, lakshana and chikitsa • M2U1 Study of Sarpa Visha • Classification of snakes • Sarpa damsaka karaṇa and kala • Vegaanusar lakṣaṇa of sarpa with respect to dhatu • Shanka Visha and visha sankata	2	10	20	30	60

	• M2U2 Study of snakes in modern aspect • Evolution of snakes, snake venom, its composition, types and mode of action • Snake bite sign, symptoms and management • Snake bite complications and management					
		5	25	50	75	150
Semester No : 4						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
3	M-3 Study of Vruschika and Luta Visha Vruschika and Luta visha • M3U1 Study of Vruschika Visha • Study of Vruschika Visha lakshana and chikitsa • M3U2 Study of Luta Visha • Study of Luta Visha lakshana and chikitsa	2	10	20	30	60

4	M-4 Study of Alarka, Mushaka and Keeta Visha Study of Alarka, Mushaka and Keeta Visha (Satapadi, makshika, kanabha etc.) lakshana and chikitsa • M4U1 Study of Alarka, Mushaka Visha Alarka and Mushaka visha lakshana and chikitsa • M4U2 Study of Keeta Visha Keeta Visha lakshana and Chikitsa	2	10	20	30	60
		4	20	40	60	120
Semester No : 5						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
5	M-5 Agadatantra Approach to Janpadadwasaniya Vikara	2	10	20	30	60

	Describe Agadatantra approach to Janpadadwasaniya Vikara • M5U1 Agadatantra Approach to Vector borne diseases • Vector-borne diseases, their risk factors, and the principles of disease control • Pathophysiology, diagnosis, investigations, and principles of management of Chikungunya and Dengue. • Pathophysiology, diagnosis, investigations, and principles of management of Filariasis, monkeypox, and Malaria • Application of Keeta visha chikitsa in the management of vector-borne diseases • M5U2 Utilization of Dundubiswaniya principles to Janpadadwamsaneeya vikara • Janpadadwamsaneeya vikara, their significance, and causative factors. • Samprapthi and Lakshanas of Janpadadwamsaneeya vikara • Modes of detoxifying the environment with Vishaghna yoga. • Non-pharmacological prophylactic measures for prevention and containment of infections during epidemics and Pandemics. • The scientific relevance of Dundubhiswaniya practices in Indian cultural and religious practices.					
6	M-6 Substance and Alcohol Abuse Types of Madya and stages of Mada Acute and chronic alcoholism	2	10	20	30	60

	Management of acute and chronic alcoholism • M6U1 Madya Visha • Madya types and stages of Mada • Acute and Chronic Alcoholism • Treatment of Acute and chronic Alcoholism • M6U2 Substance Abuse • Madakari dravya and Substances acting on nervous system • Explain general treatment of substance abuse • Definition and types of Addiction • Diagnosis of Addiction • Ayurvedic approach to de-addiction					
		4	20	40	60	120
Semester No : 6						
2A Module Number	2B Modules & units	2C Number of Credits	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
7	M-7 Ecotoxicology and Biomagnification	2	10	20	30	60

	Biomagnification and Ecotoxicology. • M7U1 Ecotoxicology • Definition and importance of Ecotoxicology • Different types of Eco Toxicants, their pathways in to Ecosystem and the alterations they cause in Ecosystem • Vishakta Bhoomi Laksahana & Chikitsa • Vishakta Jala Laksahana & Chikitsa • Vishakta Vayu Laksahana & Chikitsa • M7U2 Biomagnification & Bioconcentration • Definition and importance of Biomagnification & Bioconcentration. • Mechanism of biomagnification and factors influencing biomagnification • Common toxicants of Biomagnification and their health hazards • Role of biomagnification in the manifestation of diseases • Understanding the Biomagnification under the light of Gara visha and Dooshi visha.					
8	M-8 Visha Upadrava Visha Upadrava • M8U1 Visha Upadrava: Complications due to Visha • Understanding 16 Visha Upadrava. Study of Diagnosis & management of Jvara, Kasa, Chchardi (Vami), and Shwasa.	1	5	10	15	30

	• Study of diagnosis and management of Hikka, Trushna, Moorcha, & Vidbheda (Vishobheda) Vidkatinya (Visho atikatinya), Aanaha, Basthiruk & Shiroruk. Shotha, Poothidamsha, Raktasrava & Vishaneela. • Study of common complications of bites and stings along with their contemporary aspects of diagnosis, Prognosis, and management. • M8U2 Visha Upadrava • Health consequences due to systemic toxicities • Visha Upadrava: Complications due to Visha/ poisons					
		3	15	30	45	90
		16	80	160	240	480

Paper No : 2 (Visha chikitsa Vigyan – Gara-Dooshi visha vigyaneeyam)

Semester No : 3

2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
9	M-9 Study on Gara visha Theoretical implications and clinical relevance of Gara visha	1	5	10	15	30

	• M9U1 Theoretical implications and clinical relevance of Gara visha • Garavisha, its classifications and Diagnostic approach, Management with contemporary relevance. • Manifestations in the eyes, nose and lungs (Allergic manifestations/ Gara Adhishtana) • Conceptual study on Drug interactions and Incompatibility					
10	M-10 Study on Dooshi Visha Theoretical implications and clinical relevance of Dooshivisha • M10U1 Theoretical implications and clinical relevance of Dooshivisha • Dooshivisha and its signs and symptoms • Diagnostic approach to Dooshivisha • Study of management with contemporary relevance	1	5	10	15	30
		2	10	20	30	60
Semester No : 4						
2A Module Number	2B Modules & units	2C Number of Credits	Notional Learning hours			

		ts	2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
11	M-11 Applied aspects of Garavisha and Dooshi Visha • Understanding toxin induced health impacts of Endocrine Disruptors • Understanding toxin induced systemic Health impacts • M11U1 Understanding toxin induced health impacts of Endocrine Disruptors (EDC) Common toxicants leading to systemic toxicity, their pathophysiology, clinical presentations, principles of management and prevention. • M11U2 Understanding toxicants induced systemic Health impacts • Agadatantra approach to Autoimmunity: Exposure to toxicants leading to Autoimmune disorders, their manifestations, management and prevention. • Agadatantra approach to Garbhopaghata (Reproductive toxicity): garbhopaghatakara bhavas (Agents that cause mutations, genotoxicity) their manifestations, management and prevention • Agadatantra approach to Neurotoxicity: Knowledge on neurotoxicants, their manifestations, management and prevention.	2	10	20	30	60

12	M-12 Occupational diseases and Epigenetic Toxicity Occupational diseases and Epigenetic Toxicity • M12U1 Occupational Disorders Occupational diseases: Toxicological perspectives of the diseases related to occupation, manifestations, management and prevention. • M12U2 Epigenetics in Toxicity Perspectives Epigenetics in Toxicity perspectives. • M12U3 Occupational Disorders Occupational disorders: Toxicological perspectives of the diseases related to occupation, their pathophysiology, clinical manifestations, management and prevention. • M12U4 Epigenetic Toxicity • Mechanisms of genetic modifications from toxic exposures and its health impact • Prevention of Epigenetic toxicities	2	10	20	30	60
		4	20	40	60	120
Semester No : 5						
2A Module Nu	2B Modules & units	2C Number of	Notional Learning hours			

Number		Credits	2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
13	M-13 Twak Vikara (Dermatological manifestations) due to Visha exposure Twak Vikara (Dermatological manifestations) due to Visha exposure • M13U1 Dermatological manifestations due to Garavisha • Dermatological manifestations due to Gara visha • M13U2 Dermatological manifestations due to Dooshi Visha • Dermatological manifestations due to Dooshi Visha • M13U3 Dermatological manifestations in Bites and Stings Dermatological manifestations due to bites and stings	3	15	30	45	90
14	M-14 Agadatantra approach to Drug induced toxicity Agadatantra approach to Drug induced toxicity • M14U1 Agadatantra approach to Drug induced toxicity • Study of common drugs of Toxicological importance	2	10	20	30	60

	Study of Drugs causing Hepatotoxicity, Nephrotoxicity, Cardiotoxicity, Hematotoxicity& Gastro-intestinal toxicity.					
		5	25	50	75	150
Semester No : 6						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
15	M-15 Virudha Ahara Virudha Ahara M15U1 Role of Virudha Ahara in disease manifestation Concept of Virudha ahara M15U2 Ahara Vishaktata - Ahara visha in Ayurveda and contemporary sciences. - Satmyata and Asatmyata - Management of food poisoning M15U3 Vishakta Ahara pareeksha	3	15	30	45	90

	• Vishakta Ahara pareeksha in Ayurveda, Panchabhautikapareeksha and contemporary sciences. • Adulteration detection					
16	M-16 Agadatantra perspective of Cancer Agadatantra perspective of Cancer • M16U1 Agadatantra perspective of Cancer. • Role of Visha in Cancer manifestation • Application of Agada yogas to improve the quality of life in Cancer patients • Application of Agadatantra Principles in the management of Radiation & Common chemotherapeutic agent induced toxicities. • Scope of Agadatantra in Cancer research.	2	10	20	30	60
		5	25	50	75	150
		16	80	160	240	480
Paper No : 3 (Bharatiya Nyaya Vaidyak Shastra)						
Semester No : 3						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning	2G Total

					including Modular Assessment	
17	M-17 Legal Procedure Legal Procedure • M17U1 Courts and Legal procedures • Legal procedure in court, inquest, summon, evidence, conduct money, witness & recording of evidence. • Doctor as an expert witness in a court of Law • Recording of dying declaration • M17U2 Documentation of medical legal cases (MLC) • Medico-legal cases (MLCs) in medical practice • Legal aspects of medical records • Prepare MLC report • Defence against MLC	2	10	20	30	60
18	M-18 Legal aspects of Medical practice • Laws and rules in the Indian legal system • Acts related to the Medical Profession	2	10	20	30	60

	• M18U1 Laws and rules in Indian legal system • Indian legal system • BNS sections related to medical practice • BNSS sections related to medical practice • BSS sections related to medical practice • M18U2 Acts related to Medical profession • Nursing Home Act • Human Organ Transplantation Act • Drugs and Cosmetics Act, 1940 • Narcotic drugs and Psychotropic substances Act, 1985 • Consumer protection Act • Indemnity insurance scheme, • Biomedical Waste management rules					
		4	20	40	60	120
Semester No : 4						
2A Module Number	2B Modules & units	2C Number of Credits	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total

19	M-19 Thanatology Death and its Medico-legal aspects and Asphyxial deaths • M19U1 Death and its Medico-legal aspects • Definition, modes and types of death • Signs of death and their Medico-legal aspects • Death due to poisoning and its Medico-legal aspects • Death due to starvation, heat, cold, lightning, electricity with their Medico-legal importance • M19U2 Asphyxial death • Types of asphyxial death • Pathophysiology of asphyxial death • Post mortem finding in hanging, drowning, strangulation and suffocation • Medico-legal aspect of hanging, drowning, strangulation and suffocation	3	15	30	45	90
20	M-20 Medico-legal Autopsy Autopsy and its procedures • M20U1 Autopsy and its procedure • Types & Objectives of Medico-legal autopsy	1	5	10	15	30

	• Procedure of autopsy • Collection and Preservation of Viscera, Tissues and biological fluids. • Crime scene investigation and collection of circumstantial evidences. • Post mortem artefacts and Exhumation.					
		4	20	40	60	120
Semester No : 5						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
21	M-21 Injury and its Medico-legal importance Injury and its Medico-legal importance • M21U1 Mechanical Injury and its Medico-legal importance • Injury, its classification and identification. • Medico legal aspects of injury, • Mechanism of Injury • Estimation of age of injury. • M21U2 Thermal, firearm and electrical injury	2	10	20	30	60

	• Thermal injury • Terminal Ballistics • Electrical and other Miscellaneous injuries					
22	M-22 Sexual offences, pregnancy, delivery and their Medico-legal aspects Sexual offences, pregnancy, delivery and their Medico-legal aspects • M22U1 Sexual offences and their Medico-legal aspects • Sexual offences and perversions • Medico-legal aspects of Virginity • Examination of Victim and accused in sexual offences. • Legal aspects of sexual offences • Recent updates on Medico Legal aspects of LGBTQ • Sexual harassment of women at workplace Act • POCSO Act • M22U2 Pregnancy, Delivery and their Medico-legal aspects • Signs of pregnancy in living. • Detailed study of PCPNDT Act. • Medico-legal aspects of Pregnancy, Delivery Infanticide, surrogacy and artificial insemination • The surrogacy (regulation) act 2021 • The Assisted Reproductive Technology (Regulation) Act, 2021 • M22U3 Abortion Study of MTP Act.	2	10	20	30	60

		4	20	40	60	120
Semester No : 6						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
23	M-23 Personal Identity and its Medico-legal importance Personal Identity and its Medico-legal importance • M23U1 Sex determination and its Medico-legal importance • Methods and medico legal aspects of sex determination in living and dead. • Disorders of sex development. • M23U2 Estimation of Age and its Medico-legal importance • Methods of age estimation in fetus, infants, children and adults less than 25 years and over 25 years, living and dead. • Medico legal aspects of age estimation • M23U3 Techniques used in Personal Identification	3	15	30	45	90

	• Dermatoglyphics • Forensic odontology • Cheiloscopy • Poroscopy • Ruguscopy • DNA profile					
24	M-24 Medical Negligence Medical Negligence • M24U1 Concept of Medical Negligence and ramification • Definition and types of Negligence • Legal aspects of medical negligence • Case laws with judgement	1	5	10	15	30
		4	20	40	60	120
		16	80	160	240	480
Paper No : 4 (Prayogika Agadatantra)						
Semester No : 3						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi	Notional Learning hours			

		ts	2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
25	M-25 Study of Agada and Vishaghna Yoga Study of Agada and Vishaghna Yoga • M25U1 Study of Agada and Vishaghna Yoga • Describe Classical Reference, ingredients, Methods Preparation & Indications of Agada and vishaghna yoga - ◦ Vishaghna mahakashaya ◦ Ekasara gana ◦ Bilwadi Agada ◦ Dashanga Agada ◦ Dooshivishari Agada ◦ Panch Shirish Agada ◦ Murvadi agada ◦ Aragwadhadi Yoga ◦ Shirishabijadi Yog ◦ Drakshadi Agada ◦ Sarvakarmika Agada ◦ Sanjeevana Agada ◦ Himawan Agada ◦ Kottam tagadardi yoga ◦ Jeevaraksha agada	3	15	30	45	90

	◦ Avipatti Churna ◦ Tarunabhaskara Agada ◦ Vishahari leha ◦ Ksharagada ◦ Natadi Yoga ◦ Trimoorthis agada ◦ Patol Katu Rohinyadi Kashaya ◦ Kalyanak Ghrita ◦ Visha Vilwadi agada. ◦ Shigrupunnavadi yoga ◦ Lodrasevyadi Yoga ◦ Siddharthakadi agada ◦ Padmakadi Agada and other Agada or vishaghna yogas related to the regional practices and availability.					
26	M-26 Pharmacodynamics of Agada and Vishaghna Yoga Pharmacodynamics of Agada and Vishaghna Yoga • M26U1 Pharmacodynamics of Agada and Vishaghna Yoga (Vishaghna Mahakashaya, Ekasara gana, Bilwadi Agada, Dashanga Agada, Dooshivishari Agada, Panch Shirish Agada, Murvadi agada, Aragwadhadi Yoga, Shirishabijadi Yog, Drakshadi Agada, Sarvakarmika Agada, Sanjeevan Agada, Himawan Agada, Kottam tagadardi, Jeevaraksha agada, Avipattikar Churna, Tarunabhaskara Agada, Vishahari leha, Ksharagada, Natadi Yoga, Trimoorthis agada, Patol Katu Rohinyadi Kashaya, Kalyanak Ghrita, Visha Vilwadi agada, Shigrupunnavadi yoga, Lodrasevyadi Yoga, Siddharthakadi agada, Padmakadi Agada and other Agada related to the regional practices and	2	10	20	30	60

	availability) 1. Therapeutic indications of Agada and Vishaghna yoga in Sthavara, Jangama & Kritrima Visha 2. Indications of Agada and Vishaghna yoga in other disease conditions 3. Application of various Agada and Vishaghna yoga in OPD and IPD 4. Pharmacodynamics of Agada and Vishaghna yoga in terms of Rasa, Guna, Virya, Vipaka, and Prabhava 5. Clinical efficacy of Agada and Vishaghna yoga in contemporary aspects of toxicity					
		5	25	50	75	150
Semester No : 4						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
27	M-27 Analytical Study of Visha and Vishaghna Yoga. • Instruments Used for Analytical Toxicology • Methods for Examinations of Visha and visha sadrushya dravya (Suspicious substance) • M27U1 Analytical Study of Visha and Vishaghna Yoga	3	15	30	45	90

	Understand the basic principles of mechanism and functioning of different instruments/ equipment used in the analysis of Visha and Vishaghna yoga • Thin Layer Chromatography (TLC) • High-Performance Thin Layer Chromatography (HPTLC) • High-Performance Liquid Chromatography (HPLC) • Gas Chromatography - Mass Spectrometry (GC-MS) • Spectrophotometry • X-ray diffraction (XRD) • Atomic Absorption Spectrophotometry (AAS) • Dynamic Light Scattering (DLS) • Flame photometry. • Electrophoresis • M27U2 Methods for Examinations of Visha and visha sadrushya dravya (Suspicious substance) • Illustrate chemical tests for examination of Visha • Illustrate tests for the examination of the biological samples in Vishaktata.					
28	M-28 Pharmacovigilance and Toxicovigilance Pharmacovigilance and Toxicovigilance • M28U1 Pharmacovigilance and Toxicovigilance 1. Pharmacovigilance, Adverse Drug Events, Drug Interaction and Drug Incompatibility.	1	5	10	15	30

	2. Reporting Adverse Drug Events and Misleading Advertisement. 3. The Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954 4. Definitions and purpose of Toxicovigilance and functions of the Poison Information Centre in India.					
		4	20	40	60	120
Semester No : 5						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
29	M-29 Experimental Toxicology Experimental Toxicology • M29U1 Guidelines for Experimental Toxicology 1. OECD Guidelines for Toxicity Study. 2. CCSEA Guidelines for animal experimentation. 3. CCRAS Guidelines for safety/toxicity evaluation of Ayurvedic formulations	3	15	30	45	90

	• M29U2 Pre-clinical Evaluation Models 1. LD-50 and Chronic, cumulative, and residual toxicity. 2. Preclinical studies in the context of Agada Tantra Research 3. In Vivo study models 4. In Vitro Study models 5. In silico study models					
		3	15	30	45	90
Semester No : 6						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
30	M-30 Toxicogenomics Toxicogenomics • M30U1 Toxicogenomics • Describe definition, history and scope of Toxicogenomics • Explain techniques used in Toxicogenomics • Apply of toxicogenomics principles in Agadatantra	1	5	10	15	30

31	M-31 Survey and study of the traditional and folklore Vishachikitsa Sampradaya Survey and study of the traditional and folklore Vishachikitsa Sampradaya • M31U1 Survey and study of the traditional and folklore Vishachikitsa Sampradaya • Survey study of or field visit to the centers of Traditional Vishachikitsa Sampradaya and Tribal practices of Vishachikitsa. • Literature search and survey of folklore Vishachikitsa methods in various regions of India ◦ Kerala - (Visha Vaidyam) ◦ Tamil Nadu - Siddha Tradition ◦ West Bengal and Odisha - Baul and Naga Sadhu Traditions	1	5	10	15	30
32	M-32 Vishopyogeeyam – Therapeutic use of poisons Vishopyogeeyam – Poison as Medicine / Poison Therapeutics • M32U1 Vishopyogeeyam – Therapeutic use of Visha • Classical references of the therapeutic use of visha • Current research on therapeutic applications of various poisons and venoms.	2	10	20	30	60

		4	20	40	60	120
		16	80	160	240	480
		64	320	640	960	1920

Table 3 : Modules - Unit - Module Learning Objectives and Session Learning Objective- Notional Learning Hours- Domain-Level- TL Methods

Paper No : 1 Visha chikitsa Vigyan – Sthavara jangama visha vigyaneeyam						
Semester No : 3						
3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experientia l Learning	3E Domain/ Sub Domain	3F Level (D oes/Sho ws how/ Knows h ow/Kno w)	3G Teachin g Learnin g Methods
Module 1 : Study of Sthavara Visha						
Module Learning Objectives (At the end of the module, the students should be able to) 1. Identify different sources of vanaspathi, khaniya visha and upavisha. 2. Diagnose vanaspathi and khaniya visha lakshana. 3. Apply the appropriate chikithsa sutra as per visha avastha 4. Prepare and utilize the formulations containing upavisha.						
M 1 Unit 1 Study of Vanaspathi Visha • Sthavara visha samanya Lakshana • Sthavara Visha : Adhishtananusara visha lakshana • Sthavara visha Veganusara Lakshana and Chikithsa						

References: 3,4,5,6,7

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3	Conclude sthavara visha samanya lakshana	1	Lecture	CAN	Knows-how	L&PPT , L_VC,L&GD,L
CO1,CO2,CO3	Conclude Adhishtananusara vegetative visha lakshana	1	Lecture	CAN	Know	L&GD,L &PPT
CO1,CO2,CO3 ,CO8	Appraise sthavara visha veganusara lakshana and chikithsa	1	Lecture	CAN	Knows-how	L&PPT , L&GD,L, L_VC
CO1,CO3,CO7 ,CO9	Demonstrate the visha component in sthavara visha (Vegetable poisons).	10	Practical Training 1.1	PSY-GUD	Shows-how	DL
CO1,CO2,CO9	Create a database for regionally available sthavara visha	8	Experiential-Learning 1.1	PSY-MEC	Does	BL,TPW, IBL,FV,D G
CO1,CO2,CO3 ,CO7,CO8,CO 9	Analyse and discuss general treatments of sthavara visha	7	Experiential-Learning 1.2	PSY-GUD	Shows-how	RP,SIM,C D,CBL,D IS
CO1,CO2,CO3 ,CO7,CO8,CO 9	Apply and prepare a report on general treatments of sthavara visha from the OPD/IPD setup.	8	Experiential-Learning 1.3	PSY-MEC	Does	CD,DL,C BL,D-BED

M 1 Unit 2 Study of Dhatu visha

- Haratala & Manasila visha Lakshana & Chikitsa
- Ashuddha Haratala & Manasila visha (sevana) Lakshana & Chikitsa
- Acute & Chronic Arsenic Poisoning

- Ashuddha Parada visha (sevana) Lakshana & Chikitsa
- Acute & Chronic Mercury Poisoning
- Ashuddha Naaga visha (sevana) Lakshana & Chikitsa
- Acute & Chronic Lead Poisoning

References: 37,38,39,40,41,42,43,44

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3,CO7,CO8	Summarize ashuddha haratala & manasila bhakshana lakshana & chikitsa	1	Lecture	CAN	Knows-how	L&PPT, L&GD
CO1,CO3,CO7,CO8	Appraise signs & symptoms and management of acute & chronic arsenic poisoning	1	Lecture	CAN	Knows-how	L_VC, L&GD, L&PPT, L
CO1,CO2,CO3,CO8	Conclude ashuddha parada bhakshana lakshana & chikitsa	1	Lecture	CAN	Knows-how	L, L&PPT, L&GD, L_VC
CO1,CO2,CO3,CO7,CO8	Appraise signs and symptoms and management of acute & chronic mercury poisoning	1	Lecture	CAN	Knows-how	L&PPT, L&GD, L_VC
CO1,CO2,CO3,CO7,CO8	Summarize ashuddha naaga bhakshana lakshana & chikitsa	1	Lecture	CAN	Knows-how	L_VC, L&GD, L&PPT, L
CO1,CO2,CO3,CO7,CO8	Appraise signs & symptoms and management of acute & chronic lead poisoning	1	Lecture	CAN	Knows-how	L&GD, L_VC, L, L&PPT
CO1,CO2,CO7,CO9	Identify the khanija visha lakshana and chikitsa	10	Practical Training 1.2	PSY-GUD	Shows-how	SIM, CBL

CO1,CO2,CO7,CO9	Identify and create a database for regionally available Khanija Visha.	8	Experiential-Learning 1.4	PSY-MEC	Shows-how	TPW,RL E,PL,FV
CO1,CO2,CO3,CO7,CO8	Describe haratala & manasila visha lakshana & chikitsa	1	Lecture	CAN	Knows-how	L&PPT, L&GD
M 1 Unit 3 Study of Vegetable poisons in contemporary era Study of Sthavara visha (vegetable poisons) in contemporary era References: 3,5,46						
3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO8,CO9	Appraise the newer sources of sthavara visha (Herbs)	1	Lecture	CAN	Knows-how	BS,L&PPT, DIS
CO1,CO2,CO8,CO9	Screen toxic phytochemicals in newer sthavara visha (Vegetable poisons).	10	Practical Training 1.3	CAP	Shows-how	LRI,BS,FV,TPW,L&GD
M 1 Unit 4 Study of Upavisha - Upavisha in different Classical texts - Upavisha Lakshana and Chikithsa References: 94,95,96,97,98,99,100,101,102,103,104						
3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3,CO8	Interpret Upavisha with respect to different classical texts and reexplain its aetiology.	1	Lecture	CAN	Knows-how	BS,L&PPT, L&GD, DIS
CO1,CO2,CO3,CO7,CO8	Evaluate Upavisha Lakshana and Chikithsa and its contemporary toxicology.	3	Lecture	CAN	Knows-how	CD,L&PPT, L&GD

CO1,CO2,CO7,CO8,CO9	Discuss the role of upavisha in clinical practice	8	Experiential-Learning 1.5	CAP	Shows-how	LRI,CBL,D,DIS,W
Practical Training Activity						
Practical Training 1.1 : Demonstration of visha component in sthavara visha (Vegetable poisons).						
To demonstrate the visha component in sthavara visha using tools like Thin Layer Chromatography (TLC), UV spectrophotometry, histology, microscopy and preliminary phytochemical tests, follow below mentioned steps: Step 1: Prepare powder of the collected poisonous plant and extract it using suitable solvents. Step 2: For TLC, spot the sample extract on a silica plate and develop it in an appropriate solvent media to separate the phytochemicals. Step 3: Visualize under UV light to identify active compounds. Step 4: Conduct preliminary phytochemical tests (e.g., tests for alkaloids, flavonoids) using reagents to confirm the presence of toxic components. Step 5: (Optional) Finally, analyze UV spectrophotometry data to quantify specific compounds. Step 6: Discuss the implications of the findings in relation to adhishana and their toxic effects. Note: Always follow safety protocols when handling materials.						
Practical Training 1.2 : Clinical demonstration or discussion of case reports of khanija visha						
Introduce Khanija Visha by explaining its definition and relevance in clinical practice, emphasizing common symptoms associated with Dhatu Visha/Heavy metals and the importance of thorough history-taking and diagnostic tests. Present case reports with a focus 1. Highlighting patient demographics and clinical presentations 2. Facilitate an interactive discussion to analyze diagnosis based on ayurveda lakshana and samprapti. 3. Outline essential diagnostic tools, such as laboratory tests and imaging studies. 4. Discuss the management adopted with outcomes and hypothetically prepare an ayurveda protocol with rationality. 5. Emphasize public health awareness and educational strategies to reduce exposure risks.						
Practical Training 1.3 : Screening of Toxic phytochemicals in newer sthavara visha (Vegetable poisons)						

To demonstrate the visha component in newly identified sthavara visha using tools like Thin Layer Chromatography (TLC), UV spectrophotometry, and preliminary phytochemical tests.

1. Begin by conducting thorough research to identify common species in your area, consulting local herbal guides and experts.
2. Prepare a powdered sample of the collected poisonous plant. For TLC, spot the sample on a silica plate and develop it in an appropriate solvent to separate the phytochemicals; visualize under UV light to identify active compounds.
3. Conduct preliminary phytochemical tests (e.g., tests for alkaloids, flavonoids) using reagents to confirm the presence of toxic components.
4. Histology and microscopy of the sample.
5. Finally, analyze UV spectrophotometry data to quantify specific compounds, discussing the implications of these findings in relation to adhistana and their toxic effects.
6. Always follow safety protocols when handling materials.

Experiential learning Activity

Experiential-Learning 1.1 : Collection of regionally available sthavara visha and creating a database.

To create a database of regionally available sthavara visha (poisonous plants) for experiential learning, start by conducting thorough research to identify common species in your area, consulting local herbal guides and experts. Form a team for field collection, visiting forests, gardens, and markets to gather samples, ensuring proper documentation of each plant's location and characteristics while adhering to safety precautions. Label each sample with its common name, scientific name, collection date, and habitat, and take clear photographs for reference. Create a structured database using software like Excel or Google Sheets, which should include essential details such as the common name, scientific name, location of collection, description, toxic properties, uses in traditional medicine, and photographic evidence. Provide a GPS tagging etc.

Experiential-Learning 1.2 : General treatments of sthavara visha

Scholars will first analyze clinical case studies to understand the treatment protocols and outcomes associated with various toxic plants. Following this analysis, they will engage in simulated treatment scenarios, allowing them to practice assessment and management roles in a controlled environment. This hands-on approach will culminate in a group discussion where participants can reflect on their experiences and the challenges faced while treating Sthavara Visha, emphasizing the critical importance of safety when handling toxic plants and antidotes.

Scholars will engage in case studies or simulation scenarios or role play.

1. Case studies:

1. Assignment to collect relevant data on sthavara visha incidents, treatments, and outcomes.
 2. Group discussions on analyzing clinical data from the selected case studies.
 3. Assignment to conduct an initial analysis of the clinical aspects of the chosen case studies.
 4. Activity to develop treatment protocols based on case study finding.
2. Simulation scenario to enhance acumen of clinical diagnosis like exposure (ingestion etc) and presentation of signs of GI (nausea, vomiting, Neurotoxic signs (giddiness, delusions, diplopia, dysarthria, limb weakness) Respiratory toxicity (breathlessness).
3. Group discussions to enhance their diagnostics by identifying rational tests. (ECG changes, Liver function test, renal function test, etc)
4. Role plays to establish communication skills for eliciting reassurance to patient

Experiential-Learning 1.3 : Discuss and demonstrate general treatments of sthavara visha

Scholars are engaged in OPD/IPD for hands-on practices, patient assessment techniques through doshas, review diagnostics test required, appraise or plan the treatment protocol for the case/s seen and generate the report.

Experiential-Learning 1.4 : Collection of regionally available khanija visha and creating a database.

To create a database of regionally available Khanija visha for experiential learning,

1. Start by conducting thorough research to identify common Khanija visha/metals and minerals at your area, consulting local geologists, guides and experts.
2. Form a team for field collection, visiting mines or landscapes, and markets to gather samples.
3. Ensuring proper documentation of each Khanija Visha location and characteristics while adhering to safety precautions.
4. Label each sample with its common name, scientific name, collection date, and habitat, and take clear photographs for reference.
5. Create a structured database using software like Excel or Google Sheets, which should include essential details such as the common name, scientific name, location of collection, description, toxic properties, uses in traditional medicine, and photographic (GPS tagging) evidence.

Experiential-Learning 1.5 : Preparation of formulations containing upavisha.

Workshops can be organized for hands-on preparation for formulations containing upavisha, alongside application and observation of Upavisha formulation use in clinical settings. Analyzing case studies further encourages critical thinking about their benefits and potential side effects. Following steps may be inculcated and improvised as per needs and resource availability.

1. Overview of Upavisha: properties, traditional uses, and Clinical Relevance of Upavisha.
2. Applications of Upavisha in various clinical conditions.
Case studies highlighting successful outcomes.
3. Hands-on practice and Demonstration of methods for preparing formulations under supervision.
4. Teams identifies clinical indications of formulations and calculates dose for real-world case studies for practice.
5. Identifying potential risks and adverse effects. strategies for effective risk management in clinical settings.
6. Implementation of Formulations in Clinical Practice.
7. Monitoring and observing patient outcomes and any reactions.
8. Group discussions on outcomes and observations.
9. Discuss refinements and improvements for future applications.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 75 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. Structured Long answer question - 25 Marks 2. Spotting on Sthavara, visha and Upavisha - 15 Marks 3. Case study or scenario for identification of chikitsa sootra as per visha avastha - 20 Marks 4. OSPE on specific upavisha - 15 Marks. Or Any practical in converted form can be taken for assessment. (45 Marks) and Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (30 Marks)	6

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experientia l Learning	3E Domain/ Sub Domain	3F Level (D oes/Sho ws how/ Knows h ow/Kno w)	3G Teachin g Learnin g Methods
Module 2 : Study of Sarpa Visha						
Module Learning Objectives (At the end of the module, the students should be able to) 1. Identify different types of sarpa based on descriptions in various samhita. 2. Diagnose samanya and veganusaar lakshana of different sarpa. 3. Appraise, differentiate and decide the need of classical management and conventional treatment protocol for sarpa visha 4. Appraise and decide the classical management of sarpa chikithsa in post bite complications.						
M 2 Unit 1 Study of Sarpa Visha • Classification of snakes • Sarpa damsa karana and kala • Vegaanusar lakshan of sarpa with respect to dhatu • Shanka Visha and visha sankata References: 14,105,106,107,108,109,110,111,112,113,120,121,319						
3A	3B	3C	3D	3E	3F	3G

CO1,CO2,CO3,CO7,CO8	Enumerate and explain ayurveda classification of snakes	1	Lecture	CAN	Knows-how	L&GD,L&PPT
CO1,CO2	Elaborate sarpa damsa karana and kala	1	Lecture	CAN	Knows-how	L&PPT,L&GD
CO1,CO3	Describe symptoms of sarpa visha vega with respect to dhatu.	2	Lecture	CAP	Knows-how	L_VC,L&GD,RP
CO1,CO2	Describe Shanka Visha and Sarpanga abhahata.	1	Lecture	CAN	Knows-how	L_VC,L&GD
CO1,CO9	Identify different types of snakes according to ayurveda and contemporary understanding.	5	Practical Training 2.1	PSY-MEC	Shows-how	RLE,FV,BL
CO1,CO2,CO3,CO7,CO8	Discuss and analyze the case reports of snake bite and its management.	5	Practical Training 2.2	PSY-MEC	Shows-how	L_VC,RP,JC,BS,CBL
CO1,CO2,CO3,CO7,CO8	Diagnose the sarpa visha symptoms based on avastha of visha.	8	Experiential-Learning 2.1	PSY-MEC	Shows-how	RLE,PAL,CBL,L&GD,LRI
CO1,CO2,CO3,CO7,CO8	Diagnose the sarpa visha lakshana and apply the appropriate chikitsa based on avastha.	8	Experiential-Learning 2.2	PSY-MEC	Does	CBL,SIM,RP,PL,LRI

M 2 Unit 2 Study of snakes in modern aspect

- Evolution of snakes, snake venom, its composition, types and mode of action
- Snake bite sign, symptoms and management
- Snake bite complications and management

References: 11,12

3A	3B	3C	3D	3E	3F	3G
CO1,CO3,CO7	Conclude evolution of Snakes and venom composition	1	Lecture	CAN	Knows-how	L_VC,L&PPT
CO1,CO3,CO7	Enumerate venom, its composition, types and mode of action	1	Lecture	CAN	Knows-how	L_VC,L&PPT,L&GD
CO1,CO3,CO7	Describe snake bite sign, symptoms and management.	2	Lecture	CAP	Knows-how	L&PPT
CO1,CO3,CO7	Describe snake bite complications and management.	1	Lecture	CAN	Knows-how	L&GD,L&PPT,PAL
CO1,CO3,CO7	Diagnose the snake bite thorough laboratory investigation and clinical examination.	10	Practical Training 2.3	PSY-ADT	Shows-how	LRI,RP,TBL,CD,CBL
CO1,CO3,CO7,CO8	Diagnose and understand the contemporary management of snake bite.	10	Experiential-Learning 2.3	PSY-MEC	Shows-how	RP,PAL,SIM,D-BED,JC
Practical Training Activity						
Practical Training 2.1 : Demonstration of snakes at regional snake parks						
Scholars have to visit the regional snake park, review and evidence the identification of snake as per ayurveda and conventional knowledge.						
Practical Training 2.2 : Demonstration of cases or discussion on case reports						
Scholars will engage in case studies, simulation scenarios and role play.						

1. Case studies:

1. Assignment to collect relevant data on snake bite incidents, treatments, and outcomes.
 2. Group discussions on analyzing clinical data from the selected case studies.
 3. Assignment to conduct an initial analysis of the clinical aspects of the chosen case studies.
 4. Activity to develop treatment protocols based on case study finding
2. Simulation scenario to enhance acumen of clinical diagnosis like bite examination (fangs marks poisonous and non-poisonous), Neurotoxic paralysis (ptosis, ophthalmoplegia, diplopia, dysarthria, limb weakness, respiratory muscle weakness) etc
3. Group discussions to enhance their diagnostics by identifying rational tests. (ECG changes, 20 Minute Whole Blood Clotting Test (20WBCT), Liver function test, renal function test and ELISA test for Antigen etc).
4. Role plays to establish communication skills for eliciting reassurance to patient.

Practical Training 2.3 : Demonstration of laboratorial and clinical examination of snake bite patient.

Scholars will engage in case studies, simulation scenarios and role play.

1. Case studies:

1. Assignment to collect relevant data on snake bite incidents, treatments, and outcomes.
 2. Group discussions on analyzing clinical data from the selected case studies.
 3. Assignment to conduct an initial analysis of the clinical aspects of the chosen case studies.
 4. Activity to find rationality for choosing laboratory investigations in case study finding.
2. Group discussions to enhance their diagnostics by identifying rational tests. (ECG changes, 20 Minute Whole Blood Clotting Test (20WBCT), Liver function test, renal function test and ELISA test for Antigen etc).
3. Simulation scenario to enhance acumen of clinical diagnosis like bite examination (fangs marks poisonous and non-poisonous), Neurotoxic paralysis (ptosis, ophthalmoplegia, diplopia, dysarthria, limb weakness, respiratory muscle weakness) etc.
4. Role plays to establish communication skills.

Experiential learning Activity

Experiential-Learning 2.1 : Apprenticeship at an ayurveda snake bite management center

1. Scholars will be engaged in hands-on practices, patient assessment techniques based on doshas at snake bite management centers, document the same and prepare a report .

OR

1. Simulation scenario
 1. Scholars will be assigned a specific role to be played for simulation based on type of sarpa.
 2. Scenarios can also include different environmental contexts (e.g., rural, urban) and patient backgrounds
 3. Scenario will involve a simulated patient presenting with a snake bite requiring immediate assessment.
 4. Decide the immediate measure to be taken and first aid support.
 5. Scholars engage with patient to identify the lakshana and appraise the present lakshana to vega and dosha involvement.
 6. After each simulation, participants will engage in a debriefing session to discuss what went well and areas for improvement.
 7. Facilitators will provide feedback on assessment techniques, treatment choices, and patient communication.

Experiential-Learning 2.2 : Apprenticeship at an ayurveda snake bite management center.

1. Scholars will be engaged in hands-on practices, patient assessment techniques through doshas, document the report at snake bite management centers.
2. Simulation scenario
 1. Scenarios can also include different environmental contexts (e.g., rural, urban) and patient backgrounds.
 2. Scenario will involve a simulated patient presenting with a snake bite, requiring immediate assessment and treatment.
 3. Decide the immediate measure to be taken and first aid support.
 4. Prepare or Apply Ayurveda remedies in the simulation, such as preparing lepa, upanaha, seka and arista bhandana etc or prepare models for sanjyana sthapana.
 5. After each simulation, participants will engage in a debriefing session to discuss what went well and areas for improvement.

6. Facilitators will provide feedback on assessment techniques, treatment choices, and patient communication.
7. Discussion of Post bite complication cases on real time basis in clinical set up.

Experiential-Learning 2.3 : Apprenticeship at a conventional snake bite management center

Scholars will be exposed to gain hands-on experience in performing initial assessments, recognizing the clinical signs of envenomation, and administering antivenom and supportive treatments with following instructions per say.

1. Observe healthcare professionals during patient assessments and management of snake bite cases.
2. Take notes on clinical protocols, patient interactions, and emergency response techniques.
3. Group discussion on observations, challenges faced, and key learnings.
4. Training on history taking, physical examination, and identifying symptoms of envenomation.
5. Hands-on practice in applying first aid techniques, immobilization, and transportation methods.
6. Training in the use of emergency equipment and protocols.
7. In-depth training on antivenom types, indications, and administration techniques.
8. Practice or Case studies on antivenom management and monitoring for adverse reactions.
9. Participants prepare and present case studies based on their observations and experiences during the apprenticeship.
10. Encourage peer feedback and discussion.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. Case based assessment or case scenario of simulated patient on sarpa visha - 20 Marks. 2. Practicals on 20 minutes whole blood clotting test (20 WBCT) or interpretation of Lab reports - 20 Marks 3. One structured Long answer question or Two short answer questions - 10 Marks. Or	4

Any practical in converted form can be taken for assessment. (25 Marks) and Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)						
Semester No : 4						
3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experientia l Learning	3E Domain/ Sub Domain	3F Level (D oes/Sho ws how/ Knows h ow/Kno w)	3G Teachin g Learnin g Methods
Module 3 : Study of Vruschika and Luta Visha						
Module Learning Objectives (At the end of the module, the students should be able to) 1. Identify different types of vruschika and Luta. 2. Diagnose the samanya and Vishesh Lakshana of Vruschika and luta visha 3. Apply the appropriate Chikithsa sutra as per visha avastha.						
M 3 Unit 1 Study of Vruschika Visha • Study of Vruschika Visha lakshana and chikitsa References: 9,10,316,317,318,319						

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3,CO7,CO8	Enumerate Vruschika, its classification and explain signs and symptoms.	1	Lecture	CAN	Knows-how	L_VC,L&PPT,L&GD
CO1,CO2,CO3,CO7,CO8	Elaborate Vruschika visha chikitsa	1	Lecture	CC	Knows-how	CD,L&GD,L&PPT
CO1,CO3,CO9	Interpret phylum Arthropoda with its medical importance.	2	Lecture	CAP	Knows-how	L&PPT, L&GD,BL
CO1,CO3,CO7	Summarize Scorpion envenomation (signs and symptoms) and treatment	1	Lecture	CAP	Knows-how	L&PPT,L&GD
CO1,CO2,CO3,CO9	Identify different types of vruschika as per Ayurveda and contemporary understanding.	3	Practical Training 3.1	PSY-MEC	Shows-how	FV,L&PPT
CO1,CO2,CO3,CO7,CO8	Diagnose Vruschika visha (scorpion envenomation).	7	Practical Training 3.2	PSY-MEC	Shows-how	JC,SIM,CD,RP,L_VC
CO1,CO2,CO3,CO7,CO8	Apply Ayurveda chikitsa for Vruschika visha (scorpion envenomation).	10	Experiential-Learning 3.1	PSY-MEC	Does	PL,CD,PAL,CBL,SIM
CO1,CO2,CO3,CO7,CO8	Apply contemporary treatment for scorpion envenomation.	3	Experiential-Learning 3.2	PSY-MEC	Shows-how	CD,SIM,CBL

M 3 Unit 2 Study of Luta Visha

- Study of Luta Visha lakshana and chikitsa

References: 8,10,13,14

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3	Enumerate Luta classification and explain signs and symptoms	2	Lecture	CAN	Knows-how	L&PPT , L&GD,L_VC
CO1,CO2,CO3 ,CO8	Summarize Luta visha samanya and visesha chikitsa (Luta upakrama)	1	Lecture	CAP	Shows-how	L&PPT ,L&GD
CO1,CO3,CO7	Summarize Spider envenomation and its treatment	2	Lecture	CAP	Knows-how	L&PPT , L_VC,L&GD
CO1,CO2,CO3 ,CO9	Identify and document different Luta (spiders) as per Ayurveda and contemporary understanding.	4	Practical Training 3.3	PSY-MEC	Shows-how	L&GD,P L,FV
CO1,CO2,CO3 ,CO7,CO8	Diagnose Luta visha (spider envenomation).	6	Practical Training 3.4	PSY-MEC	Does	JC,CD,SI M,RP,L&GD
CO1,CO2,CO3 ,CO7,CO8	Apply Ayurveda chikitsa for Luta visha (Spider envenomation).	10	Experiential-Learning 3.3	PSY-MEC	Does	SIM,PL,C D,CBL,J C
CO1,CO2,CO3 ,CO7,CO8	Apply contemporary treatment for Luta visha (Spider envenomation)	3	Experiential-Learning 3.4	PSY-ADT	Does	CD,SIM, CBL,PAL

Practical Training Activity

Practical Training 3.1 : Identification of Vruschika (Scorpions)

Scholars visit the Entomology/zoology department, review and document the identification of Vruschika and document as follows.

1. Scholars should familiarize themselves with Vruschika characteristics, habitats, and behaviors through relevant literature and resources.
2. Prepare the check list of characteristic features for documentation.
3. Use field guides and reference materials (images) to identify Vruschika specimens.
4. Record distinguishing features, habitat, and behavior.
5. Document the findings in a structured format, including (Date and time of observation, location of the specimen, physical characteristics (size, color, markings), behavior and habitat, photographic evidence (if permitted)).
6. Discuss any challenges faced during identification.
7. Prepare a report summarizing the identification process, findings, and any additional insights gained.
8. Include photographs and diagrams as needed for clarity.
9. Ensure compliance with safety protocols if handling specimens is part of it.

Practical Training 3.2 : Demonstrate Vruschika visha signs and symptoms

Scholars will be engaged in hands-on practices, patient assessment techniques through cases and documents at Vruschika visha management centers.
OR

1. Simulation scenario
 1. Scenario will involve a simulated patient presenting with a Vruschika visha (Scorpion sting) requiring immediate assessment and treatment.
 2. Scenarios can also include different environmental contexts (e.g., rural, urban) and patient backgrounds.
 3. Prepare and apply Ayurveda remedies in the simulation, such as performing dhara, seka, and lepa.
 4. Discuss on selection of agada as per the lakshana.
 5. After each simulation, participants will engage in a debriefing session to discuss the rationality of assessment and treatment.
 6. Facilitators will provide feedback on assessment techniques, treatment choices, and patient communication.

Practical Training 3.3 : Identification of different types of Luta (Spiders)

Scholars visit the Entomology/zoology department, review and document identification of different types of Luta (Spiders).

1. Scholars should familiarize themselves with Luta (Spiders) characteristics, habitats, and behaviors through relevant literature and resources.
2. Prepare the check list of characteristic features for documentation.
3. Use field guides and reference materials (images) to identify Luta specimens.
4. Record distinguishing features, habitat, and behavior.
5. Document the findings in a structured format, including (Date and time of observation, location of the specimen, physical characteristics (size, color, markings), behavior and habitat, photographic evidence (if permitted)).
6. Discuss any challenges faced during identification.
7. Prepare a report summarizing the identification process, findings, and any additional insights gained.
8. Include photographs and diagrams as needed for clarity.
9. Ensure compliance with safety protocols if handling specimens is part of it.

Practical Training 3.4 : Demonstration of Spider envenomation.

Scholars will be engaged in hands-on practices, patient assessment techniques through cases and documents at Luta visha management centers.
OR

1. Simulation scenario
 1. Scenario will involve a simulated patient presenting with Luta visha (Spider envenomation), requiring immediate assessment and treatment.
 2. Scenarios can also include different environmental contexts (e.g., shabby area, rural, urban) and patient backgrounds.
 3. Apply suitable Luta dasaupakrama in the simulation, such as lepa, seka, nasya etc.
 4. After each simulation, participants will engage in a debriefing sessions to discuss rationality of assessment and treatment.
 5. Facilitators will provide feedback on assessment techniques, treatment choices, and patient communication.

Experiential learning Activity

Experiential-Learning 3.1 : Apprenticeship in clinical set up

Scholars will be exposed to gain hands-on experience in performing initial assessments of damsa recognizing the visha lakshana and using chaturvimsathi upkrama.

1. Observe Vaidya (healthcare professionals) during patient assessments and management of vruschika visha.
2. Take notes on clinical protocols, patient interactions, and emergency response techniques.
3. Group discussion on observations, challenges faced, and key learnings.
4. Training on history taking and clinical examination.
5. Hands-on training in applying suitable Chaturvimshati upakrama.
6. Discuss the use of emergency equipments and treatment protocols and utilization of contemporary aids as and when required.
7. Case studies on utilisation of chaturvimshati upkarama and their clinical outcomes in Vruschika damsas.
8. Monitoring and management of adverse events.
9. Scholars prepare and present case studies based on their observations and experiences during the apprenticeship.
10. Encourage peer feedback and discussion

Experiential-Learning 3.2 : Apprenticeship in contemporary clinical set up.

Scholars will be exposed to gain hands-on experience in performing initial assessments, recognizing the clinical signs of envenomation, and administering antivenom and supportive treatments. Through interactive simulations and case studies, students will develop critical thinking skills and learn to collaborate effectively in a multidisciplinary team.

1. Observe healthcare professionals during patient assessments and management of scorpion sting cases.
2. Take notes on clinical protocols, patient interactions, and emergency response techniques.
3. Group discussion on observations, challenges faced, and key learnings.
4. Training on history taking and clinical examination.
5. Hands-on training in applying first aid techniques, immobilization, and transportation methods.
6. Training in the use of emergency equipments and treatment protocols.
7. Training on antivenom administration.
8. Monitoring and management of adverse events.
9. Participants prepare and present case studies based on their observations and experiences during the apprenticeship.
10. Encourage peer feedback and discussion

Experiential-Learning 3.3 : Apprenticeship in clinical set up

Scholars will be exposed to gain hands-on experience in performing initial assessments of site of damsa and contact, recognizing the visha lakshana and using chaturvimsathi upkrama.

1. Observe Vaidya (Healthcare professionals) during patient assessments and management of Luta visha.
2. Take notes on clinical protocols, patient interactions, and emergency response techniques.
3. Group discussion on observations, challenges faced, and key learnings.
4. Training on history taking and clinical examination.
5. Hands-on training on application of Luta dasaupakrama and Chaturvimshati upakrama.
6. Discuss the use of emergency equipments and treatment protocols and utilization of contemporary aids as and when required.
7. Case studies on application of Luta dasaupakrama and Chaturvimshati upakrama.
8. Monitoring and management of adverse events.
9. Scholars prepare and present case studies based on their observations and experiences during the apprenticeship.
10. Encourage peer feedback and discussion

Experiential-Learning 3.4 : Apprenticeship in contemporary clinical set up.

Scholars will be exposed to gain hands-on experience in performing initial assessments, recognizing the clinical signs of envenomation, and administering antivenom and supportive treatments. Through interactive simulations and case studies, students will develop critical thinking skills and learn to collaborate effectively in a multidisciplinary team.

1. Observe healthcare professionals during patient assessments and management of Spider bite cases.
2. Take notes on clinical protocols, patient interactions, and emergency response techniques.
3. Group discussion on observations, challenges faced, and key learnings.
4. Training on history taking and clinical examinations.
5. Hands-on training in application of first aid techniques, immobilization, and transportation methods.
6. Training in the use of emergency equipments and protocols.
7. Hands-on training in administration of antivenom and monitoring and management of adverse events.

8. Case studies on administration of antivenom.
9. Participants prepare and present case studies based on their observations and experiences during the apprenticeship.
10. Encourage peer feedback and discussion.

Modular Assessment

Assessment method

Hour

Conduct a structured modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C.

4

1. Case based assessment or simulated cases - 25 Marks
2. Structured long answer question (One) or short answer questions (two) - 20 Marks
3. Identification of snake specimen - 5 Marks

Or
Any practical in converted form can be taken for assessment. (25 Marks)
and
Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experientia l Learning	3E Domain/ Sub Domain	3F Level (D oes/Sho ws how/ Knows h ow/Kno w)	3G Teachin g Learnin g Methods
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Module 4 : Study of Alarka, Mushaka and Keeta Visha

Module Learning Objectives

(At the end of the module, the students should be able to)

1. Identify different sources of Alarka visha and Mushika visha.
2. Diagnose samanya and visesha lakshana of Alarka, Mushika, and keeta visha
3. Appraise and differentiate the need for classical management and conventional treatment protocol for Alarka, Mushik, and Keeta visha
4. Apply appropriate chikithsa sutra as per the visha avastha.

M 4 Unit 1 Study of Alarka, Mushaka Visha Alarka and Mushaka visha lakshana and chikitsa

References: 114,115,116,117,118,119

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3,CO7,CO8	Summarize Alarka visha and its chikitsa	1	Lecture	CAN	Knows-how	CBL,L&GD,L&PPT
CO1,CO7	Interpret sources of Rabies and its treatment	1	Lecture	CAN	Knows-how	L&PPT, L_VC,L&GD,PER,CBL
CO1,CO2,CO3,CO7,CO8	Enumerate Mushika classification and explain its visesha lakshana	2	Lecture	CAP	Shows-how	L&GD,L&PPT,CBL,L
CO1,CO2,CO3,CO8	Summarize Mushika visha chikitsa	1	Lecture	CAN	Shows-how	PER,LRI,L,L&PPT,CD
CO1,CO3,CO7,CO9	Explain Rat bite fever and Leptospirosis along with their treatment	2	Lecture	CAN	Knows-how	CBL,LRI,L&GD,P

						ER,L&PP T
CO1,CO2,CO3 ,CO7,CO8	Diagnose Mushika visha with clinical and laboratory investigations.	5	Practical Training 4.1	CAP	Shows- how	CD,LRI,B S,SIM
CO1,CO3,CO7 ,CO8,CO9	Diagnose Alarka visha with clinical and laboratory investigations.	5	Practical Training 4.2	CAP	Shows- how	SIM,DIS, LRI,BS,C BL
CO1,CO2,CO3 ,CO7,CO8	Diagnose and discuss application of specific Chaturvimsati upakrama for Mushika visha	8	Experiential- Learning 4.1	PSY- MEC	Does	CBL,CD, PER,SIM, LRI
CO1,CO3,CO7 ,CO9	Appraise the knowledge and management of Rabies.	8	Experiential- Learning 4.2	CAP	Shows- how	SIM,FV,J C,LRI,CB L

M 4 Unit 2 Study of Keeta VishaKeeta Visha lakshana and Chikitsa

References: 15,16,17,18,19

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3 ,CO8	Enumerate Shatapadi, Makshikadi classification their signs and symptoms and management	2	Lecture	CAN	Shows- how	L&GD,L, PER,L&P PT
CO1,CO2,CO3 ,CO7,CO8	Explain general Keeta visha chikitsa	1	Lecture	CAP	Shows- how	L_VC,L& PPT ,L&GD
CO1,CO2,CO3 ,CO7,CO8,CO 9	Identify and compare the Ayurveda literature and contemporary understanding of Keeta.	5	Practical Training 4.3	CAN	Shows- how	PER,TP W,L_VC, FV,PAL

CO1,CO2,CO3,CO7,CO8	Diagnose and discuss the utilization of specific chaturvimsathi upkrama in keeta visha chikitsa.	5	Practical Training 4.4	CAP	Shows-how	CD,LRI,CBL,SIM
CO1,CO2,CO3,CO7,CO8,CO9	Diagnose and discuss the management of keeta visha.	10	Experiential-Learning 4.3	PSY-MEC	Does	FV,LRI,PSM,CBL,CD

Practical Training Activity

Practical Training 4.1 : Demonstration of diagnosis of Mushika visha with clinical and laboratory investigations.

Scholars will engage in case studies, simulation scenarios and role play.

Case studies:

1. Assignment to collect relevant data on Mushika visha (Rat bite) incidence, treatments, and outcomes.
2. Group discussions on analyzing clinical data from the selected case studies.
3. Assignment to conduct an initial analysis of the clinical aspects of the chosen case studies.
4. Activity to develop treatment protocols based on case study findings.

OR

Simulation scenario to enhance acumen of clinical diagnosis like examination of bite site (bite marks or scratches caused by rodents/non rodents like cat etc), examination of lymphnodes, Muscles and Joints, Jaundice and other relevant clinical findings.

Group discussions to enhance their diagnostics by identifying rational tests. (CBC changes, Liver function test, renal function test and ELISA test etc).

Role plays to establish communication skills for eliciting reassurance to the patient.

Practical Training 4.2 : Demonstration of diagnosis of Alarka visha with clinical and laboratory investigations.

Scholars will engage in case studies, simulation scenarios and role play.

1. Details of the bites with the animal involved, circumstances and location.
2. Vaccination history of animal and patient.

3. Inspecting and describing the wound with characteristics like location, depth, and signs of infection.
4. Neurological assessment for signs of rabies (confusion, hydrophobia) and evaluation of systemic symptoms (fever, joint pain etc)
5. Risk Assessment: type of animal (wild/domestic) and nature of bite (provoked/unprovoked)

Steps for laboratory diagnosis

1. Demonstrate proper techniques for wound swab and CSF collection.
2. Enumerate tests and their importance in diagnosis (Direct Fluorescent Antibody (DFA) test).
3. PCR for rabies virus detection and Serological tests for post-exposure evaluation.

Practical Training 4.3 : Visit to Entomology/zoology department.

Scholars visit the Entomology or zoology department, review and document the identification of different poisonous Keeta.

1. Scholars familiarize themselves with characteristics of Keeta, their habitats, and behaviors through relevant literature and resources.
2. Prepare the check list of characteristic features for documentation.
3. Use field guides and reference materials (images) to identify Keeta specimens.
4. Record distinguishing features, habitat, and behavior.
5. Document the findings in a structured format, including (Date and time of observation, location of the specimen, physical characteristics (size, color, markings), behavior and habitat, photographic evidence (if permitted)).
6. Discuss any challenges faced during identification.
7. Prepare a report summarizing the identification process, findings, and any additional insights gained.
8. Include photographs and diagrams as needed for clarity.
9. Ensure compliance with safety protocols if handling specimens is part of it.

Practical Training 4.4 : Demonstration of diagnosis and utilization of specific chaturvimsathi upkrama in keeta visha chikitsa.

Scholars will be engaged in hands-on training on patient assessment techniques through cases and documents at Keeta visha management centers.

OR

Simulated scenario

1. Scenario will involve a simulated patient presenting with a keeta visha (Insect bites and stings) requiring immediate assessment and treatment.
2. Scenarios can also include different environmental contexts (e.g., rural, urban) and patient backgrounds.
3. Prepare and apply Ayurveda remedies in the simulation, such as creating lepa, seka, avagaha.
4. After each simulation, participants will engage in a debriefing session to discuss rationality of the treatments adopted.
5. Facilitators will provide feedback on assessment techniques, treatment choices, and patient communication.

Experiential learning Activity

Experiential-Learning 4.1 : Clinical apprenticeship in managing Mushika visha

Scholars will be exposed to gain hands-on experience for treating Rat Bite Fever and Leptospirosis in a clinical set up.

1. Scholars will be oriented about the overview of Rat Bite Fever and Leptospirosis (causes, symptoms, transmission, and prevention)
2. Scholars will observe healthcare professionals during initial patient assessments, advising investigations and management of rat bite fever or leptospirosis.
3. Document clinical protocols, patient interactions, and emergency response techniques.
4. Group discussion on observations, challenges faced, and key learnings.
5. Training on history taking, physical examination, and identifying symptoms of disease progression and prognostic values.
6. Training in the use of emergency equipments like ventilators and protocols(if applicable).
7. Review of Case studies for complications or relapses.
8. Participants prepare and present case studies based on their observations and experiences during the apprenticeship.
9. Encourage peer feedback and discussion.

Experiential-Learning 4.2 : Visit to Institutes related to Virology or Rabies management centers.

Scholars will be introduced to Virology and its management.

1. Scholars will be oriented about the overview of Rabies (causes, symptoms, transmission, and prevention)
2. Scholars will observe healthcare professionals during initial patient assessments, advising investigations and management of rabies.
3. Document clinical protocols, patient interactions, and emergency response techniques.
4. Laboratory techniques (different biological sample collection and preparation)
5. Revision on Management protocols (post exposure prophylaxis)
6. Post this activity scholars are brainstormed for different scenario that which have potential to expose or spread.
7. Develop preventive strategies for awareness and education through various promotional materials.
8. Discuss the holistic approaches, present day gaps and possibilities for integration at various phases (preventive, exposure phase and rehabilitation phase)

Experiential-Learning 4.3 : Clinical apprenticeship in the management of Keeta visha.

Scholars will be engaged in hands-on training on patient assessment techniques through cases and documents and study cases along with preparation of herbal formulations.

1. Observe Vaidya (Healthcare professionals) during patient assessments and management of Keeta visha (Insect bites and stings).
2. Take notes on clinical protocols, patient interactions, and emergency response techniques.
3. Group discussion on observations, challenges faced, and key learnings.
4. Training on history taking, and clinical examination for identifying dosha involvement.
5. Hands-on training in utilization of specific Chaturvimshati upakrama.
6. Discuss the use of emergency equipments and treatment protocols and utilization of contemporary aids as and when required.
7. Case studies on utilization of chaturvimshati upakrama in the management of Keeta visha.
8. Monitoring and management of adverse events
9. Scholars prepare and present case studies based on their observations and experiences during the apprenticeship.
10. Encourage peer feedback and discussion.

Modular Assessment						
Assessment method						Hour
Conduct a structured modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. case based assessment or simulated cases - 25 Marks 2. Interpretation of lab reports - 10 Marks 3. structured long answer question (one) or short answer questions (two) - 15 Marks Or Any practical in converted form can be taken for assessment. (25 Marks) and Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)						4
Semester No : 5						
3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experientia l Learning	3E Domain/ Sub Domain	3F Level (D oes/Sho ws how/ Knows h ow/Kno w)	3G Teachin g Learnin g Methods
Module 5 : Agadatantra Approach to Janpadadwasaniya Vikara						
Module Learning Objectives (At the end of the module, the students should be able to) Describe the Agadatantra Approach to Vector-borne Diseases Utilization of the Apply Dundubiswaniya principles to Janpadadwamsaneeya vikara						

M 5 Unit 1 Agadatantra Approach to Vector borne diseases

- Vector-borne diseases, their risk factors, and the principles of disease control
- Pathophysiology, diagnosis, investigations, and principles of management of Chikungunya and Dengue.
- Pathophysiology, diagnosis, investigations, and principles of management of Filariasis, monkeypox, and Malaria
- Application of Keeta visha chikitsa in the management of vector-borne diseases

References: 122,123,124,125,126,127

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3	Describe vector-borne diseases, their risk factors and the principles of disease control	1	Lecture	CK	Knows-how	L_VC,L,L&PPT,L&GD
CO1,CO2,CO3,CO7	Appraise pathophysiology, diagnosis, investigations and principles of management of Chikungunya and Dengue.	1	Lecture	CAP	Knows-how	L&PPT,L,L&GD,L_VC
CO1,CO2,CO3,CO7	Discuss pathophysiology, diagnosis, investigations and principles of management of Filariasis, Monkey pox and Malaria	1	Lecture	CAP	Knows-how	L&GD,L&PPT,L_VC
CO1,CO2,CO3,CO7	Analyse application of Keeta visha chikitsa in the management of Vector borne diseases	2	Lecture	CAN	Knows-how	L&GD,DIS,CBL,L&PPT
CO1,CO2,CO3,CO7	Diagnose Chikungunya, Dengue, Filariasis, Monkey pox and Malaria	6	Practical Training 5.1	PSY-ADT	Shows-how	PBL,RP,LRI,CD,CBL
CO1,CO2,CO3,CO7	Interpret the laboratory findings of Chikungunya, Dengue, Filariasis, Monkey pox and Malaria.	4	Practical Training 5.2	PSY-ADT	Shows-how	RLE,PBL,LRI,CBL

						,BS
CO1,CO2,CO3 ,CO7	Diagnose and manage vector borne diseases based on clinical presentations and laboratory findings.	10	Experiential-Learning 5.1	PSY-ADT	Does	RLE,SIM, D-BED,C D,CBL

M 5 Unit 2 Utilization of Dundubiswaniya principles to Janpadadwamsaneeya vikara

- Janpadadwamsaneeya vikara, their significance, and causative factors.
- Samprapthi and Lakshanas of Janpadadwamsaneeya vikara
- Modes of detoxifying the environment with Vishaghna yoga.
- Non-pharmacological prophylactic measures for prevention and containment of infections during epidemics and Pandemics.
- The scientific relevance of Dundubhiswaniya practices in Indian cultural and religious practices.

References: 128,129,130

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3	Describes the causative factors and their significance in the prevention of Janpadodwamsaniya vikara	1	Lecture	CK	Knows-how	L&PPT , L_VC,L& GD
CO1,CO2	Appraise samprapthi and lakshanas of Janpadodwamsaniya vikara	1	Lecture	CC	Knows-how	L_VC,L& PPT ,L&GD
CO1,CO2,CO3	Appraise modes of detoxifying environment with Vishaghna yoga, as per Dundubiswaniya principles.	1	Lecture	CK	Knows-how	L_VC,L& GD,L&P PT
CO1,CO2,CO3	Explain non-pharmacological prophylactic measures for prevention and containment of infections during epidemics and Pandemics.	1	Lecture	CC	Knows-how	BS,L&G D,L&PPT ,L_VC

CO1,CO2,CO3	Describe scientific relevance of Dundubiswaniya practices in Indian cultural and religious practices.	1	Lecture	CC	Knows-how	L_VC,L&GD,L&PPT ,BS
CO1,CO2,CO3	Analyse Dundubiswaniya principles in the context of Indian cultural and religious practices.	5	Practical Training 5.3	CAN	Knows-how	TPW,FV,SDL,BS,DIS
CO1,CO2,CO3	Appraise scientific basis for indigenous methods of prevention of epidemics and pandemics.	5	Practical Training 5.4	CAN	Knows-how	JC,BL,TBL,SDL
CO1,CO2,CO3	Apply Dundubiswaniya practices in real life scenarios.	8	Experiential-Learning 5.2	CAP	Does	PrBL,EDU,D,TPW
CO1,CO2,CO3	Adapt the principles of Dundubiswaniya in prevention and management of communicable diseases	8	Experiential-Learning 5.3	CAP	Shows-how	RLE,FV,SIM,CBL,SDL

Practical Training Activity

Practical Training 5.1 : Demonstration of Diagnosis of Chikungunya, Dengue, Filariasis, Monkey pox and Malaria

Students will be posted at the of epidemiology OPD and IPDs and are exposed to cases of Chikungunya, Dengue, Filariasis, Monkey pox and Malaria.

OR

Students will be given simulated OPD and IPDs cases of Chikungunya, Dengue, Filariasis, Monkey pox and Malaria and are asked to diagnose the conditions.

OR

Interactive workshops can be conducted with the experts from Epidemiology department and scholars are allowed to interact with the experts to gain the knowledge.

Practical Training 5.2 : Interpretation of laboratory findings

Students are asked to collect different case reports of Chikungunya, Dengue, Filariasis, Monkey pox and Malaria patients and are asked to interpret the findings. Then based on the findings they should explain the diagnosis and Prognosis.

Then they should discuss with the faculty about how those findings are going to determine the management approach.

Practical Training 5.3 : Dundubiswaniya principles in Indian cultural and religious practices

Scholars will do a survey of cultural and religious practices related to environment in India through literature, digital media.

OR

Scholars will engage or discuss with local people involved in the survey of ethno-cultural and religious practices associated with prevention of epidemic and pandemic diseases.

Practical Training 5.4 : Explore scientific works on indigenous methods of prevention of epidemics and pandemics.

Scholars will browse through scientific data bases like Pubmed, Scopus, etc. to find scientific studies on indigenous and ethno practices concerned with prevention of epidemic and pandemic diseases.

Then the scholars will analyse the practices and present the findings with scientific rationale in the form of Journal article review, subject seminar, group discussions, debate, and posters.

Experiential learning Activity

Experiential-Learning 5.1 : Clinical apprenticeship on Vector borne diseases.

Scholars will be posted at epidemiology OPD or IPD.

Scholars will gain hands-on experience in initial assessments, identifying clinical signs and symptoms, interpreting the laboratory findings and administering treatment in OPD or IPD set up

OR

Scholars will engage in interactive simulations and case studies.

The Scholars should then discuss the difficulties, doubts and finally critically evaluate the learnings through class presentations, discussions, and debates.

Experiential-Learning 5.2 : Utilization of Dundubiswaniya practices in institutional events.

Scholars will be asked to procure or prepare vishaghna yoga and use those Vishaghna yoga in college festivals, cultural and sports activities.

Multiple number of flags are to be prepared (colors and shape can be decided as per the event), then Vishaghna yogas should be pasted on them and they should be tied as part of beautification.

Vishaghna yoga should also be pasted on Drums and other instruments and played in any college festivals.

Scholars will document the event and practices.

Experiential-Learning 5.3 : Clinical apprenticeship in community medicine clinics.

Scholars will be posted to community medicine OPD and IPD.
 Scholars will gain hands-on experience in initial assessments, recognizing the clinical signs & symptoms, preventive and management measures of common communicable diseases through interactive simulations and case studies.
 Scholars will then discuss the difficulties, doubts and critically evaluate the learnings through class presentations, discussions, and debates.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. Objective structured clinical examination (OSCE) or cased based assessment or simulated cases - 25 Marks 2. Structured long answer question or short answer questions - 25 Marks. Or Any practical in converted form can be taken for assessment. (25 Marks) and Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)	4

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experientia l Learning	3E Domain/ Sub Domain	3F Level (D oes/Sho ws how/ Knows h ow/Know w)	3G Teachin g Learnin g Methods
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Module 6 : Substance and Alcohol Abuse

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe types of Madya and stages of Mada

Explain the acute and chronic alcoholism
Discuss the management of acute and chronic alcoholism

M 6 Unit 1 Madya Visha

- Madya types and stages of Mada
- Acute and Chronic Alcoholism
- Treatment of Acute and chronic Alcoholism

References: 128,129,130,131,132,133,134,135

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe types of Madya and stages of Mada	1	Lecture	CC	Knows-how	L&GD,L &PPT
CO1,CO2	Describe signs & symptoms, complications and management of Acute and Chronic Alcoholism	2	Lecture	CC	Knows-how	L_VC,L, L&PPT , L&GD,DIS
CO1,CO2	Describe the Treatment of Madatyaya and the various stages of Mada	2	Lecture	CC	Knows-how	L&GD,L_VC,L&PPT ,CBL
CO1,CO2,CO4 ,CO7	Examine the patient for Alcoholism / Drunkenness	10	Practical Training 6.1	PSY-GUD	Does	D-M,L_VC,D,CBL, SIM
CO1,CO2,CO7 ,CO8,CO9	Appraise the treatment of Madatyaya and various stages of Mada.	10	Experiential-Learning 6.1	PSY-ADT	Shows-how	CD,D,CBL, SIM

M 6 Unit 2 Substance Abuse

- Madakari dravya and Substances acting on nervous system
- Explain general treatment of substance abuse
- Definition and types of Addiction
- Diagnosis of Addiction
- Ayurvedic approach to de-addiction

References: 136,137,138,139,140,141,142,143,144,145,146,147

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Discuss Madakari dravya and Substances acting on nervous system	1	Lecture	CK	Knows-how	L_VC,L&GD,L&PPT ,L
CO1,CO2	Elaborate general treatment of substance abuse	1	Lecture	CAP	Knows-how	L_VC,L&GD,L&PPT
CO1,CO2,CO4	Describe the Definition and types of Addiction	1	Lecture	CK	Knows-how	L&GD,L_VC,L,L&PPT
CO1,CO2	Diagnose of Addiction	1	Lecture	CK	Shows-how	L,L&PPT ,L&GD,L_VC
CO1,CO2,CO4	Explain Ayurvedic approach to De-addiction	1	Lecture	CC	Knows-how	LS,L&GD,L_VC,L&PPT ,L
CO1,CO2,CO4	Demonstrate the diagnosis of Substance	10	Practical	PSY-	Shows-	PSM,SIM

			Training 6.2	GUD	how	,CBL
CO1,CO2,CO4,CO7,CO9	Diagnose different types of Addiction.	7	Experiential-Learning 6.2	CAN	Knows-how	D,PBL,CBL,RLE,CD
CO1,CO2,CO4,CO8,CO9	Identify Ayurvedic Principles of De-addiction	9	Experiential-Learning 6.3	PSY-GUD	Shows-how	PBL,D,SIM,CBL,CD

Practical Training Activity

Practical Training 6.1 : Examination of Alcohol sign and symptoms / Drunkenness

To implement the Examination of Alcohol Signs and Symptoms/Drunkenness module effectively, following methods can be employed.

1. Lecture/Presentation (Theoretical Component)

Method: Conduct a 30-minute lecture, either in person or via a virtual platform, using visual aids like slides or videos. Present key concepts such as alcohol's effects on the body, signs of intoxication, and levels of drunkenness.

Tools: PowerPoint slides, videos on intoxication effects, whiteboard for interaction.

2. Demonstration (Practical Skills)

Method: The instructor demonstrates the examination process, including checking for slurred speech, performing neurological tests, and using a breathalyzer. This can be done using a standardized patient (SP) or volunteer.

Tools: Standardized patient, medical instruments (penlight, breathalyzer, sphygmomanometer).

3. Hands-On Practice (Simulation)

Method: Learners work in pairs or small groups to practice examining an SP or role-playing among themselves. Each participant takes turns playing the examiner and the patient.

Tools: Checklists for physical signs, role-play scenarios, and equipment (penlight, stopwatch).

4. Case-Based Learning

Method: Introduce case studies where participants analyze different levels of intoxication. Present varying symptoms and ask learners to apply the examination steps.

Tools: Written or video case scenarios, group discussions, and debriefing sessions.

5. Role-Playing with Feedback

Method: Assign learners to role-play the part of an intoxicated patient, while others conduct the examination. The instructor and peers provide constructive feedback on clinical skills and bedside manner.

Tools: Structured feedback forms, peer review, video recording (if applicable).

Practical Training 6.2 : Demonstration of substance abuse

Procedure:

1. Introduction:

Briefly explain substance abuse, including common substances (alcohol, opioids, stimulants).

Outline the importance of early detection and appropriate evaluation in clinical settings.

2. Demonstration of Examination :

Initial Observation: Observe general behavior and appearance (disheveled look, track marks, needle scars, etc.).

Vital Signs: Measure heart rate, respiratory rate, and blood pressure (substance abuse can cause significant changes).

Neurological Examination:

Check pupil size (constricted pupils may indicate opioid use, dilated pupils could signal stimulant use).

Perform simple motor coordination tests (e.g., finger-to-nose).

Assess for speech disturbances or cognitive impairment.

Behavioral Evaluation:

Look for signs of agitation, paranoia, or euphoria (suggesting intoxication or withdrawal).

Ask simple questions to assess orientation and memory.

3. Role-Play and Peer Evaluation :

Scholars take turns performing the substance abuse evaluation on a peer or standardized patient.

Use a checklist to assess each other, providing feedback on observation skills, communication, and accuracy.

4. Group Debriefing:

Discuss common challenges encountered during evaluation.

Share insights on how to improve the assessment process.

Experiential learning Activity

Experiential-Learning 6.1 : Apprenticeship for Treatment of Madatyaya and various stages of Mada in clinical set up

Scholars will be exposed to gain hands-on experience in performing initial assessments, recognizing the clinical signs & Symptoms of Various types of Mada and Stages of Madatyaya and then they should be exposed to treatment protocols that are used in treating the said conditions.

In case of non availability of patients this experience or exposure can be gained through interactive simulations and case studies, brainstorming sessions etc.

Experiential-Learning 6.2 : Diagnosis of Addiction

Procedure:

1. Introduction:

Briefly explain the concept of addiction, including physical dependence, psychological dependence, and compulsive behavior.

Outline the importance of diagnosing addiction early to provide timely intervention.

2. Demonstration of Assessment:

Patient History:

Ask about frequency, quantity, and duration of substance use.

Explore any attempts to reduce or quit using substances.

Inquire about the impact on daily life (e.g., work, relationships).

Use of Screening Tools:

Demonstrate the use of the CAGE Questionnaire:

Have you ever felt you should Cut down on your drinking?

Have people Annoyed you by criticizing your drinking?

Have you ever felt bad or Guilty about your drinking?

Have you ever had a drink first thing in the morning (an Eye-opener)?

Demonstrate use of AUDIT for alcohol use or a similar questionnaire for drug use.

DSM-5 Criteria:

Present the criteria for diagnosing Substance Use Disorder based on DSM-5, which includes tolerance, withdrawal, continued use despite harm, and unsuccessful attempts to quit.

3. Role-Play and Peer Assessment:

Learners take turns assessing a peer or standardized patient for addiction using the CAGE or AUDIT tools and DSM-5 criteria.

Perform a structured interview, asking relevant questions to identify signs of addiction.

Use a checklist to evaluate peers' ability to diagnose addiction, focusing on communication skills and adherence to criteria.

4. Group Debriefing :

Discuss the differences between substance use, abuse, and addiction.

Share experiences of diagnosing addiction and any challenges faced.

Experiential-Learning 6.3 : Apprenticeship for learning Ayurvedic Principles of De-addiction in clinical set up

Scholars will be exposed to gain hands-on experience in performing initial assessments, recognizing the clinical signs & Symptoms of Various types of addictions and then they should go through Ayurvedic protocols and therapies that are used as measures of De-addiction.

In case of non availability of patients this experience or exposure can be gained through interactive simulations and case studies, brainstorming sessions etc.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. Objective structured clinical examination (OSCE) or Direct Observational procedural skills (DOPS) - 25 Marks 2. Structured long answer questions or critical writing - 25 Marks. Or Any practical in converted form can be taken for assessment. (25 Marks) and Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)	4

Semester No : 6

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experientia l Learning	3E Domain/ Sub Domain	3F Level (D oes/Sho ws how/ Knows h ow/Kno w)	3G Teachin g Learnin g Methods
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Module 7 : Ecotoxicology and Biomagnification

Module Learning Objectives

(At the end of the module, the students should be able to)

Ecotoxicology
Biomagnification & Bioconcentration

M 7 Unit 1 Ecotoxicology

- Definition and importance of Ecotoxicology
- Different types of Eco Toxicants, their pathways in to Ecosystem and the alterations they cause in Ecosystem
- Vishakta Bhoomi Laksahana & Chikitsa
- Vishakta Jala Laksahana & Chikitsa
- Vishakta Vayu Laksahana & Chikitsa

References: 27,28,29,30,31,32

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe the definition and importance of Ecotoxicology	1	Lecture	CC	Knows-how	L&GD,L,L&PPT
CO1,CO2	Interpret different types of Eco Toxicants, their pathways in to Ecosystem and the alterations they cause in Ecosystem	1	Lecture	CC	Knows-how	L,L&PPT ,L&GD,L_VC
CO1,CO2,CO8	Describe Vishakta Bhoomi Laksahana & Chikitsa	1	Lecture	CK	Knows-how	L&PPT ,L,L&GD,L_VC
CO1,CO2,CO8	Discuss Vishakta Jala Laksahana & Chikitsa	1	Lecture	CK	Knows-how	L&GD,L_VC,L,L&PPT
CO1,CO2,CO8	Explain Vishakta Vayu Laksahana & Chikitsa	1	Lecture	CK	Knows-how	L&GD,L&PPT ,L
CO1,CO2,CO8	Describe the Impact of Eco-toxicants and environmental pollution.	5	Practical	PSY-	Shows-	BS,LS,DI

			Training 7.1	ADT	how	S,JC
CO1,CO2,CO9	Evaluate the burden of eco-toxicants in ecosystems and its health impact.	10	Experiential-Learning 7.1	PSY-GUD	Shows-how	TPW,TB L,FV,PrB L,RLE
CO1,CO2,CO9	Assess the Government initiatives for prevention of environmental pollution.	5	Experiential-Learning 7.2	PSY-ADT	Shows-how	SDL,JC,I BL,FV,L S

M 7 Unit 2 Biomagnification & Bioconcentration

- Definition and importance of Biomagnification & Bioconcentration.
- Mechanism of biomagnification and factors influencing biomagnification
- Common toxicants of Biomagnification and their health hazards
- Role of biomagnification in the manifestation of diseases
- Understanding the Biomagnification under the light of Gara visha and Dooshi visha.

References: 148,149,150,151,152,153,154,155

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO9	Appraise Biomagnification & Bioconcentration along with their importance.	1	Lecture	CK	Knows-how	L&GD,L, L&PPT
CO1,CO2,CO9	Describe the Mechanism of biomagnification and factors influencing biomagnification	1	Lecture	CK	Knows-how	L&PPT ,L,L&GD
CO1,CO2,CO9	Comprehend the Common toxicants of Biomagnification and their health hazards	1	Lecture	CC	Knows-how	L&GD,L &PPT ,L,L_VC
CO1,CO2,CO9	Discuss the role of biomagnification in the diseases manifestation.	1	Lecture	CC	Knows-how	L&PPT , L&GD,L

						_VC
CO1,CO2,CO7,CO9	Analyze Biomagnification based on Gara visha and Dooshi visha concepts.	1	Lecture	CAN	Knows-how	L_VC,BS, L&PPT, L,L&GD
CO1,CO2,CO9	Assess the impact of biomagnification on health.	6	Experiential-Learning 7.3	PSY-GUD	Does	LS,BS,IB L,JC,ML
CO1,CO2,CO9	Describe common chemicals that lead to Biomagnification in our day to day life.	5	Experiential-Learning 7.4	PSY-MEC	Shows-how	RLE,FV,JC,TPW,TBL
CO1,CO2,CO9	Demonstrate common methods of assessment of Pesticide and Fertilizer residues in Soil.	8	Practical Training 7.2	PSY-GUD	Shows-how	FV,LRI,D L,D
CO1,CO2,CO9	Demonstrate common methods of assessment of Pesticide and Fertilizer residues in Vegetables and grains.	7	Practical Training 7.3	PSY-GUD	Shows-how	D,DL,FV

Practical Training Activity

Practical Training 7.1 : Impact of Eco-toxicants and environmental pollution on Ecosystem.

Scholars will be briefly introduced eco-toxicants and common pollutants.

Scholars will explore different databases and search for scientific literature using keywords like "eco-toxicants," "ecosystem pollution," "impact on biodiversity," and filter results by relevance and publication date.

Scholars will analyse the selected publications and critically analyse the health impacts and pathophysiology related to specific agents.

Discuss the findings and evaluate how well the studies explain the impact of Eco-toxicants on ecosystems.

Summarize key insights from the scientific papers analyzed.

Discuss any challenges faced in using scientific databases and evaluating published works.

Scholars can present the findings incorporating the view of Agadatantra before the department.

Practical Training 7.2 : Assessment of Soil for pesticide and fertilizer residues

Scholars will be given introduction regarding common pesticides and fertilizers.

Scholars will identify the assessible and executable tests for idetecting common pesticides iat Institutional research facility

OR

If the department is not having the facilities then the scholars can be posted or visit soil testing laboratory attached with any Agricultural institute or Center.

Practical Training 7.3 : Assessment of Vegetables and grains for pesticide and fertilizer residues.

Scholars will be given introduction regarding common pesticies and fertilizers.

Scholars will identify the assessible and executable tests for idetecting common pesticides iat Institutional research facility

OR

If the department is not having the facilities then the scholars can be posted or visit food testing laboratory attached with any Agricultural institute or Center.

Experiential learning Activity

Experiential-Learning 7.1 : Identifying eco-toxicants in surroundings through survey or appropriate methods.

Scholars will be given introduction regarding common eco-toxicants.

Scholars will identify and discuss the impact of eco-toxicants on ecosystem and health through published literatures and databases before initiating the department activity.

The following activities can be done to compare with the recent findings

Identify the area of survey with the help of local authorities

Scholars will inspect areas of waste disposal and industrial effluents and residues.

Scholars will identify the eco-toxicants and their magnitude and impact on living systems around.

Scholars will conduct a health survey on the local residents and correlate the health effects with the common ecotoxics identified from the area.

Scholars will prepare a report along with photographs or video recordings and present before the department.

Scholars can provide awareness programs to the local residents on safe disposal of eco-toxicants identified based on the survey.

Experiential-Learning 7.2 : Assessment of Government programs to prevent environmental pollution.

The scholars will collect informations regarding Government programs for preventing environmental pollution.

Teacher will assign one program per scholar to evaluate the salient features of the program.

Scholars will visit Pollution Control Board and gather the information regarding the implementation of the program.

Scholars will write a report of the program and its implementation.

Brainstorming in the department to identify gaps in the implementation of the program and possible role of Agadatantra principles.

Experiential-Learning 7.3 : Impact of biomagnification on health.

Scholars will be briefly explained on biomagnification and its health impacts.

how pollutants (e.g., mercury, DDT, PCBs) increase in concentration as they move up the food chain, impacting top predators, including humans.

Health Impacts: Discuss the health effects of biomagnification on humans, such as neurological damage (mercury), cancer risks (PCBs), and reproductive issues (pesticides).

Relevance: Highlight why understanding biomagnification is critical for human health and environmental protection.

2. Database Search and Literature Review:

Using Scientific Databases:

Demonstrate how to use PubMed, Google Scholar, or Scopus to search for scientific literature on biomagnification.

Provide keywords such as "biomagnification," "health impact," "mercury in food chain," "pesticide accumulation in humans."

Selecting Articles:

Encourage learners to find and select multiple relevant articles that focus on the health impacts of biomagnification.

Help them identify credible, peer-reviewed studies.

3. Analysis of Published Works:

Reading and Discussion:

In small groups or individually, learners read the selected articles and analyze the findings.

Ask them to focus on:

The type of pollutant being studied.

The affected species (e.g., fish, birds, humans).

The methodology used to measure pollutant levels.

The health impacts on both wildlife and humans.

Discuss key findings as a group, noting any patterns or significant results.

4. Group Discussion and Reflection:

Share Key Insights:

Have learners share the major takeaways from their chosen articles.

Discuss how the health impacts of biomagnification, as observed in the research, relate to real-world problems such as contaminated seafood or pesticide use.

Reflect on Broader Implications:

Ask learners to reflect on how scientific research contributes to our understanding of biomagnification and what actions can be taken to reduce its impact on public health and the environment.

Experiential-Learning 7.4 : Identifying common chemicals of biomagnification in day-to-day life

Scholars will be divided into groups of two

Scholars are asked to collect commercial products available in the market for consumption or cosmetic use.

They identify the chemicals used as preservatives, coloring agents or adjuvants in the products
Scholars do a thorough literature review and collect details on its potential for biomagnification.
Scholars will present the possible diseases that can occur due to the exposure to these agents for a longer time.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. Long answer questions or short answer questions - 50 Marks Or Any practical in converted form can be taken for assessment. (25 Marks) and Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)	4

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experientia l Learning	3E Domain/ Sub Domain	3F Level (D oes/Sho ws how/ Knows h ow/Kno w)	3G Teachin g Learnin g Methods
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Module 8 : Visha Upadrava

Module Learning Objectives

(At the end of the module, the students should be able to)

Understanding 16 visha Upadrava. Study of Diagnosis & management of Jvara, Kasa, Chchardi (Vami), and Swasa.
Diagnose & manage Hikka, Trushna, Moorcha, & Vidbheda (Vishobheda)

Diagnose and manage Vidkatinya (Visho atikatinya), Aanaha, Basthiruk & Shiroruk.
 Diagnose and manage Shotha, Poothidamsha, Raktasrava & Vishaneela.
 Diagnose and manage bites and stings along with their prognosis.

M 8 Unit 1 Visha Upadrava: Complications due to Visha

- Understanding 16 Visha Upadrava. Study of Diagnosis & management of Jvara, Kasa, Chchardi (Vami), and Shwasa.
- Study of diagnosis and management of Hikka, Trushna, Moorcha, & Vidbheda (Vishobheda) Vidkatinya (Visho atikatinya), Aanaha, Basthiruk & Shiroruk. Shotha, Poothidamsha, Raktasrava & Vishaneela.
- Study of common complications of bites and stings along with their contemporary aspects of diagnosis, Prognosis, and management.

References: 130

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3,CO7,CO8	Describe 16 visha Upadrava and discuss the Diagnosis & management of Jvara, Kasa, Chchardi (Vami), and Shwasa.	1	Lecture	CAN	Knows-how	L_VC,L,L&GD,L&PPT
CO1,CO2,CO3,CO7,CO8	Discuss the Diagnosis & management of Hikka, Trushna, Moorcha, & Vidbheda (Vishobheda)	1	Lecture	CAN	Knows-how	L_VC,L&GD,L&PPT,L
CO1,CO2,CO3,CO7,CO8	Discuss the Diagnosis & management of Vidkatinya (Visho atikatinya), Aanaha, Basthiruk & Shiroruk.	1	Lecture	CAN	Knows-how	L,L&GD,L_VC,L&PPT
CO1,CO2,CO3,CO7,CO8	Interpret the Diagnosis and management of Shotha, Poothidamsha, Raktasrava and Vishanila.	1	Lecture	CAN	Knows-how	L&GD,L&PPT

						,L_VC,L
CO1,CO2,CO3,CO7,CO8	Discuss the common complications of bites and stings along with their contemporary aspects of diagnosis, Prognosis, and management.	1	Lecture	CC	Knows-how	L_VC,L&PPT,L,L&GD
CO1,CO2,CO3,CO7,CO8,CO9	Discuss the findings of scientific works published on complications due to bites and stings.	5	Practical Training 8.1	CAN	Knows-how	TPW,W,SDL,LS,JC
CO1,CO2,CO3,CO7,CO8,CO9	Discuss the findings of scientific works published on complications due to oral poisoning.	5	Practical Training 8.2	CAN	Knows-how	TBL,SDL,LS,TPW,BS
CO1,CO2,CO3,CO7,CO8,CO9	Identify complications due to bites and stings Develop a protocol for diagnosis, prognosis and management of complications due to bites and stings.	8	Experiential-Learning 8.1	CAP	Knows-how	BL,BS,CBL,CD
CO1,CO2,CO3,CO7,CO8,CO9	Differentiate visha upadrava from other diseases. Develop a protocol for the management of visha upadrava.	5	Experiential-Learning 8.2	CAN	Knows-how	TBL,CD,RLE,CBL,SIM

M 8 Unit 2 Visha Upadrava

- Health consequences due to systemic toxicities
- Visha Upadrava: Complications due to Visha/ poisons

References: 156,157,158,160,161

3A	3B	3C	3D	3E	3F	3G
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Practical Training Activity

Practical Training 8.1 : Review of scientific works published on complications due to bites and stings

Step one: The scholars should be asked to search scientific data bases and find publications related to complications due to various snakes and insect bites and stings. Then select those which suits their learning objectives under the guidance of faculty. Step Two: They should thoroughly study all the selected works and draw major findings as common complications, their management approach and lacunas or gaps that can be studied to fulfill through Ayurveda. Step Three: Then scholars should present those finding in front of faculty and discuss how Ayurveda can contribute to bridge the gaps or fulfill the lacunas.	
Practical Training 8.2 : Review of scientific works published on complications due to oral poisoning.	
Step one: The scholars should be asked to search scientific data bases and find publications related to complications due to Oral poisoning. Then select those which suits their learning objectives under the guidance of faculty. Step Two: They should thoroughly study all the selected works and draw major findings as common complications, their management approach and lacunas or gaps that can be studied to fulfill through Ayurveda. Step Three: Then scholars should present those finding in front of faculty and discuss how Ayurveda can contribute to bridge the gaps or fulfill the lacunas.	
Experiential learning Activity	
Experiential-Learning 8.1 : Apprenticeship in clinical set up to learn diagnosis, prognosis and management approaches to complications due to bites and stings.	
Scholars will be posted in OPDs and IPDs of clinical centers handling bites and stings Scholars will observe management of complications due to bites and stings Scholars will develop protocols for the management of complications due to bites and stings based on principles of Agadatantra	
Experiential-Learning 8.2 : Apprenticeship in clinical set up to learn diagnosis, prognosis and management approaches to complications due to poisoning.	
Scholars will be posted to OPD or IPD of clinical establishments handling visha upadrava Scholars will analyse the cases of visha upadrava Scholars will differentiate the cases of visha upadrava from other diseases Scholars will develop the protocols applying the principles of Agadatantra.	
Modular Assessment	
Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 25 marks. Keep a structured marking pattern. Use different assessment methods in	2

each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C.

Case based assessment or simulated case - 25 Marks

or

Long answer questions or Short answer questions - 25 Marks

or

Any practical in converted form can be taken for assessment. (25 Marks)

or

Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)

Paper No : 2 Visha chikitsa Vigyan – Gara-Dooshi visha vigyaneeyam						
Semester No : 3						
Module 9 : Study on Gara visha						
Module Learning Objectives (At the end of the module, the students should be able to) 1. Understand various perspectives of Gara Visha from Brihatrayee, Laghutrayee and various publications 2. Identify the role of Gara Visha in the manifestation of a disease condition, diagnose and manage with contemporary relevance 3. Identify, diagnose and manage drug interactions and incompatibilities in clinical setting						
M 9 Unit 1 Theoretical implications and clinical relevance of Gara visha • Garavisha, its classifications and Diagnostic approach, Management with contemporary relevance. • Manifestations in the eyes, nose and lungs (Allergic manifestations/ Gara Adhishtana) • Conceptual study on Drug interactions and Incompatibility						
References: 45,47,160,161,162,163,164,165,166,167,168,169,170,171,172,173,174,175						
3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3	Discuss various perspectives of Gara Visha from Brihatrayee, Laghutrayee and various publications	2	Lecture	CC	Knows-how	L,L&PPT, BL,L&GD
CO1	Diagnose and manage diseases due to Gara Visha	5	Practical Training 9.1	PSY-ORG	Does	LRI,D-BED,CD,C

						BL
CO1,CO2,CO8	Diagnose and manage diseases due to Drug incompatibility and the diseases due to the drug interactions	5	Practical Training 9.2	PSY-ADT	Shows-how	DIS,LRI, D-BED,C D,CBL
CO1,CO2,CO3 ,CO8	Analyze the management of Gara Visha with contemporary relevance	1	Lecture	CAN	Knows-how	L,L&GD, L&PPT ,BS
CO1,CO2,CO3	Describe the manifestations of Gara Visha in the eyes, nose and lungs	1	Lecture	CC	Knows-how	L&PPT ,BS
CO1,CO2	Describe Drug Interactions and Incompatibility	1	Lecture	CC	Knows-how	L&GD,L &PPT ,L
CO1,CO2,CO3 ,CO7	Evaluate the exposure level of Gara Visha in a patient	2	Experiential-Learning 9.1	PSY-GUD	Shows-how	CBL,D-BED
CO1,CO2,CO3 ,CO9	Assess the early diagnosis of Gara Visha in patients attending the OPD and IPD	4	Experiential-Learning 9.2	PSY-GUD	Shows-how	D-BED,CB L
CO1,CO2,CO9	Create awareness in the society on the ill effects of the exposure to Gara Visha in day-to-day life	5	Experiential-Learning 9.3	PSY-ADT	Shows-how	PER,DIS, FV,RP,D-M
CO1,CO2,CO9	Identify recent advancements in research	2	Experiential-Learning 9.4	PSY-ADT	Shows-how	BL,DIS,J C,ML

Practical Training Activity

Practical Training 9.1 : Case based learning of Gara Visha

Students will be divided into batches and posted in OPD and IPD.

Each batch will be given 5 cases related to Gara Visha. Students will take the case in Agadatantra format.

They will then diagnose and plan a management procedure in that case. Then they will present it the form of case presentation with all the relevant information including the source of exposure

Assessment of hematological and biochemical parameters like LFT and RFT

Practical Training 9.2 : Case based learning of drug interactions

Students will be divided into batches and posted in OPD and IPD.

Each batch will be given 5 cases related to drug interaction. Students will take the case in Agadatantra format.

They will then diagnose and plan a management procedure in that case. Then they will present it the form of case presentation with all the relevant information including the source of exposure

The case will be assessed with the help of relevant hematological parameters done in the laboratory

Assessment of hematological and biochemical parameters like LFT and RFT

Experiential learning Activity

Experiential-Learning 9.1 : Assessment of Gara Visha in a patient

Case based learning/ Enquiry based learning to apply their knowledge in diagnosing and recommend management for diseases due to Gara Visha

Experiential-Learning 9.2 : In house survey of OPD and IPD patients for Gara Visha

- In house survey of OPD and IPD patients for early diagnosis of a clinical condition and detect the involvement of Gara Visha
- For this detection, a case proforma can be prepared which includes the evaluation points for the diagnosis of the case
- Confirmation of the involvement of Visha samprapthi in the case and proper awareness about the exposure to Gara
- Explain the steps to avoid further exposure to the patient

Experiential-Learning 9.3 : Awareness program on the ill effects of the exposure to Gara Visha in day-to-day life by outreach activity

Create awareness to the society on the ill effects of the exposure to Gara Visha in day-to-day life through awareness programs like street play, skit, reels and short videos

Experiential-Learning 9.4 : Recent advancements in the researches

Students should use the recent available data by browsing various data bases to update the knowledge

Modular Assessment**Assessment method****Hour**

Conduct a structured modular assessment. The assessment will be for 25 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C.

1. Case based assessment or simulated cases - 25 Marks

or

2. Long answer questions or short answer questions - 25 Marks

Or

Any practical in converted form can be taken for assessment. (25 Marks)

or

Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)

2

Module 10 : Study on Dooshi Visha**Module Learning Objectives**

(At the end of the module, the students should be able to)

1. Understand various perspectives of dooshi visha from Brihatrayee, Laghutrayee and various publications
2. Diagnose and manage with contemporary relevance
3. Utilize the concept of Dooshi Visha to educate the society and provide prophylactic care towards low potent poisons

M 10 Unit 1 Theoretical implications and clinical relevance of Dooshivisha

- Dooshivisha and its signs and symptoms
- Diagnostic approach to Dooshivisha
- Study of management with contemporary relevance

References: 129,176

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3	Understand various perspectives of dooshi visha from Brihatrayee, Laghutrayee and various publications	2	Lecture	CC	Knows-how	L&PPT , L&GD,B S,BL,L
CO1,CO2,CO3 ,CO7,CO8	Discuss diagnosis and management of Dooshivisha with contemporary relevance	3	Lecture	CAN	Knows-how	L_VC,L&GD,L&PPT
CO1,CO2,CO3 ,CO8	Diagnose and manage the diseases due to Dooshi Visha	5	Practical Training 10.1	PSY-ORG	Does	SIM,D-BED,CD,CBL
CO1,CO2,CO3 ,CO7	Assess Dooshi Visha on hematological and biochemical parameters	5	Practical Training 10.2	PSY-ADT	Shows-how	SIM,LRI,CD,CBL
CO1,CO2,CO3 ,CO7	Assess the exposure level of Dooshi Visha in a patient	2	Experiential-Learning 10.1	PSY-ADT	Shows-how	SIM,CBL,CD
CO1,CO2,CO3 ,CO7,CO8	Diagnose and manage the cases diagnosed as Dooshi Visha	2	Experiential-Learning 10.2	PSY-ADT	Shows-how	SIM,PBL,CBL
CO1,CO2,CO3 ,CO9	Acquire the knowledge on recent trends and advancements in research on toxicities and Dooshi Visha	2	Experiential-Learning 10.3	PSY-ADT	Shows-how	JC

CO1,CO2,CO9	Suggest and propose a solution to potential threats due to the exposure to toxins in day-to-day life	7	Experiential-Learning 10.4	PSY-ADT	Does	RP,FV,PER
Practical Training Activity						
Practical Training 10.1 : Case based learning of Dooshi Visha						
Students will be divided into batches and posted in OPD and IPD. Each batch will be given 5 cases related to dooshi visha. Students will take the case in Agadatantra format. They will then diagnose and plan a management procedure in that case. Then they will present it the form of case presentation with all the relevant information including the source of exposure The case will be assessed with the help of relevent hematological parameters done in the laboratory Assessment of hematological and biochemical parameters like LFT and RFT						
Practical Training 10.2 : Case based learning of Dooshi Visha						
Assessment of Dooshi Visha in hematological and biochemical parameters in the cases diagnosed as Dooshi Visha						
Experiential learning Activity						
Experiential-Learning 10.1 : Outreach activity						
Identify the vulnerable population and educate the society regarding the hazards of dooshi visha. Make them aware of precaution and preventive measures						
Experiential-Learning 10.2 : Problem based learning on Dooshi Visha						
Preparation of scenario in identifying, diagnosing and management of a given clinical condition						
Experiential-Learning 10.3 : Journal Club						
Presentations of published articles on journals and Discussions on them Critical analysis of the published articles						
Experiential-Learning 10.4 : Outreach activity						

1. Create awareness to the society on the ill effects of the exposure to Dooshi Visha in day-to-day life through awareness programs
2. Preventive and Prophylactic measures to be followed in illnesses
3. Survey study to analyze the present-day sources of manifestation through pre- validated questionnaires

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 25 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. Case based assessment or simulated cases - 25 Marks or 2. Long answer questions or short answer questions - 25 Marks or Any practical in converted form can be taken for assessment. (25 Marks) or Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)	2

Semester No : 4

Module 11 : Applied aspects of Garavisha and Dooshi Visha

Module Learning Objectives

(At the end of the module, the students should be able to)

1. Understand and analyze the health impacts of Endocrine Disrupting Chemicals (EDC), Auto immunity, reproductive toxicities, neurotoxicity
2. Plan treatment strategy, chikitsa sutra and implement best possible yoga in a condition

M 11 Unit 1 Understanding toxin induced health impacts of Endocrine Disruptors (EDC) Common toxicants leading to systemic toxicity, their pathophysiology, clinical presentations, principles of management and prevention.

References: 157,158,160

3A	3B	3C	3D	3E	3F	3G
CO1	Analyze the health impacts of Endocrine Disrupting Chemicals (EDC), Autoimmunity, reproductive toxicities, and neurotoxicity	3	Lecture	CC	Knows-how	LS,L&PPT
CO1,CO2,CO3,CO8	Describe the Chikits sutra and yogas used in Auto immunity, reproductive toxicities and neurotoxicity	2	Lecture	CAN	Knows-how	L&PPT
CO1,CO2,CO3,CO7	Assess the biomarkers to be observed for the diseases due to EDCs	3	Practical Training 11.1	PSY-ADT	Shows-how	LS,LRI,SDL,ML
CO1,CO2,CO3,CO8	Prepare a diagnostic criteria and treatment protocol for understanding the EDCs	3	Practical Training 11.2	PSY-ADT	Shows-how	CBL,SIM
CO1,CO2,CO3,CO8	Explain the manifestations of disorders due to agents that lead to Autoimmune disorders Garbhpaghata (Reproductive toxicity) and Neurotoxicity and methods of prevention and management	5	Practical Training 11.3	PSY-ADT	Shows-how	CBL,D-BED,CD,DIS
CO1,CO2,CO3,CO9	Discuss the latest updates and advancement in the research aspects of EDCs	6	Experiential-Learning 11.1	CAN	Knows-how	JC
CO1,CO2,CO3,CO9	Explain the effects of the EDCs, Auto immune disorders, Garbhpaghata and Neurotoxicity	8	Experiential-Learning 11.2	PSY-ADT	Shows-how	ML,BL,SY,EDU

M 11 Unit 2 Understanding toxicants induced systemic Health impacts

- Agadatantra approach to Autoimmunity: Exposure to toxicants leading to Autoimmune disorders, their manifestations, management and prevention.
- Agadatantra approach to Garbhopaghata (Reproductive toxicity): garbhopaghatakara bhavas (Agents that cause mutations, genotoxicity) their manifestations, management and prevention
- Agadatantra approach to Neurotoxicity: Knowledge on neurotoxicants, their manifestations, management and prevention.

References: 177,178,179,180,181,182,183,184,185,186,187,188

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3,CO7,CO8	Elaborate the agents that lead to Autoimmune disorders, their manifestations, prevention and management.	2	Lecture	CAN	Knows-how	L&PPT
CO1,CO2,CO3,CO8	Discuss Garbhopaghatakara bhavas (Agents that cause mutations, genotoxicity) their manifestations, prevention and management	1	Lecture	CAN	Knows-how	L&GD,L&PPT
CO1,CO2,CO3,CO8	Discuss neurotoxicants, their manifestations, prevention, and management	2	Lecture	CAN	Knows-how	L&PPT, L, L&GD
CO1,CO2,CO3,CO7	Identify the biomarkers to be observed for agents that lead to Autoimmune disorders	3	Practical Training 11.4	CAN	Knows-how	CBL,JC,ML,LRI
CO1,CO2,CO3,CO7	Assess the biomarkers to be observed for agents that lead to Garbhopaghata (Reproductive toxicity) and Explain Garbhopaghatakara bhavas (Agents that cause mutations, genotoxicity)	3	Practical Training 11.5	PSY-ADT	Shows-how	CD,CBL,LRI
CO1,CO2,CO3,CO7	Analyze the biomarkers to be observed for agents that lead to Neurotoxicity/neurotoxicants	3	Practical Training 11.6	CAN	Shows-how	CBL,CD,LRI
CO1,CO2,CO3,CO8	Identify the manifestations of disorders due to agents that lead to Autoimmune disorders Garbhopaghata (Reproductive toxicity) and Neurotoxicity and methods of prevention and management	6	Experiential-Learning 11.3	PSY-ADT	Shows-how	RLE,PBL,CBL,FV
CO1,CO2,CO3,CO9	Understand the latest updates and advancement in the research aspects of Autoimmune disorders, Garbhopaghata (Reproductive toxicity) and Neurotoxicity	6	Experiential-Learning 11.	CAN	Does	EDU,PER,DIS,PrB

		4		L,JC
Practical Training Activity				
Practical Training 11.1 : Enlist the biomarkers to be observed for the diseases due to EDCs				
Scholars should collect the data through scientific data bases and then prepare a list of common biomarkers for diseases due to EDCs				
Scholars should critically analyze the biomarkers and discuss their relevance with reasoning for understanding the concepts of Gara and Dooshi Visha				
Eg: AEC, IgE assessment in Allergic manifestations				
Practical Training 11.2 : To prepare the diagnostic criteria and treatment protocol for understanding the EDCs				
Students will be divided into batches and posted in the OPD and IPD				
Each batch will be given 5 cases each				
They should take the case as per Agadatantra format				
Diagnostic criteria and treatment proforma for understanding the EDCs are to be prepared				
Hypothetical patient scenario detailed to students and asked to examine the case according to the condition				
Relevant laboratory investigations are to be assessed.				
Students should present the case				
Practical Training 11.3 : Manifestations of disorders due to agents that lead to Autoimmune disorders				
Garbhopaghata (Reproductive toxicity) and Neurotoxicity				
Prepare a case proforma to for case taking of the clinical conditions mentioned				
Diagnose the case according to the findings with detailed systemic examination				
Prepare a treatment proforma for the conditions mentioned and opt a most suitable Agada in the conditions mentioned				
On the basis of Nidana, a proper suggestion/ proposal for the prevention of the clinical conditions mentioned				
Practical Training 11.4 : Enlist the biomarkers to be observed for the agents that lead to Autoimmune disorders				
Scholars should collect the data through scientific data bases and then prepare a list of common biomarkers for agents that lead to Autoimmune disorders				

Scholars should critically analyze the biomarkers and discuss their relevance with reasoning for understanding the concepts of Gara and Dooshi Visha

Eg: AEC, IgE assessment in Allergic manifestations

Practical Training 11.5 : Assess the biomarkers to be observed for the agents that lead to Garbhopaghata (Reproductive toxicity) and Garbhopaghatakara bhavas (Agents that cause mutations, genotoxicity)

Scholars should collect the data through scientific data bases and then prepare a list of common biomarkers for agents that lead to Garbhopaghata (Reproductive toxicity) and Garbhopaghatakara bhavas (Agents that cause mutations, genotoxicity)

Scholars should critically analyze the biomarkers and discuss their relevance with reasoning for understanding the concepts of Gara and Dooshi Visha

Eg: AEC, IgE assessment in Allergic manifestations

Practical Training 11.6 : Enlist the biomarkers to be observed for the agents that lead to Neurotoxicity

Scholars should collect the data through scientific data bases and then prepare a list of common biomarkers for agents that lead to Neurotoxicity Knowledge/ neurotoxicants

Scholars should critically analyze the biomarkers and discuss their relevance with reasoning for understanding the concepts of Gara and Dooshi Visha

Eg: AEC, IgE assessment in Allergic manifestations

Experiential learning Activity

Experiential-Learning 11.1 : Journal club

Understand the latest updates and advancement in the research aspects of EDCs
Discussions and critical analysis on the articles

Experiential-Learning 11.2 : Audio visual presentations

Use the audiovisual aid to learn and convey the effects of the EDCs, Auto immune disorders, Garbhopaghata and Neurotoxicity to the society	
Experiential-Learning 11.3 : Problem based learning	
Hypothetical patient scenario detailed to students and asked to examine the case according to the condition Visits to the infertility centres and conduct a survey to evaluate the major causes for infertility- both male and female factors Information gathered are compiled to form generate a protocol for prevention of the incidence and plan of treatment Collection of data and for the establishment of relation to Gara Visha and Dooshi Visha with the mentioned systemic toxicities	
Experiential-Learning 11.4 : Learning recent updates and advancements	
Understand the latest updates and advancement in the research aspects of Autoimmune disorders, Garbhopaghata (Reproductive toxicity) and Neurotoxicity through presentation of from various database	
Modular Assessment	
Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. Case based assessment or simulated cases - 25 Marks 2. Long answer questions or short answer questions - 25 Marks or 3. Objective structured practical examination (OSPE) - 25 Marks or 5. Interpretation of Laboratory reports - 25 Marks Or Any practical in converted form can be taken for assessment. (25 Marks) and Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)	4

Module 12 : Occupational diseases and Epigenetic Toxicity

Module Learning Objectives

(At the end of the module, the students should be able to)

1. Understand toxicological perspectives of the diseases related to occupation and their manifestations
2. Elaborate on the Methods of prevention and management
3. Describe the mechanism of genetic modifications from toxic exposures and their health impacts
4. Discuss the prevention of epigenetic toxicities

M 12 Unit 1 Occupational Disorders Occupational diseases: Toxicological perspectives of the diseases related to occupation, manifestations, management and prevention.

References: 189,190,191,192,193

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO7,CO9	Discuss the occupational disorder and methods of prevention with their management	5	Lecture	CC	Knows-how	L&GD,L &PPT,BS,L,BL
CO1,CO2,CO7,CO9	Assess the effect of occupational toxins on hematological and biochemical parameters	10	Practical Training 12.1	PSY-ADT	Shows-how	D-BED,L RI,SIM,C BL
CO1,CO2,CO8,CO9	Assess the impact of occupational diseases and their prevalence in the society	10	Experiential-Learning 12.1	PSY-ADT	Does	SDL,FV, CD

M 12 Unit 2 Epigenetics in Toxicity Perspectives Epigenetics in Toxicity perspectives.

References:

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO7,CO9	Discuss the mechanism of genetic modifications due to exposure to various toxicants and relate it in the perspective of Agadatantra	5	Lecture	CC	Knows-how	L&PPT, BL,BS,L_VC
CO1,CO2,CO7,CO9	Identify harmful chemicals and their potential epigenetic effects through analytical techniques	10	Practical Training 12.2	PSY-ADT	Shows-how	PBL,LRI,D,DL
CO1,CO2,CO7,CO9	Explore the impact of epigenetic toxicity in the locality	10	Experiential-Learning 12.2	CK	Does	FV,PBL,EDU
CO1,CO2,CO7,CO9	Appraise the knowledge of Epigenetics through Ayurveda	6	Experiential-Learning 12.3	CK	Does	PrBL,FV

M 12 Unit 3 Occupational Disorders Occupational disorders: Toxicological perspectives of the diseases related to occupation, their pathophysiology, clinical manifestations, management and prevention.

References: 189,190,191,192,193

3A	3B	3C	3D	3E	3F	3G
M 12 Unit 4 Epigenetic Toxicity • Mechanisms of genetic modifications from toxic exposures and its health impact • Prevention of Epigenetic toxicities References: 194,195,196,197,198						
3A	3B	3C	3D	3E	3F	3G

Practical Training Activity

Practical Training 12.1 : case study

Laboratory postings

- Students will be divided into groups and will be given the cases related to occupational toxicity. They will take the case in Agadatantra case format and assess the case accordingly and will be evaluated by the teacher.
- In the simulated case format, the teacher will give case scenario to the students and the students will have to prepare a detailed case history and also form a possible samprapthi in the above mentioned case format for the evaluation.
- Students will be divided into small groups and will be posted in a well equipped laboratory and will be given knowledge about the observations and findings in the cases related to occupational toxicities.

Practical Training 12.2 : Study of chemicals like bisphenol A and valporic acid and their crucial epigenetic effects

Explore how epigenetic toxicity can be incorporated into toxicity tests to assess the safety of chemicals

Explore the potential of reversing the epigenetic changes through treatment strategies based on the epigenetic mechanisms

Students will be posted in well equipped laboratories and given knowledge and exposure in detecting the chemicals that commonly involve in the change of gene expressions

Experiential learning Activity

Experiential-Learning 12.1 : Visit to the industries, factories or mines nearby to learn the ill effects caused by the work environment

Visit to the residential areas situated near to the industries, factories or mines to understand the diseases prevalent in those places

Find an appropriate solution to the prevailing conditions

Students will be divided into groups and they will visit to the industries, factories or mines with prior permission from the authorities. They will have to get the details of the health status of the employees. Depending upon the details obtained they have to prepare a detailed list of symptoms observed in the employees. Appropriate remedial measures can be advised to them and awareness sessions can also be conducted for them.

Visits to the residential areas near to such industries will help to identify the prevalent clinical conditions and also remedial measures can be advised. Steps like role plays and street plays or the videos containing the information to overcome the health issues can also be opted as a part of creating awareness to the common public.

Experiential-Learning 12.2 : Outreach activity

Students will be divided into batches.

Visitation to occupation health care centers. Collect the data of exposure of agent and duration of exposure with experiencing complaints

Prepare a report on the visitation

Experiential-Learning 12.3 : Outreach activity

Educate through Ayurveda IEC material for safety

Prepare a hypothetical proforma for prevention and prophylaxis through Visha rasayana and management

Modular Assessment

Assessment method

Hour

Conduct a structured modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C.

1. Case based assessment or simulated cases - 25 Marks

2. Long answer questions or short answer questions - 25 Marks

or

3. Objective structured practical examination (OSPE) - 25 Marks

or

5. Interpretation of Laboratory reports - 25 Marks

or

Any practical in converted form can be taken for assessment. (25 Marks)

and

Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)

4

Semester No : 5

Module 13 : Twak Vikara (Dermatological manifestations) due to Visha exposure

Module Learning Objectives

(At the end of the module, the students should be able to)

1. Understand various perspectives of dermatological presentations relevant in the contexts of Visha from Brihatrayee, Laghutrayee and various publications
2. Discuss whether it is a symptom of a systemic illness or a disease proper or a complication of any other disorder
3. Diagnose and manage with contemporary relevance with reference to Dooshi Visha, Gara Visha and Jangama Visha
4. Manage the condition by implementing the Chikitsa sutra and Agada Yogas mentioned in Agadatantra

M 13 Unit 1 Dermatological manifestations due to Garavisha

- Dermatological manifestations due to Gara visha

References: 203,204,205,206,207,208,209,210,211,212,213,214

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3	Discuss various perspectives of dermatological presentations relevant in the contexts of Visha from Brihatrayee, Laghutrayee and various publications	2	Lecture	CC	Knows-how	L&GD,L &PPT ,DIS
CO1,CO2,CO3 ,CO7	Analyze present-day toxins leading to dermatological manifestations	2	Lecture	CAN	Knows-how	L&GD,L &PPT
CO1,CO2,CO3 ,CO8	Describe diagnosis and management of Gara Vishajanya Twak vikara using modern clinical parameters	2	Lecture	CAP	Knows-how	DIS,L&GD,L&PPT
CO1,CO2,CO3	Identify Garavishajanya Twak Vikaara	10	Practical	PSY-	Shows-	D-BED,C

,CO7,CO8			Training 13.1	ADT	how	BL,LRI,T BL,CD
CO1,CO2,CO3 ,CO7	Assess the exposure level of Gara Visha in a patient of Twak Vikara	3	Experiential- Learning 13. 1	PSY- ADT	Shows- how	PL,CBL, TBL,PAL ,IBL
CO1,CO2,CO3 ,CO7,CO8	Diagnose Gara vishajanya twak vikara based on clinical presentations and laboratory findings, and formulate an appropriate treatment plan	4	Experiential- Learning 13. 2	PSY- ADT	Shows- how	SIM,LRI, CBL,CD, DIS
CO1,CO2,CO3 ,CO9	Diagnose contact dermatitis based on clinical presentations and laboratory findings, and formulate an appropriate treatment plan	7	Experiential- Learning 13. 3	PSY- ADT	Shows- how	SIM,LRI, CBL,CD, TBL
CO1,CO2,CO3 ,CO9	Diagnose drug induced hypersensitivity reactions based on clinical presentations and laboratory findings, and formulate an appropriate treatment plan	10	Experiential- Learning 13. 4	PSY- ADT	Shows- how	CBL,SIM ,DIS,LRI, CD
CO1,CO2,CO3	Explain the diagnosis and management of contact dermatitis through the principles of Agadatantra	2	Lecture	CAP	Knows- how	L&GD,L, L&PPT
CO1,CO2,CO3	Describe diagnosis and management of drug induced hypersensitivity reactions through the principles of Agadatantra	3	Lecture	CAP	Knows- how	L&GD,L &PPT
M 13 Unit 2 Dermatological manifestations due to Dooshi Visha Dermatological manifestations due to Dooshi Visha References: 199,200,201,202,203,204,205,206						
3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3 ,CO7,CO8	Interpret diagnosis and management of Dooshi Vishajanya Twakvikara using modern clinical parameters	2	Lecture	CAP	Knows- how	L&GD,C BL,DIS,L

						&PPT
CO1,CO2,CO3 ,CO7,CO8	Identify, diagnose and manage Dooshivishajanya Twak Vikaara	10	Practical Training 13.2	PSY- ADT	Shows- how	D-BED,C BL,LRI,T BL
CO1,CO2,CO3 ,CO7	Assess the exposure level of Dooshi Visha in a patient of Twak vikara	3	Experiential- Learning 13. 5	PSY- ADT	Shows- how	CBL,IBL, PL
CO1,CO2,CO3 ,CO7,CO8	Diagnose Dooshi vishajanya twak vikara based on clinical presentations and laboratory findings, and formulate an appropriate treatment plan	4	Experiential- Learning 13. 6	PSY- ADT	Shows- how	CD,LRI,S IM,CBL

M 13 Unit 3 Dermatological manifestations in Bites and Stings Dermatological manifestations due to bites and stings

References: 215,216,217,218,219,220

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3 ,CO8	Describe diagnosis and management of Sthavara visha and Jangama Vishajanya Twak vikara using modern clinical parameters	2	Lecture	CAP	Knows- how	L&GD,L &PPT ,DIS
CO1,CO2,CO3 ,CO7,CO8	Prepare a plan to diagnose and manage sthavara and jangama visha in Twak Vikara	10	Practical Training 13.3	PSY- ADT	Shows- how	TBL,CBL ,D-BED
CO1,CO2,CO3 ,CO7,CO8	Diagnose jangama vishajanya twak vikara based on clinical presentations and laboratory findings, and formulate an appropriate treatment plan	4	Experiential- Learning 13. 7	PSY- ADT	Shows- how	CD,SIM, CBL,LRI
CO1,CO2,CO3 ,CO9	Diagnose Sthavaravishajanya twak vikara based on clinical presentations and laboratory findings, and formulate an appropriate treatment plan	4	Experiential- Learning 13. 8	PSY- ADT	Shows- how	SIM,CBL ,PBL,CD

Practical Training Activity

Practical Training 13.1 :

Demonstration of Garavishajanya Twak Vikaara
or discussion on case reports

Step 1:Scholars are provided with clinical cases or documented case reports for detailed study.

Step 2:They are instructed to gather information on the patient's diet, lifestyle, and environmental exposures relevant to each case

Step 3:Scholars are guided to perform Dashavidha and Ashtavidha Pariksha, assess the Samprapti Ghatakas, identify clinical symptoms, and evaluate relevant biomarkers for diagnostic clarity.

Step 4:Scholars are encouraged to participate in group discussions to identify the presence of Gara Visha in Twak Vikara using: High-quality skin images,Dermopathology slides,Dermatology atlases,Mobile diagnostic apps,Online dermatology forums

Step 5:Based on the findings, scholars are guided to formulate both general and condition-specific treatment protocols.

Step 6:They discuss and decide upon suitable Agada Yogas for precise and targeted therapeutic intervention.

Step 7:The facilitator should conclude whether the overall case approach, treatment strategy, and selected Yogas were appropriate, identify any gaps or shortcomings, and suggest suitable solutions to address them

Practical Training 13.2 : Case demonstrations or discussions on case reports related to Dooshivishajanya Twak Vikara

Step 1:Scholars are provided with clinical cases or documented case reports for detailed study.

Step 2:They are instructed to gather information on the patient's diet, lifestyle, and environmental exposures relevant to each case

Step 3:Scholars are guided to perform Dashavidha and Ashtavidha Pariksha, assess the Samprapti Ghatakas, identify clinical symptoms, and evaluate relevant biomarkers for diagnostic clarity.

Step 4:Scholars are encouraged to participate in group discussions to identify the presence of Dooshi Visha in Twak Vikara using:High-quality skin images,Dermopathology slides,Dermatology atlases,Mobile diagnostic apps,Online dermatology forums

Step 5:Based on the findings, scholars are guided to formulate both general and condition-specific treatment protocols.

Step 6:They discuss and decide upon suitable Agada Yogas for precise and targeted therapeutic intervention.

Step 7:The facilitator concludes the session by highlighting both the strengths and areas for improvement observed during the activity.

Practical Training 13.3 : Case demonstrations or discussions on case reports related to Sthavra and Jangama vishajanya Twak Vikara

Step 1:Scholars are provided with clinical cases or documented case reports for detailed study.

Step 2:They are required to collect a comprehensive history of any known or suspected exposure to Sthavara or Jangama Visha.

Step 3:Scholars are guided to perform Dashavidha and Ashtavidha Pariksha, assess the Samprapti Ghatakas, identify clinical symptoms, and evaluate relevant biomarkers for diagnostic clarity.

Step 4:Scholars are encouraged to participate in group discussions to identify the presence of sthavara visha and jangama visha in Twak Vikara using:High-quality skin images,Dermopathology slides,Dermatology atlases,Mobile diagnostic apps,Online dermatology forums

Step 5:Based on the findings, scholars are guided to formulate both general and condition-specific treatment protocols.

Step 6:They discuss and decide upon suitable Agada Yogas for precise and targeted therapeutic intervention.

Step 7:The facilitator concludes the session by highlighting both the strengths and areas for improvement observed during the activity.

Experiential learning Activity

Experiential-Learning 13.1 : Assessment of Gara Visha in a patient of Twak Vikara

Step 1:Scholar is asked to prepare a semi structured questionnaire to assess the exposure level of Gara Visha in a patient of Twak vikara.

Step 2: Discuss and analyse with peer.

Step 3:Depending on the out put of the discussion,topic should be studied by each and every member of the group

Step 4:Share the knowledge with group and come to conclusion

Step 5:Through personal interviews with the help of questionnare, history of exposure to Gara visha should be elicited

Step 6:By thorough general and specific examination should be able to assess the exposure level of Gara Visha in a patient of Twak vikara

Experiential-Learning 13.2 : Clinical exposure through IPD postings, simulations, or role-plays to diagnose Gara vishajanya twak vikara and develop treatment plans.

Step 1: Scholars will be exposed to inpatient (IPD) settings, interactive clinical simulations, and case studies to gain hands-on experience in managing Gara vishajanya twak vikara.

Step 2:They will conduct preliminary evaluations, recognizing characteristic clinical signs and symptoms of the condition.

Step 3:Scholars will interpret laboratory and diagnostic findings, correlating them with clinical presentations and Ayurvedic principle

Step 4: Based on their assessment, scholars will apply suitable treatment protocols, administering appropriate interventions aligned with Ayurvedic management of garavisha-related skin disorders.

Step 5:Following the clinical tasks, scholars will participate in interactive discussions, raising doubts, sharing challenges, and reflecting on their learning experience

Step 6:Understanding is further deepened through class presentations, debates, and peer review, promoting analytical thinking and collaborative learning

Step 7:The session concludes with a summary where the facilitator highlights both strengths and areas for improvement observed during the activity. Constructive feedback is offered to reinforce effective practices and address identified gaps, encouraging continuous improvement.

Experiential-Learning 13.3 : Clinical exposure in dermatology hospitals, simulations, or role-plays to diagnose contact dermatitis and formulate appropriate treatment plans.

Step 1:Scholars will be exposed to inpatient (IPD) settings, interactive clinical simulations, and case studies to gain hands-on experience in managing contact dermatitis.

Step 2:They will conduct preliminary evaluations, recognizing characteristic clinical signs and symptoms of the condition.

Step 3:Scholars will interpret laboratory and diagnostic findings, correlating them with clinical presentations and Ayurvedic principle

Step 4:Based on their assessment, scholars will discuss Ayurvedic management of contact dermatitis

Step 5:Following the clinical tasks, scholars will participate in interactive discussions, raising doubts, sharing challenges, and reflecting on their learning experience

Step 6: Understanding is further deepened through class presentations, debates, and peer review, promoting analytical thinking and collaborative learning

Step 7:The session concludes with a summary where the facilitator highlights both strengths and areas for improvement observed during the activity. Constructive feedback is offered to reinforce effective practices and address identified gaps, encouraging continuous improvement.

Experiential-Learning 13.4 : Clinical exposure in dermatology hospitals, simulations, or role-plays to diagnose drug induced hypersensitivity reactions and formulate appropriate treatment plans.

Step 1:Scholars will be exposed to inpatient (IPD) settings, interactive clinical simulations, and case studies to gain hands-on experience in managing drug induced hypersensitivity reactions.

Step 2:They will conduct preliminary evaluations, recognizing characteristic clinical signs and symptoms of the condition.

Step 3:Scholars will interpret laboratory and diagnostic findings, correlating them with clinical presentations and Ayurvedic principle

Step 4:Based on their assessment, scholars will discuss Ayurvedic management of drug induced hypersensitivity reactions

Step 5:Following the clinical tasks, scholars will participate in interactive discussions, raising doubts, sharing challenges, and reflecting on their learning experience

Step 6:Understanding is further deepened through class presentations, debates, and peer review, promoting analytical thinking and collaborative learning

Step 7:The session concludes with a summary where the facilitator highlights both strengths and areas for improvement observed during the activity. Constructive feedback is offered to reinforce effective practices and address identified gaps, encouraging continuous improvement.

Experiential-Learning 13.5 : Assessment of Dooshi Visha in a patient of Twak vikara

Step 1:Prepare a semi structured questionnaire to assess the exposure level of Dooshi Visha in a patient of Twak vikara.

Step 2:Discuss and analyse with peer.

Step 3:Depending on the out put of the discussion,topic should be studied by each and every member of the group

Step 4:Share the knowledge with group and come to conclusion

Step 5:Through personal interviews with the help of questionnare history of exposure to dooshi visha should be elicited

Step 6:By thorough general and specific examination should be able to assess the exposure level of Dooshi Visha in a patient of Twak vikara

Experiential-Learning 13.6 : Clinical exposure through IPD postings, simulations, or role-plays to diagnose Dooshivishajanya Twak Vikara and develop treatment plans.

Step 1:Scholars will be exposed to inpatient (IPD) settings, interactive clinical simulations and case studies to gain hands-on experience in managing Dooshivishajanya Twak Vikara.

Step 2:They will conduct preliminary evaluations, recognizing characteristic clinical signs and symptoms of the condition.

Step 3:Scholars will interpret laboratory and diagnostic findings, correlating them with clinical presentations and Ayurvedic principle

Step 4:Based on their assessment, scholars will apply suitable treatment protocols, administering appropriate interventions aligned with Ayurvedic management of Dooshivisha-related skin disorders.

Step 5:Following the clinical tasks, scholars will participate in interactive discussions, raising doubts, sharing challenges, and reflecting on their learning experience

Step 6: Understanding is further deepened through class presentations, debates, and peer review, promoting analytical thinking and collaborative learning

Step 7:The session concludes with a summary where the facilitator highlights both strengths and areas for improvement observed during the activity. Constructive feedback is offered to reinforce effective practices and address identified gaps, encouraging continuous improvement.

Experiential-Learning 13.7 : Clinical exposure through IPD postings, simulations, or role-plays to diagnose Jangamavishajanya Twak Vikara and develop treatment plans

Step 1: Scholars will be exposed to inpatient (IPD) settings, interactive clinical simulations, and case studies to gain hands-on experience in managing Jangama Vishajanya Twak Vikara.

Step 2:They will conduct preliminary evaluations, recognizing characteristic clinical signs and symptoms of the condition.

Step 3: Scholars will interpret laboratory and diagnostic findings, correlating them with clinical presentations and Ayurvedic principle

Step 4:Based on their assessment, scholars will apply suitable treatment protocols, administering appropriate interventions aligned with Ayurvedic management of Jangama Visha-related skin disorders.

Step 5:Following the clinical tasks, scholars will participate in interactive discussions, raising doubts, sharing challenges, and reflecting on their learning experience

Step 6:Understanding is further deepened through class presentations, debates, and peer review, promoting analytical thinking and collaborative learning

Step 7:The session concludes with a summary where the facilitator highlights both strengths and areas for improvement observed during the activity. Constructive feedback is offered to reinforce effective practices and address identified gaps, encouraging continuous improvement.

Experiential-Learning 13.8 : Clinical exposure through IPD postings, simulations, or role-plays to diagnose Sthavaravishajanya Twak Vikara and develop treatment plans.

Step 1:Scholars will be exposed to inpatient (IPD) settings, interactive clinical simulations, and case studies to gain hands-on experience in managing Sthavaravishajanya Twak Vikara.

Step 2:They will conduct preliminary evaluations, recognizing characteristic clinical signs and symptoms of the condition.

Step 3:Scholars will interpret laboratory and diagnostic findings, correlating them with clinical presentations and Ayurvedic principle

Step 4:Based on their assessment, scholars will apply suitable treatment protocols, administering appropriate interventions aligned with Ayurvedic management of Sthavaravisha-related skin disorders.

Step 5:Following the clinical tasks, scholars will participate in interactive discussions, raising doubts, sharing challenges, and reflecting on their learning experience

Step 6: Understanding is further deepened through class presentations, debates, and peer review, promoting analytical thinking and collaborative learning

Step 7: The session concludes with a summary where the facilitator highlights both strengths and areas for improvement observed during the activity. Constructive feedback is offered to reinforce effective practices and address identified gaps, encouraging continuous improvement.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 75 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. Case based assessment or simulated cases or Objective structured clinical examination (OSCE) - 25 Marks 2. Long answer questions or short answer questions - 25 Marks 3. Critical writing or Compilation - 25 Marks Or Any practical in converted form can be taken for assessment. (45 Marks) and	6

Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (30 Marks)

Module 14 : Agadatantra approach to Drug induced toxicity

Module Learning Objectives

(At the end of the module, the students should be able to)

1. Know the common drugs inducing toxicity
2. Identify the drugs causing Hepatotoxicity, Nephrotoxicity, cardiotoxicity, Hematotoxicity & Gastro-intestinal toxicity
3. Diagnose their complication and prognosis
4. Prepare the protocol for the management of the toxicity

M 14 Unit 1 Agadatantra approach to Drug induced toxicity

- Study of common drugs of Toxicological importance
- Study of Drugs causing Hepatotoxicity, Nephrotoxicity, Cardiotoxicity, Hematotoxicity& Gastro-intestinal toxicity.

References: 221,222,223,224,225,226

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3 ,CO7,CO8	Describe hepatotoxicity along with its causative drugs, diagnostic criteria, and management protocols according to the principles of Agadatantra	2	Lecture	CC	Knows-how	L&PPT
CO1,CO2,CO3 ,CO7,CO8	Interpret nephrotoxicity, including its causative drugs, diagnostic criteria, and management protocols, in accordance with the principles of Agadatantra	2	Lecture	CC	Knows-how	L&PPT
CO1,CO2,CO3 ,CO7,CO8	Discuss cardiotoxicity along with its causative drugs, diagnostic criteria, and management protocols according to the principles of Agadatantra	2	Lecture	CC	Knows-how	L&PPT

CO1,CO2,CO3 ,CO7,CO8	Interpret hemotoxicity, including its causative drugs, diagnostic criteria, and management protocols, in accordance with the principles of Agadatantra	2	Lecture	CAP	Shows-how	L&PPT
CO1,CO2,CO3 ,CO7,CO8	Describe gastrointestinal toxicity along with its causative drugs, diagnostic criteria, and management protocols according to the principles of Agadatantra	2	Lecture	CC	Knows-how	L&PPT ,L&GD,L
CO1,CO2,CO3 ,CO7,CO8	Manage Drug-Induced Hepatotoxicity Effectively	4	Practical Training 14.1	PSY-ADT	Shows-how	D-BED,C D,LRI,CB L
CO1,CO2,CO3 ,CO7,CO8	Identify Strategies for the management of Drug-Induced Cardiotoxicity	4	Practical Training 14.2	PSY-ADT	Shows-how	D-BED,L RI,SIM,C BL
CO1,CO2,CO3 ,CO7,CO8	Prepare a plan for management of Drug-Induced Nephrotoxicity	4	Practical Training 14.3	PSY-MEC	Shows-how	D-BED,C BL,LRI
CO1,CO2,CO3 ,CO7,CO8	Prepare a plan for the management of Drug-Induced Haemotoxicity.	4	Practical Training 14.4	PSY-ADT	Shows-how	SIM,D- BED,CB L
CO1,CO2,CO3 ,CO7,CO8	Diagnose and treat the drug-induced nephrotoxicity using the principles of Agadatantra	5	Experiential-Learning 14.1	PSY-MEC	Does	CBL,CD, SIM,LRI
CO1,CO2,CO3 ,CO7,CO8	Diagnose and manage the drug induced Hepatotoxicity through the principles of Agadatantra	5	Experiential-Learning 14.2	PSY-MEC	Does	LRI,SIM, CD
CO1,CO2,CO3 ,CO7,CO8	Apply the principles of Agadatantra to diagnose and manage drug-induced hemotoxicity.	5	Experiential-Learning 14.3	PSY-MEC	Does	CD,SIM, LRI
CO1,CO2,CO3 ,CO7,CO8	Diagnose and manage drug-induced cardiotoxicity using the principles of Agadatantra	5	Experiential-Learning 14.	PSY-MEC	Does	SIM,LRI, CD

			4			
CO1,CO2,CO3,CO7,CO8	Applies the principles of Agadatantra to diagnose and manage drug-induced gastrointestinal toxicity.	6	Experiential-Learning 14.5	PSY-MEC	Does	LRI,SIM,CD
CO1,CO2,CO3,CO7,CO8	Demonstrate management of drug induced Gastrointestinal toxicity	4	Practical Training 14.5	PSY-ADT	Shows-how	CBL,LRI,D-BED,SIM

Practical Training Activity

Practical Training 14.1 : Demonstration of management of drug induced Hepatotoxicity

1. Encourage scholars to assess patient history with a focus on drug-induced hepatotoxicity.
2. Use lab tests and the Naranjo Scale to confirm diagnosis and causality.
3. Apply Agadatantra principles and Pancha Vidha Roga Pareeksha to evaluate Samprapti Ghatakas.
4. Select appropriate chikitsa sutra with Shodhana or Shamana therapy and a relevant Agada Yoga.
5. Present cases in peer groups to foster critical thinking.
6. Use case studies and simulations to build practical decision-making skills.

Practical Training 14.2 : Demonstration of management of drug induced cardiotoxicity

1. Encourage scholars to assess patient history with a focus on drug-induced cardiotoxicity.
2. Use lab tests, cardiac biomarkers, and the Naranjo Scale to confirm diagnosis and causality.
3. Apply Agadatantra principles and Pancha Vidha Roga Pareeksha to evaluate Samprapti Ghatakas.
4. Select appropriate chikitsa sutra with Shodhana or Shamana therapy and a relevant Agada Yoga.
5. Present cases in peer groups to foster critical thinking.
6. Use case studies and simulations to build practical decision-making skills.

Practical Training 14.3 : Demonstration of management of drug induced nephrotoxicity

1. Encourage scholars to assess patient history with a focus on drug-induced nephrotoxicity.
2. Use lab tests and the Naranjo Scale to confirm diagnosis and causality.
3. Apply Agadatantra principles and Pancha Vidha Roga Pareeksha to evaluate Samprapti Ghatakas.

4. Select appropriate chikitsa sutra with Shodhana or Shamana therapy and a relevant Agada Yoga.
5. Present cases in peer groups to foster critical thinking.
6. Use case studies and simulations to build practical decision-making skills.

Practical Training 14.4 : Demonstration of management of drug induced haemotoxicity

1. Encourage scholars to assess patient history with a focus on drug-induced hemotoxicity.
2. Use lab tests and the Naranjo Scale to confirm diagnosis and causality.
3. Apply Agadatantra principles and Pancha Vidha Roga Pareeksha to evaluate Samprapti Ghatakas.
4. Select appropriate chikitsa sutra with Shodhana or Shamana therapy and a relevant Agada Yoga.
5. Present cases in peer groups to foster critical thinking.
6. Use case studies and simulations to build practical decision-making skills.

Practical Training 14.5 : Demonstration of management of drug induced gastro intestinal toxicity

1. Encourage scholars to assess patient history with a focus on drug-induced gastrointestinal toxicity.
2. Use lab tests, imaging and endoscopy the Naranjo Scale to confirm diagnosis and causality.
3. Apply Agadatantra principles and Pancha Vidha Roga Pareeksha to evaluate Samprapti Ghatakas.
4. Select appropriate chikitsa sutra with Shodhana or Shamana therapy and a relevant Agada Yoga.
5. Present cases in peer groups to foster critical thinking.
6. Use case studies and simulations to build practical decision-making skills.

Experiential learning Activity

Experiential-Learning 14.1 :

Application of Agadatantra principles in the diagnosis and treatment of drug-induced nephrotoxicity

Scholars are encouraged to:

Step 1: Identify and interpret key biomarkers essential for diagnosing drug-induced nephrotoxicity through real-life cases, case reports, or simulated scenarios.

Step 2: Develop diagnostic criteria and formulate treatment protocols by integrating modern medical diagnostics with Ayurvedic principles.

Step 3: Analyze hypothetical clinical scenarios and apply clinical reasoning to assess patient conditions effectively.

Step 4: Participate in group discussions to evaluate and select the most appropriate Agada Yoga for each case.

Step 5: Attend field visits to designated pharmacology and toxicology centers to observe and understand drug mechanisms and safety evaluation processes in real-world settings.

Experiential-Learning 14.2 : Diagnosis and management of drug-induced hepatotoxicity through the application of Agadatantra principles

Scholars are encouraged to:

Step 1: Identify and interpret key biomarkers essential for diagnosing drug-induced hepatotoxicity through real-life cases, case reports, or simulated scenarios.

Step 2: Develop diagnostic criteria and formulate treatment protocols by integrating modern medical diagnostics with Ayurvedic principles.

Step 3: Analyze hypothetical clinical scenarios and apply clinical reasoning to assess patient conditions effectively.

Step 4: Participate in group discussions to evaluate and select the most appropriate Agada Yoga for each case.

Step 5: Attend field visits to designated pharmacology and toxicology centers to observe and understand drug mechanisms and safety evaluation processes in real-world settings.

Experiential-Learning 14.3 : Application of Agadatantra principles in the diagnosis and treatment of drug-induced hemotoxicity

Scholars are encouraged to:

Step 1: Identify and interpret key biomarkers essential for diagnosing drug-induced hemotoxicity through real-life cases, case reports, or simulated scenarios.

Step 2: Develop diagnostic criteria and formulate treatment protocols by integrating modern medical diagnostics with Ayurvedic principles.

Step 3: Analyze hypothetical clinical scenarios and apply clinical reasoning to assess patient conditions effectively.

Step 4: Participate in group discussions to evaluate and select the most appropriate Agada Yoga for each case.

Step 5: Attend field visits to designated pharmacology and toxicology centers to observe and understand drug mechanisms and safety evaluation processes in real-world settings.

Experiential-Learning 14.4 : Diagnosis and management of drug-induced cardiotoxicity through the application of Agadatantra principles

Scholars are encouraged to:

Step 1: Identify and interpret key biomarkers essential for diagnosing drug-induced cardiotoxicity through real-life cases, case reports, or simulated scenarios.

Step 2: Develop diagnostic criteria and formulate treatment protocols by integrating modern medical diagnostics with Ayurvedic principles.

Step 3: Analyze hypothetical clinical scenarios and apply clinical reasoning to assess patient conditions effectively.

Step 4: Participate in group discussions to evaluate and select the most appropriate Agada Yoga for each case. Step 5: Attend field visits to designated pharmacology and toxicology centers to observe and understand drug mechanisms and safety evaluation processes in real-world settings.	
Experiential-Learning 14.5 : Application of Agadatantra principles in the diagnosis and treatment of drug-induced gastrointestinal toxicity.	
Scholars are encouraged to: Step 1: Identify and interpret key biomarkers essential for diagnosing drug-induced gastrointestinal toxicity through real-life cases, case reports, or simulated scenarios. Step 2: Develop diagnostic criteria and formulate treatment protocols by integrating modern medical diagnostics with Ayurvedic principles. Step 3: Analyze hypothetical clinical scenarios and apply clinical reasoning to assess patient conditions effectively. Step 4: Participate in group discussions to evaluate and select the most appropriate Agada Yoga for each case. Step 5: Attend field visits to designated pharmacology and toxicology centers to observe and understand drug mechanisms and safety evaluation processes in real-world settings.	
Modular Assessment	
Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. Case based assessment or simulated cases - 25 Marks 2. Long answer questions or short answer questions - 25 Marks Or Any practical in converted form can be taken for assessment. (25 Marks) and Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)	4
Semester No : 6	
Module 15 : Virudha Ahara	
Module Learning Objectives (At the end of the module, the students should be able to)	

1. Understand various perspectives of Virudha Ahara from Brihatrayee, Laghutrayee and various publications
2. Differentiate between Gara Visha and Virudha Ahara
3. Diagnose with contemporary relevance with reference to various diseases related to food and its adulterations and poisoning
4. Know to detect food poisoning with various methods / techniques
5. Treat the condition by implementing the principles and medicines mentioned in Agadatantra
6. Have thorough knowledge on the common food adulterants, additives, substitutes and preservatives

M 15 Unit 1 Role of Virudha Ahara in disease manifestation

References: 128,129,130,176

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3,CO8	Discuss various perspectives on Viruddha Ahara from the Brihatrayee, Laghutrayee, and multiple publications.	4	Lecture	CC	Knows-how	L&PPT, L&GD
CO1,CO2,CO3,CO7	Assess the exposure level to Viruddha Ahara in subjects using a semi-structured questionnaire.	10	Experiential-Learning 15.1	CAN	Does	CBL,TBL
CO1,CO2,CO3,CO8,CO9	Educate the society regarding health impacts of viruddha Ahara	10	Experiential-Learning 15.2	PSY-MEC	Does	FV,RP,TBL
CO1,CO2,CO3,CO8	Differentiate between Gara Visha and Viruddha Ahara	1	Lecture	CAP	Knows-how	L&PPT, L&GD

M 15 Unit 2 Ahara Vishaktata

- Ahara visha in Ayurveda and contemporary sciences.

- Satmyata and Asatmyata
- Management of food poisoning

References: 128,129,130,176,227,228,229

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3,CO8	Discuss various perspectives on vishakta Ahara from Brihatrayee, Laghutrayee and contemporary sciences	4	Lecture	CC	Knows-how	L&GD,L &PPT
CO1,CO2,CO3,CO7	Diagnose Vishakta Ahara and develop suitable treatment plans	10	Experiential-Learning 15.3	CAP	Does	D-BED,C BL,LRI
CO1,CO2,CO3,CO8	Discuss Saatmya and Asaatyamata	1	Lecture	CAN	Knows-how	L&PPT, L&GD
CO1,CO2,CO3,CO7	Analyze Food Adulteration and Poisoning with Agadatantra-Based Approach	9	Experiential-Learning 15.4	PSY-ADT	Does	CBL,ML, LS

M 15 Unit 3 Vishakta Ahara pareeksha

- Vishakta Ahara pareeksha in Ayurveda, Panchabhautikapareeksha and contemporary sciences.
- Adulteration detection

References: 129,130,227,228,229,230,231,232,233

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3,CO7	Explain Vishakta Ahara Pareeksha with respect to Ayurveda and contemporary science	5	Lecture	CC	Knows-how	L&GD,L &PPT
CO1,CO7	Detect Adulterants in Powdered Spices and Asafoetida	6	Practical Training 15.1	PSY-ADT	Shows-how	D

CO1,CO2,CO3,CO7	Identifies Adulteration in Vishaghna Gana Dravyas	10	Practical Training 15.2	PSY-ADT	Shows-how	D
CO1,CO2,CO3,CO7	Detect Adulterants in Milk and Sugar	7	Practical Training 15.3	PSY-ADT	Shows-how	D
CO1,CO2,CO3,CO7	Identifies Adulteration in Ekasara Gana Dravyas	7	Practical Training 15.4	PSY-ADT	Shows-how	D

Practical Training Activity

Practical Training 15.1 : Experimental Detection of Adulterants in Powdered Spices and Asafoetida

Step 1: Sample Collection- Guide the scholars to visit the local market and collect samples of Asafoetida (Hing), Powdered spices from multiple local shops for comparative analysis. Ensure that the samples are clearly labeled and stored in clean, dry containers.

Step 2: Conduct adulteration testing procedures to detect the following contaminants: soapstone or other earthy materials in asafoetida (hing) and added starch in powdered spices. Use standard reagents and follow safety protocols while conducting each test.

Step 3: Comparison with Controls- Compare each test result with standard (pure) control samples of the respective items. Record observations such as color change, precipitate formation, or any physical differences.

Step 4: Documentation and Inference- Maintain a record of all test results in a tabular format. Analyze the outcomes to determine the presence or absence of adulterants. Draw inferences based on the deviations observed from the control samples.

Practical Training 15.2 : Identify Adulteration in Vishaghna Gana Dravyas

Step 1: Scholars are instructed to collect any two Vishaghna Gana dravyas from the local market. The collected samples must be subjected to the following examinations:

Step 2: Macroscopic and Microscopic Observation:
Record physical characteristics such as color, texture, shape, and structural details under magnification.

Step 3: Tests for Identity, Purity, and Strength:
Conduct standard pharmacognostical and physicochemical tests to confirm the identity and assess the quality and strength of the samples.

Step 4: Thin Layer Chromatography (TLC):
Perform TLC to detect the presence of active constituents and ensure the chemical profile matches standard references. All findings should be documented and compared with classical standards or authenticated reference materials.

Practical Training 15.3 : Experimental Detection of Adulterants in Milk and Sugar

Step 1: Sample Collection- Guide the scholars to visit the local market and collect samples of Milk and Sugar from multiple local shops for comparative analysis. Ensure that the samples are clearly labeled and stored in clean, dry containers.

Step 2: Conduct adulteration testing procedures to detect the following contaminants: formalin and glucose in milk; urea and chalk powder in sugar. Use standard reagents and follow safety protocols while conducting each test.

Step 3: Comparison with Controls-Compare each test result with standard (pure) control samples of the respective items. Experimental Detection of Adulterants in Milk, Sugar, Record observations such as color change, precipitate formation, or any physical differences.

Step 4: Documentation and Inference-Maintain a record of all test results in a tabular format. Analyze the outcomes to determine the presence or absence of adulterants. Draw inferences based on the deviations observed from the control samples.

Practical Training 15.4 : Identify Adulteration in Ekasara Gana Dravyas

Step 1: Scholars are instructed to collect any two Ekasara Gana dravyas from the local market. The collected samples must be subjected to the following examinations:

Step 2: Macroscopic and Microscopic Observation:

Record physical characteristics such as color, texture, shape, and structural details under magnification.

Step 3: Tests for Identity, Purity, and Strength:

Conduct standard pharmacognostical and physicochemical tests to confirm the identity and assess the quality and strength of the samples.

Step 4: Thin Layer Chromatography (TLC):

Perform TLC to detect the presence of active constituents and ensure the chemical profile matches standard references. All findings should be documented and compared with classical standards or authenticated reference materials.

Experiential learning Activity

Experiential-Learning 15.1 : Assessment of exposure to Viruddha Ahara in subjects using a semi-structured questionnaire.

1. Scholars are encouraged to Enlist the common Viruddha ahara in day to day life.
2. Prepare a semi structured questionnaire to assess the exposure level of Viruddha ahara in a patient
3. Discuss and analyse with peer.
4. Depending on the out put of the discussion, topic should be studied by each and every member of the group

5. Share the knowledge with group and come to conclusion
6. Through personal interviews with the help of questionnaire, history of exposure to Viruddha ahara should be elicited
7. By thorough general and specific examination should be able to assess the exposure level of Viruddha Ahara in a subject

Experiential-Learning 15.2 : Educate the society regarding health impacts of viruddha Ahara

- Step-1-Scholars should compile a list of commonly consumed Viruddha Ahara observed in daily diets
- Step-2- Facilitate peer-level discussions to explore the adverse health impacts
- Step-3-Identify vulnerable groups—children, the elderly, pregnant women, and individuals with chronic illnesses.
- Step-4-Raise awareness through visually appealing posters, informative charts, and engaging tools like street plays, skits, short films, and social media reels to promote healthy eating practices.

Experiential-Learning 15.3 : Clinical exposure in Ayurvedic centers,modern hospitals,simulations,or role-playing scenarios to diagnose Vishakta Ahara and develop suitable treatment plans

- Step-1- Conduct a bedside demonstration for diagnosing Vishakta Ahara .
- Step-2-Instruct students to perform a thorough general and systemic examination.
- Step-3-Guide them in interpreting relevant laboratory investigations (e.g., CBC, stool analysis).
- Step-4-Formulate both general management and condition-specific treatment protocols, integrating Ayurvedic principles.
- Step-5-Discuss the indications, formulations, and applications of various Agadas used in the management of Vishakta Ahara, emphasizing classical references and clinical relevance.
- Alternatively, the same learning objectives can be achieved through case report discussions or structured role-plays.

Experiential-Learning 15.4 : Analysis of Food Adulteration and Poisoning with Agadatantra-Based Approach

- Step 1:Collection of Case Reports:
- Gather documented case reports from newspapers, magazines, or verified public sources that highlight incidents of health hazards caused by consumption of adulterated or poisoned food.

Step 2: Identification of Adulterant/Toxin:

For each case, identify and list the suspected or confirmed adulterants or toxic substances responsible for the harmful effects.

Step 3: Assessment of Source and Cause:

Analyze the probable source, method of contamination, and cause behind the adulteration or poisoning in each case.

Step 4: Symptomatology and Clinical Findings:

Summarize the symptoms observed, clinical presentations reported, and any diagnostic findings mentioned in the case.

Step 5: Review of Management Practices:

Examine the management and treatment procedures followed in each case, including emergency response and supportive care.

Step 6: Agadatantra-Based Analysis:

Evaluate the case from the perspective of Agadatantra, highlighting possible Agada, treatment protocols, and preventive measures as per classical texts.

Step 7: Conclusion and Recommendations:

Provide a comparative insight between modern and Agadatantra-based approaches. Suggest recommendations for future prevention, awareness, and improved public health response.

Modular Assessment**Assessment method****Hour**

Conduct a structured modular assessment. The assessment will be for 75 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C.

1. Performance of practicals (Adulteration tests) or Objective structured practical examination (OSPE) - 25 Marks

2. Long answer questions or short answer questions - 25 Marks

3. Case based assessments or simulated cases to assess the role of viruddhahara - 25 Marks

OR

5. Spotting for detection of adulterants by macroscopic features - 25 Marks

Or

Any practical in converted form can be taken for assessment. (40 Marks)

and

Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (35 Marks)

6

Module 16 : Agadatantra perspective of Cancer**Module Learning Objectives**

(At the end of the module, the students should be able to)

1. Understand the role of Visha in Cancer manifestation
2. Evaluate the application of Agada yoga to improve the quality of life in Cancer patients
3. Evaluate the application of Agadatantra Principles in the management of Radiation & Common chemotherapeutic agent induced toxicities.
4. Understand the scope of Agadatantra in Cancer research

M 16 Unit 1 Agadatantra perspective of Cancer.

- Role of Visha in Cancer manifestation
- Application of Agada yogas to improve the quality of life in Cancer patients
- Application of Agadatantra Principles in the management of Radiation & Common chemotherapeutic agent induced toxicities.
- Scope of Agadatantra in Cancer research.

References: 239,240,241,242,243,244,245

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3,CO7,CO8	Explain the role of Visha in Cancer manifestation	2	Lecture	CC	Knows-how	L&PPT, L&GD
CO1,CO2,CO3,CO7,CO8	Discuss the application of Agada yogas to improve the quality of life in Cancer patients	3	Lecture	CC	Knows-how	L&GD, L&PPT
CO1,CO2,CO3,CO7,CO8	Describe the application of Agadatantra Principles in the management of Radiation & Common chemotherapeutic agent induced toxicities	3	Lecture	CC	Knows-how	L&GD, L&PPT
CO1,CO9	Discuss Scope of Agadatantra in Cancer research	2	Lecture	CC	Knows-how	L&GD, L&PPT
CO1,CO7	Analyze the role of Visha in Cancer Development	5	Practical	PSY-	Shows-	DIS, PER,

			Training 16.1	ADT	how	RP,SIM,P BL
CO1,CO2,CO8	Assess Quality of Life and Applies Agada Yoga in Cancer Care to improve the quality of life	8	Practical Training 16.2	PSY-ADT	Shows-how	SIM,CBL ,DIS,RP
CO1,CO2,CO8	Describe Agadatantra-Based Management of Radiation and Chemotherapy Toxicities	7	Practical Training 16.3	CAN	Shows-how	DIS,D
CO1,CO2	Applies principles of Agadatantra in the Assessment and Intervention of Cancer Care	10	Experiential-Learning 16.1	PSY-ADT	Does	CBL,RP, SIM
CO1,CO2	Identify and Manage Carcinogenic Toxicant Exposure Using Agadatantra Principles	6	Experiential-Learning 16.2	PSY-ADT	Does	LRI,DIS, CBL
CO1,CO2	Prepare a protocol for managment of Cancer Therapy-Induced Toxicities through the Principles of Agadatantra	10	Experiential-Learning 16.3	PSY-MEC	Does	LRI,CBL, DIS

Practical Training Activity

Practical Training 16.1 : Demonstrating the Link Between Toxicant Exposure and Cancer

Step 1:Display Toxicants: Present images or safe samples of physical (UV, radiation), chemical (benzene, asbestos), and biological (HPV, Hepatitis B) carcinogens.
Step 2:Demonstrate Mechanism: Use models or animations to explain how toxicants cause DNA damage, oxidative stress, and mutations.
Step 3:Analyze Data: Provide real epidemiological datasets or case studies; guide students to identify correlations between chemical exposure and cancer incidence.
Step 4:Discussion & Reflection: Facilitate group discussion to interpret findings and encourage students to propose evidence-based preventive strategies.
Step 5:Conclude: Summarize key learnings and their public health relevance.

Practical Training 16.2 : Approach to Assessing Quality of Life and Applying Agada Yoga in Cancer Care to improve the quality of life

Scholars are assigned to the cancer unit of the same institution or affiliated centers. They are required to analyze a minimum of five patients or case reports during their posting

Step 1-Scholars should be encouraged to Conduct mock interviews or role plays to practice administering Quality of Life questionnaires and analyzing responses.

Step 2-Analyze case scenarios to understand how symptoms (e.g., pain, fatigue, nausea) affect different QoL domains.

Step 3-Learn to assess Dosha imbalance, Dhatu involvement, and Visha Lakshanas in cancer patients.

Step 4-Choose suitable Agada yogas for specific symptoms

Step 5-Participate in sessions demonstrating shodhana therapies.

Step 6-Use peer practice or models to simulate therapy planning and delivery, integrating modern and Ayurvedic perspectives.

Step 7-Discuss outcomes through case-based learning, reflect on what worked, and adapt based on feedback.

Step 8-Practice writing case reports, QoL analysis summaries, and presenting findings to peers or mentors.

Practical Training 16.3 : Agadatantra-Based Management of Radiation and Chemotherapy Toxicities

Scholars are assigned to the cancer unit of the same institution or affiliated centers. They are required to analyze a minimum of five patients or case reports during their posting

Step 1-Identify radiation and chemotherapy-induced toxicities (e.g., mucositis, nausea, fatigue, neuropathy).

Step 2-Present symptomatology and pathology using clinical data and visual aids.

Step 3-Classify toxicities based on Agadatantra concepts, including Dooshivisha, Garavisha, and the involvement of Doshas and Dhatus

Step 4-Describe Chikitsa sutra and Agada Yogas.

Step 5-Use documented case studies or classical references to support applications.

Step 6-Engage the audience in discussion on integration with modern treatments.

Step 7-Summarize key Agadatantra principles relevant to oncology for clinical education

Experiential learning Activity

Experiential-Learning 16.1 : Application of Agadatantra Principles in the Assessment and Intervention of Cancer Care

Scholars are assigned to the cancer unit of the same institution or affiliated centers. They are required to analyze a minimum of five patients or case reports during their posting

Step 1-Select a validated tool like EORTC QLQ-C30 or FACT-G to assess quality of life.

Step 2-Explain key domains: physical, emotional, social, and functional well-being.

Step 3-Collect responses through interviews or questionnaires and analyze scores.

Step 4-Interpret results to identify patient strengths and areas needing support.

Step 5-Assess patient's physical, mental, and emotional status.

Step 6-Select Agada Yogas based on dosha imbalance and cancer symptoms.

Step 7-Explain benefits of Agada Yoga, including detoxification and immunity boost.

Step-8-Demonstrate integration of Agada Yoga with other treatments for holistic care.

Step-9-Present case studies and encourage interactive discussion on outcomes.

Experiential-Learning 16.2 : Identifying and Managing Carcinogenic Toxicant Exposure Using Agadatantra Principles

Step 1:Scholars are assigned to the cancer unit of the same institution or affiliated centers. They are required to analyze a minimum of five patients or case reports during their posting

Step 2:Encourage scholars to identify physical, chemical, and biological carcinogenic toxicants.

Step 3: Guide them to explore exposure pathways such as inhalation, ingestion, and dermal contact.

Step 4:Facilitate data collection through history-taking, environmental surveys, or simulated interviews.

Step 5:Introduce key biomarkers used to detect toxicant-induced changes.

Step 6:Use case studies to correlate specific toxicant exposures with types of cancer.

Step 7:Interpret epidemiological data to analyze trends and risk factors.

Step 8:Discuss the Agadatantra view of chronic exposure, focusing on Dooshivisha and Garavisha

Step 9:Promote group discussions to propose preventive and management strategies.

Experiential-Learning 16.3 : Hands-On Training for Agadatantra-Based Management of Cancer Therapy-Induced Toxicities

Step 1: Scholars are assigned to the cancer unit of the same institution or affiliated centers. They are required to analyze a minimum of five patients or case reports during their posting

Step 2:Encourage scholars to identify common toxicities caused by radiation and chemotherapy in cancer patients or case reports

Step 3:Guide them to interpret these toxicities through Agadatantra principles such as Dooshivisha,Garavisha and doshic involvement.

Step 4: Facilitate clinical assessment practice using case simulations or structured role play

Step 5:Demonstrate appropriate Agadatantra-based management techniques, including Agada Yoga and shodhana therapy

Step 6:Use case studies to help scholars develop individualized treatment plans.

Step 7:Promote group discussions to integrate Ayurvedic and modern oncology approaches.

Step 8:Assess understanding and skill acquisition through interactive quizzes, presentations, and feedback sessions.

Modular Assessment

Assessment method

Hour

Conduct a structured modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. Cased based assessment or simulated cases - 25 Marks 2. Long answer questions or short answer questions - 25 Marks Or Any practical in converted form can be taken for assessment. (25 Marks) and Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)	4
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Paper No : 3 Bharatiya Nyaya Vaidyak Shastra						
Semester No : 3						
Module 17 : Legal Procedure						
Module Learning Objectives (At the end of the module, the students should be able to) 1. Assess inquest, summons, medical evidence, conduct money, and witness in medical practice 2. Analyze court procedures in medical practice 3. Interpret legal aspects of Medical records and preparation of medico-legal case reports						
M 17 Unit 1 Courts and Legal procedures • Legal procedure in court, inquest, summon, evidence, conduct money, witness & recording of evidence. • Doctor as an expert witness in a court of Law • Recording of dying declaration						
References: 246,247,248,249,250,251,252,253,254						
3A	3B	3C	3D	3E	3F	3G
CO5	Discuss court procedure, inquest, summon, medical evidence, conduct money, doctor as an expert witness in court of law.	3	Lecture	CAP	Knows-how	L&GD,L &PPT
CO5	Discuss the procedure of recording of evidence in court of law and dying declaration.	2	Lecture	CC	Knows-how	L&GD,L &PPT

CO5	Demonstration of court procedure	6	Practical Training 17.1	PSY-GUD	Shows-how	D,SIM,RP
CO5	Prepare a medicolegal report	4	Practical Training 17.2	PSY-GUD	Shows-how	RP,D
CO6	Perform the duties of a doctor as an expert witness in a court.	6	Experiential-Learning 17.1	PSY-ADT	Does	CBL,SIM,RLE,RP
CO6	Perform recording of evidence and dying declaration in a court of law.	8	Experiential-Learning 17.2	PSY-MEC	Shows-how	RLE,W,CBL

M 17 Unit 2 Documentation of medical legal cases (MLC)

- Medico-legal cases (MLCs) in medical practice
- Legal aspects of medical records
- Prepare MLC report
- Defence against MLC

References: 259,260,261,262,263,264,265,266,267

3A	3B	3C	3D	3E	3F	3G
CO5	Discuss about evidence and its importance in medicolegal cases	3	Lecture	CC	Knows-how	L,L&PPT
CO5	Explain Inquest, types of inquest and its medico-legal importance	2	Lecture	CC	Knows-how	L,L&PPT
CO5	Demonstrate procedures of taking consent, accurate documentation and timely reporting of medicolegal cases.	10	Practical Training 17.3	CAP	Shows-how	W,SIM,D

CO6	Acquire skill to present and defend medicolegal cases.	6	Experiential-Learning 17.3	PSY-ADT	Shows-how	CBL,FV, PER
CO6	Identify Medico-legal cases (MLCs) in Ayurveda practice and understand the importance of maintaining and handling medical records .	6	Experiential-Learning 17.4	PSY-ADT	Does	CBL,IBL, PBL

Practical Training Activity

Practical Training 17.1 : Enact court procedure, summons, and doctor as an expert witness.

- Teacher will give informations regarding the procedure of summons, collection of medical evidence, and conduct of a medical witness in a court of law.
- Scholars are given scenarios of cases and allowed to conduct a mock court procedure dividing roles among themselves.
- Teachers will comment critically on the conduct of the court procedure.

Practical Training 17.2 : Demonstrate the procedure of preparation of medicolegal report

- Scholars will be given scenarios related to medico-legal cases.
- Scholars will be divided into two groups and group one will discuss among themselves and divide roles.
- Group one scholars will conduct a mock court for the given case scenario.
- Group two scholars will monitor the conduction of mock-court using a checklist for steps in recording of evidence or dying declaration
- The scholars will assemble at the end of the session and reflect on the conduct of mock court procedure.
- Teachers will give critical comments on the overall conduct of the procedure and the lacunae

Practical Training 17.3 : Demonstrate the process of consent, medicolegal documentation and legal reporting.

- Scholars will be assigned to procedures undergoing in the college hospitals or case scenarios are given and are asked to take the consent following the proper SOP.
- Scholars will be given case sheets from the MRD of the hospital and are asked to check for proper documentation using a checklist and report the percentage of compliance.
- Scholars will be allotted with clinical cases involving medico-legal aspects or case scenarios or any other incidence requiring compulsory notification and are asked to follow the proper procedure of reporting the medico-legal cases to higher authorities.
- Scholars will present them before the teachers, and discuss the important areas.

Experiential learning Activity

Experiential-Learning 17.1 : Doctor as an expert witness in a court.

Scholars will be posted to the courts for observing the court procedures.

They will record five medico-legal cases and observe how the medical officer behaves and give evidences in the court

Scholars will conduct mock-courts at the end of the posting at their departments where they practice the skills of court proceedings.

Teachers will critically analyse the performance and give comments.

Experiential-Learning 17.2 : Recording evidence and dying declaration

Recording of dying declaration

Scholars will be given information regarding how to write a dying declaration.

A role-play will be enacted in which the scholars are required to record the dying declaration from a person about to die from a scenario based incidence.

The scholars will discuss it with teachers who comments on the legal interpretations and admissibility of the document.

Recording of evidence

Divide participants into teams representing prosecution, defense, and the judiciary. A mock case will be tried in front of a mock judge (senior faculty or professional). Mock recording of evidence-each side (prosecution and defense) will focus on introducing and challenging evidence while adhering to legal standards. The judge must ensure proper procedures are followed and rule on any disputes.

Experiential-Learning 17.3 : Present complex medical cases in legal contexts

Scholars will engage in a simulated courtroom setting where they are required to present and defend a medicolegal case. The activity will involve roles such as the medical professional (defendant), legal counsel, and expert witnesses. Scholars will prepare case files, present medical evidence, and respond to cross-examination while justifying clinical decisions. This activity will focus on building skills in clear communication, legal knowledge, medical ethics, and case defense strategies under pressure.

Experiential-Learning 17.4 : Importance of maintaining and handling medical records.

Scholars will engage in role-play scenarios where they will assess patient cases to determine whether they qualify as MLCs under Ayurveda practice. This will be followed by an audit of five simulated medical records, emphasizing proper documentation, confidentiality and adherence to legal standards.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. Case based assessment or simulated cases - 25 Marks 2. Long answer questions or short answer questions - 25 Marks Or Any practical in converted form can be taken for assessment. (25 Marks) and Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)	4

Module 18 : Legal aspects of Medical practice

Module Learning Objectives

(At the end of the module, the students should be able to)

- 1.Understand and analyze BNS, BNSS, BSA sections related to medical practice
- 2.Understand and analyze Acts in medical practice
3. Develop practical knowledge of laws and Acts related with practice of medicine

M 18 Unit 1 Laws and rules in Indian legal system

- Indian legal system
- BNS sections related to medical practice
- BNSS sections related to medical practice
- BSS sections related to medical practice

References: 247,249,254,268,269,270,271,272,273

3A	3B	3C	3D	3E	3F	3G
CO5	Assess sections of Bharatiya Nyaya Sanhita (BNS) 2023, Bharatiya Nagarik Suraksha Sanhita (BNSS) 2023 and Bharatiya Sakshya Adhinyam (BSA) 2023 related to medical practice.	5	Lecture	CE	Knows-how	L&PPT ,L,DIS,B S
CO5,CO6	Detect important sections of BNS, BNSS, BSA in medical practice	10	Practical Training 18.1	PSY- MEC	Shows-how	BL,ML,P BL,DIS, W

CO5,CO6	Develop practical knowledge of laws and rules related with practice of medicine.	10	Experiential-Learning 18.1	PSY-ADT	Shows-how	RP,FV,SIM,CBL
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M 18 Unit 2 Acts related to Medical profession

- Nursing Home Act
- Human Organ Transplantation Act
- Drugs and Cosmetics Act, 1940
- Narcotic drugs and Psychotropic substances Act, 1985
- Consumer protection Act
- Indemnity insurance scheme,
- Biomedical Waste management rules

References: 274,275,276,277,278,279,280,281,282,283,284,285,286,287,288

3A	3B	3C	3D	3E	3F	3G
CO5	Discuss Human organ transplantation act 1994 and Nursing home act.	1	Lecture	CC	Knows-how	L&PPT
CO5	Explain Drugs and cosmetic act, 1940 and rules 1945	1	Lecture	CC	Knows-how	L&PPT
CO5	Discuss Narcotic drugs and Psychotropic substances act, 1985	1	Lecture	CC	Knows-how	L&PPT
CO5	Discuss The Consumer protection act, 1986 and medical Indemnity insurance.	1	Lecture	CC	Knows-how	L&GD,L,L&PPT
CO5	Describe Biomedical Waste Management Rules, 2016.	1	Lecture	CC	Knows-how	L&PPT,L,L&GD

CO5,CO6	Identify the Acts related to medical practice	10	Practical Training 18.2	PSY-ADT	Shows-how	RP,DIS,W,CBL
CO5,CO6	Discuss Nursing Home Act, Human Organ Transplantation Act and Drugs and Cosmetic Act .	8	Experiential-Learning 18.2	PSY-ADT	Shows-how	CBL,RP
CO5,CO6	Develop practical knowledge of Drugs and Psychotropic Substances Act, 1985, Consumer Protection Act, Indemnity Insurance Scheme and Biomedical Waste Management Rules.	8	Experiential-Learning 18.3	PSY-ADT	Shows-how	FV,SIM,CBL,BS

Practical Training Activity

Practical Training 18.1 : Application of important sections of BNS, BNSS, BSA in medical practice

This practical activity is designed to familiarize participants with the legal principles, laws, and judicial processes that impact medical practice. It provides hands-on experience in navigating the legal system through case study analysis, role-playing, and discussions about key legal issues in medicine.

Practical Training 18.2 : Application of Acts related to medical practice

This practical activity is designed to familiarize scholars with the important Acts related to medical practice. It provides hands -on experiences through case study analysis, role playing and discussions about key learnings.

Experiential learning Activity

Experiential-Learning 18.1 : Simulation

Workshop

Court posting visit

Courtroom Simulation - Understanding Medical Legal Liability in the Indian Legal System.

Legal Compliance Workshop – Preventing Legal Risks in Medical Practice.

Experiential-Learning 18.2 : Practical knowledge of Nursing Home Act, Human Organ Transplantation Act and Drug and Cosmetic Act related with practice of medicine

This activity provides scholars hands on experiences through case study analysis, real life experiences, role plays and discussions about key learnings of Acts related to medical practice.

Experiential-Learning 18.3 : Practical knowledge of Drugs and Psychotropic Substances Act, Consumer protection Act, Indemnity Insurance Scheme and Biomedical Waste Management Rules

This activity provides scholars hands on experiences through case study analysis, real life experiences, role plays and discussions about key learnings.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. Case based assessment or simulated cases - 25 Marks 2. Long answer questions or short answer questions - 25 Marks Or Any practical in converted form can be taken for assessment. (25 Marks) and Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)	4

Semester No : 4

Module 19 : Thanatology

Module Learning Objectives

(At the end of the module, the students should be able to)

- 1 Diagnosis of death: Understand and analyze medicolegal aspects of death
2. Identify signs of death

M 19 Unit 1 Death and its Medico-legal aspects

- Definition, modes and types of death
- Signs of death and their Medico-legal aspects
- Death due to poisoning and its Medico-legal aspects
- Death due to starvation, heat, cold, lightning, electricity with their Medico-legal importance

References: 260,261,262,263,264,265,266,267

3A	3B	3C	3D	3E	3F	3G
CO6	Describe and discuss modes and types of death.	2	Lecture	CC	Knows-how	L&PPT, L
CO6	Explain the signs of death and Medico-legal aspects of death.	3	Lecture	CAN	Knows-how	L&PPT
CO6	Discuss the death due to poisoning and its Medico-legal aspect.	2	Lecture	CC	Knows-how	L, L&PPT
CO6	Describe mechanism, factors, signs and differential diagnosis of death due to starvation, heat, cold, lightning along with cause of death and Medico-legal importance.	3	Lecture	CC	Knows-how	L&PPT
CO5, CO6	Diagnose the Death with medical and medicolegal perspective	6	Practical Training 19.1	PSY-GUD	Shows-how	DIS, CBL, SIM, RP
CO5, CO6	Estimate time since death with postmortem findings	6	Practical Training 19.2	PSY-GUD	Shows-how	SIM, RP
CO5, CO6	• Engage in real-world scenarios involving various modes and types of death, applying forensic principles to determine the cause. • Develop investigative skills by interpreting forensic reports, witness statements, and autopsy results to determine the death type.	8	Experiential-Learning 19.1	PSY-ADT	Shows-how	CBL

	• Enhance problem-solving abilities by working in teams to simulate forensic expert roles. • Appreciate the legal and ethical implications surrounding the determination of death in forensic cases.					
CO5,CO6	• Analyze a case scenario involving death from a medico-legal perspective. • Apply knowledge of postmortem changes to estimate the time of death in a real-life context. • Assess the legal implications of confirming death and handling a crime scene involving unattended deaths. • Develop critical thinking and problem-solving skills through the creation of a mock medico-legal report in response to a simulated case study. • Collaborate effectively in teams to discuss and interpret forensic evidence and medico-legal issues.	8	Experiential-Learning 19.2	PSY-ADT	Shows-how	D-M,CBL,FV
CO5,CO6	Explain the medico-legal processes involved in death investigations due to poisoning, including the role of forensic toxicology in determining the cause of death.	8	Experiential-Learning 19.3	PSY-ADT	Shows-how	RP,FV,RLE,CBL
CO5,CO6	Show the signs of poisoning along with medicolegal importance	6	Practical Training 19.3	PSY-GUD	Shows-how	RP,D
CO5,CO6	Identify legal and Forensic procedure involved in determining the cause of death due to	7	Experiential-	PSY-	Does	FV,CBL,

	heat, cold, lightning, and electricity.		Learning 19.4	ADT		RP,RLE
CO5,CO6	Detect death due to heat, cold, lightning, and electricity with cause of death and medicolegal importance.	6	Practical Training 19.4	PSY-GUD	Shows-how	DIS,CBL,FV

M 19 Unit 2 Asphyxial death

- Types of asphyxial death
- Pathophysiology of asphyxial death
- Post mortem finding in hanging, drowning, strangulation and suffocation
- Medico-legal aspect of hanging, drowning, strangulation and suffocation

References: 260,261,262,263,264,265,266,267

3A	3B	3C	3D	3E	3F	3G
CO6	Discuss different type of Asphyxial death with their Pathophysiology.	2	Lecture	CC	Knows-how	L&PPT
CO6	Describe postmortem finding and medicolegal aspects of Hanging, Drowning and Strangulation.	3	Lecture	CC	Knows-how	L,L&PPT
CO5,CO6	Identify different types of asphyxial deaths (e.g., hanging, strangulation, suffocation, and drowning) with their pathophysiology .	6	Practical Training 19.5	PSY-GUD	Shows-how	SIM,FV
CO5,CO6	Detect asphyxial deaths to understand the role of forensic evidence	8	Experiential-Learning 19.5	PSY-ADT	Shows-how	SIM,RP,FV

Practical Training Activity

Practical Training 19.1 : Diagnose the death with medical and medicolegal perspective

Case-Based Analysis of Modes and Types of Death: Students will analyze a series of case studies or simulated autopsy reports, where they identify the modes of death and the physiological cause based on the provided evidence. This includes reviewing the postmortem findings, external injuries, and internal conditions to classify each case appropriately.

Practical Training 19.2 : Estimate time since death with postmortem findings

- Students will observe a cadaver or simulated model to identify early and late signs of death (e.g., pallor mortis, rigor mortis, livor mortis, algor mortis, and decomposition stages).
- Students will also measure body temperature, rigidity, and assess postmortem lividity to estimate time since death.
- Discussion and documentation on the medico-legal importance of confirming death will follow.

Practical Training 19.3 : Identify signs of poisoning

Students will conduct an autopsy on a simulated or documented case where death was suspected due to poisoning. They will identify external and internal signs of poisoning (e.g., skin discoloration, smell, or organ damage), collect tissue samples for toxicological analysis and draft an autopsy report including the probable cause of death.

Practical Training 19.4 : Postmortem Examination in Deaths Caused by Heat, Cold, Lightning, and Electricity

Students will conduct/observe postmortem examinations on documented or simulated cases of death due to heatstroke, hypothermia, lightning strikes, and electrocution. They will identify specific signs, such as burns, tissue damage, or frostbite, and learn to collect evidence crucial for determining the cause of death. Students will also complete an autopsy report, including medico-legal opinions.

Practical Training 19.5 : Postmortem Examination in Asphyxial Deaths.

- Students will perform/observe a postmortem examination on simulated or documented cases of death by asphyxia (e.g., hanging, strangulation, drowning). They will

identify classical signs such as petechial hemorrhages, congestion of organs, and specific findings in the respiratory tract.

- Students will also study the pathophysiology of oxygen deprivation at the cellular level, connecting clinical signs to the underlying biological processes. A comprehensive autopsy report will be prepared, detailing the findings and probable cause of death.

Experiential learning Activity

Experiential-Learning 19.1 : Determining Modes and Types of Death

Mock Forensic Investigation: In this experiential activity, students will be presented with a complex forensic case involving multiple possible causes of death. They will work in groups to simulate a forensic investigation, reviewing evidence such as autopsy reports, toxicology results and crime scene photographs. Students will collaborate to determine the mode and type of death and present their findings to a mock panel of legal and forensic experts.

Experiential-Learning 19.2 : Medico-Legal Analysis of Death in a Case Scenario.

- Students will be presented with a simulated crime scene or case scenario involving an unattended death.
- They need to apply their knowledge to assess the signs of death, estimate the time of death, and discuss the possible legal ramifications.
- A group discussion will follow where students justify their findings and decisions in a mock medico-legal report.

Experiential-Learning 19.3 : Visit to a Forensic Laboratory and Courtroom for Poisoning Cases.

Students will visit a forensic toxicology lab to observe how toxic substances are detected in biological samples (blood, stomach contents, etc.). They will also attend a court proceeding related to a poisoning death case to understand the presentation of forensic evidence, the role of expert witnesses and the legal considerations involved in such cases.

These objectives and activities help students connect theoretical knowledge with hands-on practical and real-world applications, enhancing their understanding of forensic medicine and the legal implications of poisoning cases.

Experiential-Learning 19.4 : Field Visit to a Forensic Department and Electricity Substation

Students will visit a forensic department where they will observe documented cases of death due to environmental factors, such as heatstroke or electrocution. They will also visit an electricity substation to understand the hazards of electrical injuries and lightning-related incidents. In addition, students will attend a case hearing involving an accidental death due to electrocution or environmental causes, where they will learn about the legal presentation of evidence.

Experiential-Learning 19.5 : Visit to a Forensic Department and Crime Scene

Students will visit a forensic pathology department to observe the handling of asphyxial death cases, including autopsy procedures and forensic toxicology assessments. They will also participate in a crime scene simulation where a suspected asphyxial death has occurred (e.g., hanging or smothering), learning how forensic experts gather evidence (e.g., ligature marks, environmental clues) and how this information is later used in court. Students may attend a court session to observe the role of forensic evidence in asphyxial death cases.

Modular Assessment**Assessment method****Hour**

Conduct a structured modular assessment. The assessment will be for 75 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C.

1. Simulations or Problem based assessment on cause of death - 25 Marks
2. Long answer questions or short answer questions - 25 Marks
3. Objective structured practical examination (OSPE) on postmortem examination - 25 Marks

Or
Any practical in converted form can be taken for assessment. (40 Marks)
and
Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (35 Marks)

6

Module 20 : Medico-legal Autopsy**Module Learning Objectives**

(At the end of the module, the students should be able to)

1. Understand and analyze medicolegal autopsy purpose and procedure.
2. Demonstrate skills of Postmortem examination and viscera collection, preservation and dispatch.

M 20 Unit 1 Autopsy and its procedure

- Types & Objectives of Medico-legal autopsy
- Procedure of autopsy
- Collection and Preservation of Viscera, Tissues and biological fluids.
- Crime scene investigation and collection of circumstantial evidences.
- Post mortem artefacts and Exhumation.

References: 260,261,262,263,264,265,266,267

3A	3B	3C	3D	3E	3F	3G
CO6	Explain types, Objectives and detailed procedure of Medico-legal autopsy.	3	Lecture	CC	Knows-how	L&PPT, L, L_VC
CO6	Describe collection and preservation of Viscera, tissues and biological fluids and collection of circumstantial evidence.	1	Lecture	CC	Knows-how	L&GD, L &PPT
CO5, CO6	Illustrate collection and preservation of viscera, tissues and biological fluid for forensic analysis	5	Practical Training 20.1	PSY-GUD	Shows-how	TBL, SIM
CO5, CO6	Demonstrate the procedure of medicolegal autopsy	5	Practical Training 20.2	PSY-GUD	Shows-how	SIM, D, D-M
CO5, CO6	Develop skills for procedure of medicolegal autopsy	7	Experiential-Learning 20.1	PSY-MEC	Shows-how	RLE, DIS, CBL, FV

CO5,CO6	Identify techniques of collection ,preservation of handling of evidences	6	Experiential-Learning 20.2	PSY-ADT	Shows-how	D,SIM,RP
CO5,CO6	Discuss Postmortem artefacts and exhumation.	1	Lecture	CAN	Knows-how	L_VC,L&PPT

Practical Training Activity

Practical Training 20.1 : Collection and Preservation of Viscera, Tissues, and Biological Fluids

Simulated Postmortem Collection and Preservation: Students will perform a simulated collection of viscera (liver, stomach contents, etc.), tissues (brain, lungs), and biological fluids (blood, urine) from a cadaver or anatomical model. They will then follow proper preservation protocols using preservatives (formalin, sodium fluoride) and document the entire process for legal chain-of-custody purposes.

Practical Training 20.2 : Demonstration of Medico-Legal Autopsy Procedure

Simulation/video demonstration of a Medico-Legal Autopsy: Students will be guided through a simulation of a medico-legal autopsy where they observe the process from beginning to end. This includes examining a cadaver, identifying external injuries, opening the body, examining internal organs, and taking samples for analysis.

Experiential learning Activity

Experiential-Learning 20.1 : Hands-on Forensic Case Analysis of a Medico-Legal Autopsy.

Case Study and Courtroom Presentation: Students will be provided with a forensic case scenario where a medico-legal autopsy is central to the investigation. They will analyze the autopsy findings, interpret forensic evidence, and present their conclusions in a simulated courtroom setting, simulating the role of forensic experts.

Experiential-Learning 20.2 : Crime Scene Investigation and Evidence Collection.

Crime Scene Simulation and Exhumation Exercise: In a mock crime scene setup, students will participate in a staged investigation where they collect circumstantial evidence such as fingerprints, fibres, and bloodstains. They will document the scene, collect samples, and then take part in an exhumation exercise where they learn the procedure for uncovering buried bodies while preserving forensic evidence.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 25 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1 Documentation of postmortem report - 25 Marks OR 2. Objective structured practical examination (OSPE) on postmortem examination - 25 Marks Or Any practical in converted form can be taken for assessment. (25 Marks) or Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)	2
Semester No : 5	
Module 21 : Injury and its Medico-legal importance	
Module Learning Objectives (At the end of the module, the students should be able to) 1. Understand and analyze injury identification and its medicolegal importance. 2. I interpret mechanisms of mechanical, thermal, and firearm injury 3. Demonstrate skills to examine individuals for injury identification and prepare a medicolegal report of injury.	
M 21 Unit 1 Mechanical Injury and its Medico-legal importance • Injury, its classification and identification. • Medico legal aspects of injury, • Mechanism of Injury	

- Estimation of age of injury.

References: 260,261,262,263,264,265,266,267

3A	3B	3C	3D	3E	3F	3G
CO5	Discuss injury with its classification and characteristics.	2	Lecture	CC	Knows-how	L&PPT, L&GD
CO6	Explain Medicolegal aspects of injury	1	Lecture	CC	Knows-how	L&PPT, L&GD
CO6	Estimate age of injury with its mechanism.	2	Lecture	CC	Knows-how	L&PPT, L_VC
CO6	Demonstrate skills to prepare mechanical injury report.	5	Practical Training 21.1	PSY-SET	Shows-how	BS, DIS, P AL, SDL, PL
CO6	Demonstration of common weapons used in offence	5	Practical Training 21.2	PSY-SET	Shows-how	SDL, D, IB L, TBL
CO6	Analyse and discuss Mechanical injury identification.	6	Experiential-Learning 21.1	PSY-MEC	Shows-how	L_VC, D-M, DIS
CO6	Exhibit skills for examination of Mechanical injury.	7	Experiential-Learning 21.2	PSY-MEC	Shows-how	RLE, TBL, SIM, RP

M 21 Unit 2 Thermal, firearm and electrical injury

- Thermal injury
- Terminal Ballistics
- Electrical and other Miscellaneous injuries

References: 260,261,262,263,264,265,266,267

3A	3B	3C	3D	3E	3F	3G
CO6	Explain thermal injury with its types, features and medicolegal importance.	2	Lecture	CC	Knows-how	L&PPT, L&GD
CO6	Discuss Terminal ballistics.	2	Lecture	CC	Knows-how	L&GD, L&PPT
CO6	Describe Electrical and other miscellaneous injuries.	1	Lecture	CC	Knows-how	L, L&PPT
CO6	Demonstrate skills to prepare Thermal and Electrical injury report.	5	Practical Training 21.3	PSY-SET	Shows-how	D-M, CBL
CO6	Demonstrate skills to prepare Firearm injury report	5	Practical Training 21.4	PSY-SET	Shows-how	D, PBL, DIS, BS
CO6	Analyse and discuss Thermal and Electrical injury	6	Experiential-Learning 21.3	PSY-MEC	Shows-how	SIM, D-M, L_VC
CO6	Exhibit skills for examination of Firearm injury.	7	Experiential-Learning 21.4	PSY-MEC	Shows-how	CBL, SIM, IBL, RLE

Practical Training Activity

Practical Training 21.1 : Demonstration of preparing mechanical injury report.

- Scholars participate in hands-on training where they learn how to create medicolegal mechanical injury reports based on their examination findings.
- Scholars will document examination report of weapon in relation to inflicted mechanical injuries,
- Scholars will document injury descriptions (site, shape, margins, length, depth, breadth), provide opinions on the cause and relate finding to legal categories such as

grievous or simple injury.

Practical Training 21.2 : Examination of common weapons

The teacher will demonstrate the common weapons used in offence in departmental museum based on following steps-

- Description of the weapon
- Types of the weapon (Sharp, Blunt, Pointed, Firearm)
- Types of injuries produced (Abrasion, contusion, stab wound, Lacerated, incised, firearm wound)
- Medicolegal importance (simple, grievous)

Practical Training 21.3 : Preparation of Thermal and Electrical injury report.

Scholars participate in hands-on training where they learn how to write Thermal and Electrical injury reports based on their examination findings-

- Location of Thermal injury
- Degree of Burn (1st , 2nd ,3rd degree)
- Extent of Thermal injury based on Rule of Nine (% body surface area)
- Depth of Thermal injury (superficial, partial thickness, full thickness)
- Burns entry and exit wound in electrical injury

Practical Training 21.4 : Preparation of Firearm injury report

Scholars participate in hands-on training where they learn how to create Firearm injury reports based on their examination findings-

- Types of Firearm
- Entry and exit wound
- Penetration depth
- Internal damage
- Type of incident (accidental, suicidal, homicidal)

Experiential learning Activity

Experiential-Learning 21.1 : Examination of Mechanical injury due to blunt forces

- Teacher will demonstrate video clips presentation on Mechanical injury due to blunt forces.
- Scholars will identify injury types, features and analyse its legal aspects.
- Post this activity scholars are brainstormed for different observations and key learnings.

Experiential-Learning 21.2 : Examination of Mechanical injury due to sharp forces

- Scholars will be engaged in Hands on practices where they experience with real life cases or simulated scenario presenting with a mechanical injury due to sharp forces.
- They will use forensic tools such as magnifying glasses, camera and measuring tapes to document injuries in depth.
- After each simulation, participants will engage in a debriefing session to discuss key learning.

Experiential-Learning 21.3 : Identification of Thermal and Electrical injury

- Teacher will demonstrate video clips presentation on Thermal and Electrical injury.
- Scholars will participate in activity to examine mannequins/models to identify various type of Thermal and Electrical injury.
- Scholars will identify injury types, features and analyze its legal aspects.
- Post this activity scholars are brainstormed for different observations and key learnings.

Experiential-Learning 21.4 : Identification of Firearm injury

- Scholars will engage in Hands on practices where they experience with real life cases or Simulated scenarios of Firearm injury.
- Scholars will analyze each injury using forensic tools (magnifying glasses, dermatoscopes, digital imaging tools, etc.) to make precise identifications of ballistic trauma.
- After each simulation, participants will engage in a debriefing session to discuss key learnings.

Modular Assessment**Assessment method****Hour**

Conduct a structured modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C.

1. Simulations or Problem based assessment on cause of death - 25 Marks

2. Long answer questions or short answer questions - 25 Marks

OR

3. Objective structured practical examination on examination of injuries - 25 Marks

4

Or
Any practical in converted form can be taken for assessment. (25 Marks)
and
Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)

Module 22 : Sexual offences, pregnancy, delivery and their Medico-legal aspects

Module Learning Objectives

(At the end of the module, the students should be able to)

- 1.Understand and analyze medicolegal importance of sexual offences.
2. Understand and analyze medicolegal purpose examination in cases pertaining to sexual offences, pregnancy delivery, abortion, sterilization, impotency, surrogacy and artificial insemination.
- 3.Understand laws related to sexual assault, pregnancy, artificial insemination, abortion, and surrogacy.

M 22 Unit 1 Sexual offences and their Medico-legal aspects

- Sexual offences and perversions
- Medico-legal aspects of Virginity
- Examination of Victim and accused in sexual offences.
- Legal aspects of sexual offences
- Recent updates on Medico Legal aspects of LGBTQ
- Sexual harassment of women at workplace Act
- POCSO Act

References: 260,261,262,263,264,265,266,267,289,290

3A	3B	3C	3D	3E	3F	3G
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CO5	Identify sexual offences and perversion. Medicolegal aspect of virginity and examination of victim and accused in sexual offences.	2	Lecture	CC	Knows-how	L&PPT
CO6	Discuss legal aspects of sexual offences and recent updates on medicolegal aspects of LGBTQ (Lesbian, Gay, Bisexual, Transgender, Queer).	1	Lecture	CC	Knows-how	L,L&GD, L&PPT
CO6	Assess the Sexual harassment of women at workplace (Prevention, Prohibition and redressal) Act 2013	1	Lecture	CC	Knows-how	L&GD,L, L&PPT
CO6	Describe Prevention of children against sexual offences (POCSO) Act 2012	1	Lecture	CC	Knows-how	L,L&PPT
CO6	Demonstrate skills to prepare medicolegal reports of sexual offences.	10	Practical Training 22.1	PSY-MEC	Shows-how	DIS,BS, W,CBL
CO6	Analyze and discuss medicolegal aspects of sexual offences.	6	Experiential-Learning 22.1	PSY-MEC	Shows-how	W,SY,CBL,JC,DIS
CO6	Detect the duties of a doctor in cases related with POCSO and Sexual harassment of women at workplace .	7	Experiential-Learning 22.2	PSY-SET	Does	CBL,SDL ,W,BS
M 22 Unit 2 Pregnancy, Delivery and their Medico-legal aspects • Signs of pregnancy in living. • Detailed study of PCPNDT Act. • Medico-legal aspects of Pregnancy, Delivery Infanticide, surrogacy and artificial insemination • The surrogacy (regulation) act 2021 • The Assisted Reproductive Technology (Regulation) Act, 2021 References: 260,261,262,263,264,265,266,267						

3A	3B	3C	3D	3E	3F	3G
CO6	Explain Signs of pregnancy in living and medico-legal aspects of Pregnancy, Delivery, Abortion, Infanticide, surrogacy and artificial insemination.	1	Lecture	CC	Knows-how	L&PPT ,L
CO6	Discuss Pre - conception and pre- natal diagnostic techniques (Prohibition of sex collection) Act, 1994 (PCPNDT Act).	1	Lecture	CC	Knows-how	L,L&GD, L&PPT
CO6	Describe The Surrogacy (Regulation) act, 2021 and The Assistant Reproductive Technology (Regulation) Act, 2021.	1	Lecture	CC	Knows-how	L,L&PPT
CO6	Demonstrate skills to prepare medicolegal reports in cases of Pregnancy, Delivery, Sterilization and Impotence.	5	Practical Training 22.2	PSY-SET	Shows-how	PBL,JC,S Y,CBL,B S
CO6	Identify duties of a doctor in cases related with surrogacy and artificial insemination.	3	Practical Training 22.3	PSY-MEC	Shows-how	JC,W,CB L,SY,DIS
CO6	Demonstrate medicolegal examination in pregnancy, delivery and infanticide.	7	Experiential-Learning 22.3	PSY-MEC	Shows-how	RLE,CBL ,DIS,L_V C,SIM

M 22 Unit 3 Abortion Study of MTP Act.

References: 260,261,262,263,264,265,266,267

3A	3B	3C	3D	3E	3F	3G
CO1,CO6	Assess duties of doctor in suspected case of criminal abortion and examination of women with alleged history of abortion.	1	Lecture	CE	Knows-how	L&PPT ,L
CO6	Describe implication of Medical Termination of Pregnancy (MTP) act, 1971	1	Lecture	CC	Knows-how	L&PPT ,L&GD,L
CO6	Demonstrate skills to prepare medicolegal report on Abortion .	2	Practical Training 22.4	PSY-SET	Shows-how	CBL,W,S DL,SY,SI

						M
CO6	Analyze medicolegal aspects of criminal abortion.	6	Experiential-Learning 22.4	PSY-MEC	Shows-how	DIS,CBL,W
Practical Training Activity						
Practical Training 22.1 : Prepare medicolegal reports of sexual offences						
• Scholars participate in Hands on training where they will analyse legal documents and prepare medicolegal reports of sexual offences. • Scholars will document all the informaton in detailed after careful examination of simulated scenarios. • Scholars will be engaged in hands on practices where they learn steps related to collecting, preserving and dispatching the biological sample/ evidence to appropriate authority.						
Practical Training 22.2 : Prepare medicolegal reports in cases of Pregnancy, Delivery, Sterlization and Impotence						
• Scholars participate in hands on training to prepare medicolegal report in cases pertaining to pregnancy and delivery. • They will analyze legal documents and explore the impact of these situations on legal decisions. • Scholars participate in interactive workshops to study the PCPNDT Act in detail. They review case studies where the act was violated (e.g., illegal sex determination) and the medico-legal implications of these cases are discussed. • Scholars will be engaged in workshops where they learn examination of a case of impotency, sterlization and should be able to prepare medicolegal report.						
Practical Training 22.3 : Duties of a doctor in cases related with surrogacy and artificial insemination						

- Scholars participate in symposium/ workshops focused on the Surrogacy (Regulation) Act, 2021. They will explore real-life cases involving surrogacy, analyzing how this act governs the process.
- Scholars will be engaged in interactive sessions to understand the provisions of the Assisted Reproductive Technology (Regulation) Act, 2021. They will review case studies of IVF, artificial insemination, and other ART procedures, analyzing the role of the act in regulating these techniques.
- Scholars participate in Case based discussion where they understand and analyze the duties of a doctor in cases related with surrogacy and artificial insemination.

Practical Training 22.4 : Prepare medicolegal report on Abortion certificate

- Scholars participate in hands on training to prepare medicolegal report in cases of criminal abortion. Case studies of real or simulated criminal abortion cases are discussed, focusing on the key legal elements such as non-consensual abortion, unsafe abortion, and illegal abortion.
- Scholars participate in symposium/ interactive workshops to analyze case studies where the act was violated (e.g., illegal abortion), and the medico-legal implications of these cases are discussed.

Experiential learning Activity

Experiential-Learning 22.1 : Medicolegal aspects of sexual offences

Scholars take part in case study analysis where they understand the nature and nuances of sexual offences. They will develop skills in identifying offences and providing medico-legal insights.

Scholars will be engaged in interactive workshops that explore the medico-legal and human rights aspects of LGBTQ individuals in the context of sexual offences.

Experiential-Learning 22.2 : Duties of a doctor in cases related with POCSO and Sexual harassment of women at workplace Act

- Scholars participate in case based discussion where they understand and analyse the duties of a doctor in cases related with POCSO and Sexual harassment of women at workplace Act.

- Scholars will be engaged in interactive workshops/ symposium that explore the medicoegal aspects of POCSO Act and Sexual harassment of women at workplace Act.

Experiential-Learning 22.3 : Medicolegal examination in pregnancy, delivery and infanticide

- Teacher will demonstrate video clips presentation to analyze various signs of pregnancy including gestational changes.
- Scholars will participate case based discussions where they review real or simulated medicolegal cases involving pregnancy, delivery and infanticide.

Experiential-Learning 22.4 : Medicolegal aspects of criminal abortion

- Scholars participate in case studies of criminal abortion where they review and analyze real or simulated cases focusing on medicolegal aspects and legal elements such as nonconsensual abortion, unsafe abortion and illegal abortion.
- Scholars participate in a symposium/ workshops focused on the MTP Act and case studies analyzing the implications of the Act in clinical practice.

Modular Assessment

Assessment method

Conduct a structured modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C.

1.Simulations or case based assessment - 25 Marks

OR

2. Objective structured practical examination on examination of victim or accused - 25 Marks

3. Long answer questions or short answer questions - 25 Marks

Hour

4

Or
Any practical in converted form can be taken for assessment. (25 Marks)
and
Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)

Semester No : 6

Module 23 : Personal Identity and its Medico-legal importance

Module Learning Objectives

(At the end of the module, the students should be able to)

1. Describe the estimation of age in fetus, infant, child, adult, and its medicolegal aspect.
2. Explain & interpret the methods for sex determination and its medicolegal importance
4. Demonstrate methods of estimation of age and sex determination.
5. Describe the principles and methods of Dermatoglyphics, Forensic Odontology, Cheiloscopy, Poroscopy, Rugoscopy, and DNA Profiling.

M 23 Unit 1 Sex determination and its Medico-legal importance

- Methods and medico legal aspects of sex determination in living and dead.
- Disorders of sex development.

References: 260,261,262,263,264,265,266,267,291,292

3A	3B	3C	3D	3E	3F	3G
CO6	Appraise the methods and medicolegal aspects of sex determination in living and dead.	3	Lecture	CC	Knows-how	L,L&PPT

CO6	Discuss the disorders of sexual development.	2	Lecture	CC	Knows-how	L,L&PPT
CO6	Detect the sex by Physical examination	5	Practical Training 23.1	PSY-SET	Shows-how	DIS,JC,D-M,CBL,L_VC
CO6	Identify sex by laboratory examination .	5	Practical Training 23.2	PSY-ORG	Shows-how	DL
CO6	Analyse and discuss bone demonstration for sex determination	6	Experiential-Learning 23.1	PSY-MEC	Does	D-M,DIS,D
CO6	Analyse and discuss Radiological examination for sex determination	7	Experiential-Learning 23.2	PSY-MEC	Shows-how	DIS,X-Ray,D

M 23 Unit 2 Estimation of Age and its Medico-legal importance

- Methods of age estimation in fetus, infants, children and adults less than 25 years and over 25 years, living and dead.
- Medico legal aspects of age estimation

References: 260,261,262,263,264,265,266,267

3A	3B	3C	3D	3E	3F	3G
CO6	Explain the methods of age estimation in fetus, infant, children and adults less than 25 year and over 25 years of age both living and deceased.	3	Lecture	CC	Knows-how	L&PPT ,L
CO6	Describe medicolegal aspect of age estimation.	2	Lecture	CAP	Knows-how	L&PPT ,L
CO6	Estimate age by General and Dental examination.	5	Practical Training 23.3	PSY-MEC	Shows-how	RLE,SDL ,SIM,CB

						L,DIS
CO6	Estimate Age by Skeletal / Bone examination	5	Practical Training 23.4	PSY-MEC	Shows-how	D-M,DIS,D
CO6	Analyse and discuss age estimation by Radiological examination in Intrauterine life.	5	Experiential-Learning 23.3	PSY-MEC	Does	CBL,L_V C,D
CO6	Analyse and discuss age estimation by Radiological examination in Infants and Adults	8	Experiential-Learning 23.4	PSY-MEC	Shows-how	D,X-Ray, RLE,SIM

M 23 Unit 3 Techniques used in Personal Identification

- Dermatoglyphics
- Forensic odontology
- Cheiloscopy
- Poroscopy
- Ruguscopy
- DNA profile

References: 260,261,262,263,264,265,266,267,293,294,295,296,297,298,299

3A	3B	3C	3D	3E	3F	3G
CO6	Understand application Dermatoglyphics and Forensic odontology in personal identification.	3	Lecture	CC	Knows-how	L&PPT ,L
CO6	Evaluate the importance of Cheiloscopy, Poroscopy and Ruguscopy in personal identification.	1	Lecture	CE	Knows-how	L&PPT ,L
CO6	Appraise the importance of DNA Profiling in personal identification.	1	Lecture	CC	Knows-how	L&PPT ,L

CO6	Illustrate application of Dermatoglyphic, Forensic odontology in Personal Identification.	5	Practical Training 23.5	PSY-MEC	Shows-how	CBL,L_VC,JC,BS
CO6	Illustrate application of Cheiloscopy, Poroscopy, Ruguscopy and DNA Profiling in personal identification.	5	Practical Training 23.6	PSY-MEC	Shows-how	JC,L_VC,CBL,DIS
CO6	Develop practical skills to understand Dermatoglyphic, Forensic odontology for personal identification.	6	Experiential-Learning 23.5	PSY-MEC	Shows-how	SIM,DL,SDL,W,BL
CO6	Develop practical skills to understand Cheiloscopy, Poroscopy, Ruguscopy and DNA Profiling for personal identification.	7	Experiential-Learning 23.6	PSY-MEC	Shows-how	DL,SY,W,BL

Practical Training Activity

Practical Training 23.1 : Discussion on published articles on disorder of sex development

- Teacher will demonstrate video clips presentation on sex determination.
- Scholars will participate in case studies with a disorder of Sex development .
- Scholars will participate identifying sex through physical examination , examine mannequins /models involves observing and recording various physical characteristics based on body measurement , secondary sexual charecteristics etc.
- Scholars will analyse and discuss different observations and key learning for sex determination.

Practical Training 23.2 : Identify sex by laboratory examination.

Scholars will participate in a laboratory session where they learn and practice various methods of sex determination by Microscopic (Barr body and Davidson body) examination.

Barr body and Davidson body laboratory examination is a cytogenic technique used to determine the sex of an individual by microscopic examination using following methodology

1. Sample collection- Blood
2. Laboratory procedure -Slide preparation and fixation , Staining and Microscopic examination

Practical Training 23.3 : Estimation of age by General and dental examination

- Scholars will be participate General examination in real life scenarios / simulated scenarios for age estimation involves evaluating physical characteristics and physiological changes to estimate an individual's age by visual inspection , measurement of body proportions and dental examination.
- Dental examination for age estimation involves analyzing dental characteristics to estimate an individual's age based on dental features (Tooth eruption patterns , Tooth shape and size etc.)

Practical Training 23.4 : Estimation of Age by Skeletal / Bone examination

Scholars will be participate in a Hands on training session for age estimation involves analyzing Skeletal remains /Bones to estimate an individuals 's age at death based on epiphyseal union of long bones, based on ossification centers , based on cranial suture closure etc. Post this activity scholars are brainstormed for different observations and key learnings.

Practical Training 23.5 : Application of Dermatoglyphic, Forensic odontology in Personal Identification.

Teacher will demonstrate video clip demonstration to analyse techniques of Dermatoglyphic, Forensic odontology and its application in Personal Identification. Scholars will be encouraged to perform case based discussion , Journal club and peer based learning where they learn Dermatoglyphic, Forensic odontology in Personal Identification.

By engaging with experts and peer, scholars will gain valuable insights into the latest advancement in the field.

Practical Training 23.6 : Illustrate application of Cheiloscopy, Poroscopy, Rugoscopy and DNA Profiling in personal identification.

Teacher will demonstrate video clip demonstration to analyse techniques of Cheiloscopy, Poroscopy, Rugoscopy and DNA Profiling and its application in personal identification.

Scholars will be encouraged to perform case based discussion , Journal club and Peer based learning, where they learn techniques and application of Cheiloscopy, Poroscopy, Rugoscopy and DNA Profiling in personal identification.

By engaging with experts and peer, scholars will gain valuable insights into the latest advancement in the field.

Experiential learning Activity

Experiential-Learning 23.1 :

Demonstration of sex determination with Bones

Scholars will participate in Hands on training for Skeleton/Bone examination, experimentally with difference between male and female Bone examination involves analyzing skeletal remains to identify characteristics that differ between males and females based on visual examination of skeletal features and morphological assessment of bone shape and size.

- Skull Examination- size, shape, forehead slope, orbital rim ,mastoid process etc.
- Mandible Examination - size ,shape, mental protuberance , ramus symphysis etc.
- Pelvis Examination- shape, sub pubic angle, pubic symphysis ,sacrum etc.
- other bones

Experiential-Learning 23.2 : Analyse and discuss Radiological examination for sex determination

- Teacher will demonstrate video clips presentation on radiological examination of sex determination. Scholars will analyse and discuss different observations and key learnings for sex determination.
- Scholars will participate in Hands on training for radiological examination of sex determination which involves analyzing medical radiological images to identify characteristics that differ between males and females.

Experiential-Learning 23.3 : Age estimation by Imaging techniques in Intrauterine life.

Scholars will participate in case based discussion where they understand and analyze age estimation in intrauterine life.

Scholars will participate in workshop/Symposium with Radiological expert for age estimation which involves analyzing medical radiological images (USG) in intrauterine life.

After each session scholars will engage in a debriefing session to discuss key learnings.

Experiential-Learning 23.4 : Age estimation by Radiological examination in Infants and Adults

- Scholars will participate in case based discussion where they understand and analyse age estimation in Infants and Adults.
- Scholars will participate in Hands on training for age estimation involves analysing medical radiological images (X ray , USG etc.)to assess skeletal maturity in infants and Adults based on ossification centers, epiphyseal development , bone length, bone density, suture closure , joints (wrist, elbow, hip, shoulder) etc.
- Scholars will engage in real life cases/ simulated scenarios to estimate age in Infants and Adults . After each simulation participant will engage in a debriefing session to discuss key learning.

Experiential-Learning 23.5 : Develop practical skills to understand Dermatoglyphic, Forensic odontology for personal identification.

Scholars will be participate in a hands-on training and workshop to understand and analyse techniques of Dermatoglyphic, Forensic odontology for Personal identification.

Scholars will be engage in real life cases/ simulated scenarios to understand and analyse techniques of Dermatoglyphic , forensic odontology and its application for personal identification.

After each simulation , participants will engage in a debriefing session to discuss key learnings.

Experiential-Learning 23.6 : Develop practical skills to understand Cheiloscopy, Poroscopy, Rugoscopy and DNA Profiling for personal identification.

Scholars will participate in a hands-on training and workshop to understand and analyse techniques of Cheiloscopy, Poroscopy, Rugoscopy and DNA Profiling for Personal identification.

Scholars will engage in real life cases/ simulated scenarios to understand and analyse techniques of Cheiloscopy, Poroscopy, Rugoscopy , DNA Profiling and its application for personal identification.

After each simulation participants will engage in a debriefing session to discuss key learnings.

Modular Assessment	
Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 75 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. Simulations or case based assessment - 2 cases - 25 Marks each 2. Long answer questions or short answer questions - 25 Marks Or Any practical in converted form can be taken for assessment. (40 Marks) and Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (35 Marks)	6
Module 24 : Medical Negligence	
Module Learning Objectives (At the end of the module, the students should be able to) 1. Describe medical Negligence and its types. 2. Describe legal aspects of medical Negligence in Ayurveda medical practice	
M 24 Unit 1 Concept of Medical Negligence and ramification • Definition and types of Negligence • Legal aspects of medical negligence • Case laws with judgement References: 260,261,262,263,264,265,266,267,300,301,302,303	

3A	3B	3C	3D	3E	3F	3G
CO5	Discuss medical negligence, its types, and its legal aspects.	3	Lecture	CC	Knows-how	L,L&PPT
CO5	Discuss the common scenarios of medical negligence in Ayurveda practice and precautionary measures to avoid Medical Negligence.	2	Lecture	CAP	Knows-how	L,L&PPT ,CBL
CO5	Identify legal aspects of medical negligence.	5	Practical Training 24.1	PSY-SET	Shows-how	SY,DIS, W
CO5	Discuss consequences of medical negligence based on Published verdicts in case of Law related to medical negligence.	5	Practical Training 24.2	PSY-SET	Shows-how	PL,IBL,DIS,W,JC
CO4,CO5	Identify the cases of medical negligence	5	Experiential-Learning 24.1	PSY-MEC	Shows-how	SIM,PBL, RLE,CBL ,RP
CO4,CO5	Illustrate precautionary measures to prevent medical negligence.	8	Experiential-Learning 24.2	PSY-SET	Shows-how	CBL,SDL ,PBL,RL E,RP

Practical Training Activity

Practical Training 24.1 : Participation in Symposium / Workshop on Medical negligence

- Scholars will be encouraged to attend offline or online Symposiums /Workshops focused on medical negligence.
- These activities aim to enhance their understanding of legal aspects of medical negligence.
- By engaging with experts , scholars will gain valuable insights .

Practical Training 24.2 : Discussion on Published verdicts in case of Law related to medical negligence.

Scholars will be encouraged to perform Group discussion and Peer based learning on Published verdicts in case of Law related to medical negligence. By engaging with experts and peer scholars will gain valuable insights into the latest advancement in the field.

Experiential learning Activity

Experiential-Learning 24.1 : Perform Simulated scenario/ Role play to illustrate common scenarios related with medical negligence

Divide scholars into groups and assign each group to create a medical negligence scenario. Each group should consider:

- Clinical Context: A specific medical setting (e.g., emergency room, surgery, outpatient clinic).
- Incident Type: A situation where negligence could occur (e.g., medication errors, surgical mistakes, misdiagnose, failure to obtain informed consent).

Conduct a group discussion to analyze the scenario, emphasizing:

- Observations: What actions were taken? What led to the negligence?
- Responsibilities: Discuss the ethical and professional responsibilities of healthcare providers involved.
- Legal Implications: Explore the potential legal consequences and how this could be viewed in a courtroom.

Experiential-Learning 24.2 : Perform Simulated scenario/ Role play to illustrate precautionary measures to prevent medical negligence.

Divide scholars into groups and assign each group to create a scenario related with precautionary measures to prevent medical negligence. Each group should consider:

- Clinical Context: A specific medical setting (e.g., emergency room, surgery, outpatient clinic).
- Incident Type: A situation where negligence could occur (e.g., medication errors, surgical mistakes, misdiagnose, failure to obtain informed consent)

Conduct a group discussion to analyze the scenario, emphasizing:

- Observations: What actions were taken? What precautionary measures can be taken to prevent medical negligence.
- Responsibilities: Discuss the ethical and professional responsibilities of healthcare providers involved.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 25 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1.Simulations or case based assessment - 25 Marks OR 2. Long answer questions or short answer questions - 25 Marks Or Any practical in converted form can be taken for assessment. (25 Marks) or Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)	2

Paper No : 4 Prayogika Agadatantra
Semester No : 3
Module 25 : Study of Agada and Vishaghna Yoga
Module Learning Objectives (At the end of the module, the students should be able to) 1. Enlist the ingredients of Agada and Vishaghna Yoga with classical and textual references. 2. Demonstrate proficiency in preparing the Agada. 3. Describe the indications of the Agada and Vishaghna Yoga 4. Demonstrate the physicochemical properties of the prepared Agada
M 25 Unit 1 Study of Agada and Vishaghna Yoga • Describe Classical Reference, ingredients, Methods Preparation & Indications of Agada and vishaghna yoga - ◦ Vishaghna mahakashaya ◦ Ekasara gana ◦ Bilwadi Agada ◦ Dashanga Agada ◦ Dooshivishari Agada ◦ Panch Shirish Agada ◦ Murvadi agada ◦ Aragwadhadi Yoga ◦ Shirishabijadi Yog ◦ Drakshadi Agada ◦ Sarvakarmika Agada ◦ Sanjeevana Agada ◦ Himawan Agada

- Kottam tagadardi yoga
- Jeevaraksha agada
- Avipatti Churna
- Tarunabhaskara Agada
- Vishahari leha
- Ksharagada
- Natadi Yoga
- Trimoorthi agada
- Patol Katu Rohinyadi Kashaya
- Kalyanak Ghrita
- Visha Vilwadi agada.
- Shigrapunnavadi yoga
- Lodrasevyadi Yoga
- Siddharthakadi agada
- Padmakadi Agada and other Agada or vishaghna yogas related to the regional practices and availability.

References: 128,129,130,176,311,312,313,314,315

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3 ,CO8	Explain the ingredients and discuss the therapeutic utility of Agada and Vishaghna Yoga with classical and other textual references – 1. Vishaghna Mahakashaya 2. Ekasara Gana 3. Bilwadi Agada 4. Dashanga Agada 5. Dooshivishari Agada 6. Panch Shirish Agada 7. Murvadi Agada 8. Aragwadhadi Yoga 9. Shirishabijadi Yoga 10. Drakshadi Agada	5	Lecture	CC	Knows-how	BL,L&PP T ,PL,L& GD,SDL

CO1,CO2,CO3,CO8	Describe the ingredients and discuss the Therapeutic utility of Agadas and Vishaghna Yogas with classical and other textual references – 1. Sarvakarmika Agada 2. Sanjeevan Agada 3. Himawan Agada 4. Kottam tagaradi Agada 5. Jeevaraksha Agada 6. Avipattikar Churna 7. Tarunabhaskara Agada 8. Vishahari Leha 9. Ksharagada 10. Natadi Yoga	5	Lecture	CC	Knows-how	L&PPT ,P L,SDL,LS ,BL
CO1,CO2,CO3,CO8	Prepare Agada and Vishaghna Yoga	10	Practical Training 25.1	PSY-MEC	Shows-how	DG,TPW, D
CO1,CO2,CO3,CO8	Assess the physicochemical properties of prepared Agada (Organoleptic properties, pH and Solubility, and Viscosity Tests)	10	Practical Training 25.2	PSY-MEC	Shows-how	DA,D
CO1,CO2,CO3,CO8	Evaluate the analytical profile of Agada and Vishaghna yoga based on published research works.	9	Experiential-Learning 25.1	PSY-MEC	Does	DIS,JC
CO1,CO2,CO3,CO8	Conduct a Survey on the availability of ingredients for various Agada and Vishaghna Yoga and the market availability of prepared Agada yoga.	10	Experiential-Learning 25.2	PSY-MEC	Knows-how	TPW,DIS ,FV
CO1,CO2,CO3,CO8	Enhance the therapeutic utility of Agada through the Knowledge exchange program	10	Experiential-Learning 25.3	PSY-MEC	Shows-how	BS,W,DI S,SY
CO1,CO2,CO3	Describe the ingredients and discuss the therapeutic utility of Agadas and Vishaghna	5	Lecture	CC	Knows-	L,L&GD,

,CO8	Yogas with classical and textual references – 1. Trimoorthis Agada 2. Patol Katu Rohinyadi Kashaya 3. Kalyanak Ghrita 4. Visha Vilwadi Agada. 5. Shigrapunarnavadi Yoga 6. Lodrasevyadi Yoga 7. Siddharthakadi Agada 8. Padmakadi Agada and other Agada related to the regional practices and availability.				how	L&PPT
CO1,CO2,CO3 ,CO8	Demonstrate the physicochemical properties of prepared Agadas (Ash value, Extractive values, Mineral component, tests for Ghrita and Taila, e.g., Viscosity, Saponification value, Acid value, Peroxide value, etc.)	10	Practical Training 25.3	PSY-MEC	Shows-how	PrBL,DA,DL,LRI,D
CO1,CO2,CO3 ,CO8	Compare the process of large scale manufacturing of Agada and vishaghna yogas in various Pharmacies.	10	Experiential-Learning 25.4	PSY-MEC	Shows-how	D,FV

Practical Training Activity

Practical Training 25.1 :

Hands-on training for preparation of Agadas and Vishaghna Yogas –(minimum 10)

For the preparation of choosen Agada or Vishaghna yoga below mentioned steps can be followed

Step 1: The Scholars should be able identify the raw drugs and the raw drugs of the formulation can be collected from natural habitat or purchased from the reliable market sources.

Step 2: The Scholars should identify the suitable method of preparation from the reference text and if specific method of preparation is not mentioned in the context of formulation, then one can follow appropriate method of preparation from the reliable literatures like Sharangdhara Smahita etc. as per the dosage form of the yoga.

Step 3: The scholars should prepare an actionable SOP for the preparation and get it verified by the faculty in the department. (if neede once can seek the help of experts from the department of Rasashatra & Bhaishajyakalpana)

Step 4: Then the scholars should prepare the formulation as per the SOP under the supervision of the faculty of the departement.

Step 5: The scholars should discuss with the faculty about the preparation and the faculty should give constructive feedback on the same.

Practical Training 25.2 : Assessment of physicochemical properties of prepared Agada

The Scholars should be asked to assess the Organoleptic properties, pH, Solubility, and Viscosity of the formulation under the supervision of the faculty.

Step 1: Visual Inspection: Observe the prepared Agadas for color, consistency, texture, and appearance to ensure uniformity and expected physical properties.

Step 2: pH Measurement: Measure the pH using a pH meter to assess the acidity or alkalinity of the formulation, ensuring that it falls within the desired range as per the formulation.

Step 3: Solubility and Viscosity Tests: Evaluate solubility in various solvents and perform viscosity measurements to determine the fluidity and flow characteristics of the formulation.

Step 4: Discuss all the procedures and findings with the faculty of the department.

Practical Training 25.3 : Assessment of Physicochemical properties of prepared Agadas (Ash value, Extractive values, Mineral component)

The Scholars should be asked to demonstrate Ash value, Extractive values, Mineral component, and tests for Ghrita and Taila under the supervision of faculty.

1. Ash Value: Evaluate the ash value for total mineral content in a substance, which helps assess the purity and quality of the Agadas by determining the presence of inorganic residues.

2. Extractive values: Evaluate Agada's Extractive values, which represent the amount of active constituents that can be extracted from the formulation using specific solvents, like water or alcohol.

3. Mineral Component: Evaluate the specific minerals present in the Agada, measured through techniques like flame photometry, to ensure appropriate mineral balance for therapeutic efficacy.

4. Tests for Ghrita and Taila: Tests like Viscosity, Saponification value, Acid value, Peroxide value and other relevant tests should be done.

Experiential learning Activity

Experiential-Learning 25.1 : Critical evaluation of published works on analytical profile of Agada and Vishghna yoga

For the critical evaluation of the Agada and Vishaghna yogas below mentioned steps can be followed.

Step 1: Scholars should explore Scientific medical databases (e.g., PubMed, Scopus, AYUSH Research Portal) to identify published research works on Agada and vishaghna yogas, specifically focusing on phytochemicals, pharmacodynamics and pharmacokinetics of the formulations.

Step 2: Scholars should select relevant articles that discuss above mentioned specifications of Agada and Vishaghna Yoga.

Step 3: Each scholar should critically review the selected article(s), evaluating methodology, outcomes, and interpretations in the context of Ayurvedic principles and modern pharmacological insights.

Step 4: Scholars should engage in group discussions to share findings and interpretations, comparing classical concepts like Rasa, Guna, Virya, Vipaka, and Prabhava with contemporary scientific evidence.

Step 5: Finally, scholars should present their analysis and conclusions in the department, highlighting the relevance of Agada and Vishaghna Yoga and probable scientific bases for the indications of the respective formulations.

Experiential-Learning 25.2 : Survey on the availability of ingredients for various Agadas and Vishaghna Yogas and the market availability of prepared Agada yogas.

- Step 1: First enlist the raw drugs of the Agada and vishaghna yogas with their scientific and local names and categorise them under different headings like wet drugs, dry drugs, minerals, metals and the habitat.
- Step 2: Then divide them as to be searched in natural habitat, market, pharmacies etc. and plan the survey accordingly.
- Step 3: If any of them are available in the near by areas of natural habitat, then they should be documented.
- Step 4: Those which are not available in the near by natural habitat, should be surveyed in market or reliable raw drug suppliers etc. and documented along with price and time of availability (always available or seasonal only)
- Step 5: All the details of raw drugs survey should be documented, if possible with the samples of each raw drug.
- Step 6: Then the Scholars should do survey of market availability ready to use Agada and Vishaghna yogas along with dosage forms, quantity of presentation, self life, name of the manufacturer, price and other relevant details.
- Step 7: Then the scholars and faculty discuss about the merits and demerits of the available raw drugs, prepared Agada and Vishaghna yogas (without disrespecting any supplier and or manufacturer) and how best the scholars can use the acquired knowledge in their future clinical or professional development.

Experiential-Learning 25.3 : Therapeutic utility of Agada through the Knowledge exchange program

For enhancing Therapeutic utility of Agada and Vishaghna yogas following things can be done as per the feasibility

Student Exchange Program: The Scholars can be posted at centers or hospitals or clinics or OPDs where Agada and Vishaghna yogas are used in clinical practice. This can be achieved by having MoU with suitable Ayurveda College, Hospitals or clinics as per the convenience.

Organising Workshops: Workshops can be organized with experts or Practitioners or faculty of the subject who are using the Agada and Vishaghna yogas in their clinical practice.

Experiential-Learning 25.4 : Process of large scale manufacturing of Agada and vishaghna yogas in Pharmacies.

The scholars should visit to the pharmacies to understand large scale manufacturing Agada and vishaghna yogas.

They should observe and document the entire process from raw material selection to preparation and packaging of the formulation.

They should observe carefully and document the equipments, techniques, and quality control tests followed for different yogas.

They should prepare a complete report on the visit and submit.

The visit should be accompanied and supervised by the faculty of the department.

Modular Assessment

Assessment method

Hour

Conduct a structured modular assessment. The assessment will be for 75 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. Practical performance - 25 Marks 2. Long answer questions or short answer questions - 25 Marks 3. Case based assessments - 25 Marks Or Any practical in converted form can be taken for assessment. (45 Marks) and Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (30 Marks)	6
Module 26 : Pharmacodynamics of Agada and Vishaghna Yoga	
Module Learning Objectives (At the end of the module, the students should be able to) 1. Explain the therapeutic uses of Agada and Vishaghna yogas. 2. Analyze the pharmacodynamic principles of Agada and Vishaghna Yogas by exploring the concepts of Rasa, Guna, Virya, Vipaka, and Prabhava. 3. Comprehend the pharmacodynamics of Agada and Vishaghna Yogas, incorporating both classical and contemporary perspectives.	
M 26 Unit 1 Pharmacodynamics of Agada and Vishaghna Yoga (Vishaghna Mahakashaya, Ekasara gana, Bilwadi Agada, Dashanga Agada, Dooshivishari Agada, Panch Shirish Agada, Murvadi agada, Aragwadhadi Yoga, Shirishabijadi Yog, Drakshadi Agada, Sarvakarmika Agada, Sanjeevan Agada, Himawan Agada, Kottam tagadardi, Jeevaraksha agada, Avipattikar Churna, Tarunabhaskara Agada, Vishahari leha, Ksharagada, Natadi Yoga, Trimoorthis agada, Patol Katu Rohinyadi Kashaya, Kalyanak Ghrita, Visha Vilwadi agada, Shigrupunanavadi yoga, Lodrasevyadi Yoga, Siddharthakadi agada, Padmakadi Agada and other Agada related to the regional practices and availability) 1. Therapeutic indications of Agada and Vishaghna yoga in Sthavara, Jangama & Kritrima Visha 2. Indications of Agada and Vishaghna yoga in other disease conditions 3. Application of various Agada and Vishaghna yoga in OPD and IPD	

4. Pharmacodynamics of Agada and Vishaghna yoga in terms of Rasa, Guna, Virya, Vipaka, and Prabhava
 5. Clinical efficacy of Agada and Vishaghna yoga in contemporary aspects of toxicity

References: 128,129,130,176,308,309,310,311

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3,CO8	Discuss the therapeutic applications of Agada and Vishaghna yogas in cases of Sthavara, Jangama, and Kritrima Visha, focusing on Rasa, Guna, Virya, Vipaka and Prabhava.	4	Lecture	CAP	Knows-how	L&GD,LS,PL,L&PPT
CO1,CO2,CO3,CO8	Explain the indications for Agadas and Vishaghna yogas in managing other disease conditions considering Rasa, Guna, Virya, Vipaka, and Prabhava	3	Lecture	CAN	Knows-how	L&PPT,LS,L&GD,PL
CO1,CO2,CO3,CO8	Comprehend the pharmacodynamics of Agadas and Vishaghna Yogas in a contemporary context and explore their influence on detoxification mechanisms and immune responses.	3	Lecture	CC	Knows-how	SDL,L&GD,L&PPT,PL,LS
CO1,CO2,CO3,CO8	Explore and present the pharmacodynamics of Agada and Vishaghna Yoga by integrating classical Ayurvedic principles with modern scientific evidence	10	Practical Training 26.1	CAP	Knows-how	LS,PAL,PER,DIS
CO1,CO2,CO3,CO8	Investigate the clinical efficacy of Agada and Vishaghna Yoga in the management of Sthavara, Jangama, and Kritrima Visha.	10	Experiential-Learning 26.1	PSY-SET	Shows-how	SIM,CBL
CO1,CO2,CO3,CO8	Investigate the clinical efficacy of Agada and Vishaghna Yoga in the management of other disease conditions	10	Experiential-Learning 26.2	PSY-SET	Shows-how	CBL,SIM
CO1,CO9	Interpret the Clinical research, published on Agada and Vishaghna yoga concerning both classical and contemporary pharmacodynamics	6	Experiential-Learning 26.3	CAN	Does	SDL,JC,DIS,LS,PL

CO1,CO2,CO3,CO8	Understand the pharmacodynamic actions of Agada or Vishaghna Yoga through simulated clinical scenarios of Sthavara, Jangama and Kritrima Visha	10	Practical Training 26.2	CAP	Knows-how	SIM,PAL,RP,CBL
Practical Training Activity						
Practical Training 26.1 : Group Discussion and Presentation on Pharmacodynamics of Agada and Vishaghna Yoga						
Step 1: Scholars are divided into groups and assigned specific Vishaghna formulations or toxicological conditions. Each group reviews classical Ayurvedic texts and modern research to understand the pharmacodynamics. Step 2: Groups conduct internal discussions to correlate Ayurvedic principles (e.g., Doshahara, Rasayana, Vishaghna Guna) with modern pharmacological mechanisms (e.g., antioxidant, anti-inflammatory, immunomodulatory effects). Step 3: Each group prepares a presentation covering classical references, formulation components, scientific studies, and pharmacodynamic mechanisms. Step 4: Groups present their findings using visual aids, followed by a class discussion and feedback from peers and the teacher. Step 5: Scholars document their group's findings and individual reflections in the practical journal, focusing on the formulation's mode of action and clinical relevance.						
Practical Training 26.2 : Role Play Based Learning of Pharmacodynamics of Agada and Vishaghna Yogas						
Step 1: The teacher introduces Agada Tantra and explains the pharmacodynamics of selected Vishaghna formulations. Scholars are briefed on the objectives and structure of the role play. Step 2: Scholars are grouped and assigned different scenarios of sthavara visha, Jangama visha, kritrima visha, or other diseased conditions. Step 3: Each group performs the role play, showcasing clinical assessment, selection of the appropriate Vishaghna formulation, and explaining its pharmacodynamic action. Step 4: A class discussion follows each role play to evaluate understanding. The teacher provides feedback, and scholars document the scenario, formulation used, pharmacodynamic actions, and personal reflections in their practical journals.						
Experiential learning Activity						
Experiential-Learning 26.1 : Evaluation of Clinical efficacy of Agadas and Vishaghna Yoga in the management of Sthavara, Jangama, and Kritrima visha (10- OPD/ IPD case)						
Scholars are posted to the OPD and/or IPD to explore the efficacy of Agadas and/or Vishaghna Yogas. Step 1: Scholars will identify suitable subjects during their postings, construct the Samprapti of the existing Visha condition (i.e., Sthavara, Jangama, or Kritrima Visha poisoning), and screen appropriate Agadas and Vishaghna Yogas.						

Step 2: They will propose the Chikitsa Sutra, and discuss and critique the selected protocol (including dose, duration, and Anupana) with the respective consultants. Outcome parameters will also be selected, to be assessed using an acceptable or validated scale.

Step 3: The identified Agadas or Vishaghna Yogas will be administered to the subjects, who will then be followed up for a specific duration.

Step 4: The clinical efficacy of the Agadas and/or Vishaghna Yogas will be assessed at the end of the intervention, and scholars will discuss their pharmacodynamic aspects in the department.

Step 5: This activity should include the documentation of at least ten cases from the OPD/IPD.

Experiential-Learning 26.2 : Evaluation of Clinical efficacy of Agadas and Vishaghna Yoga in the management of other disease conditions (10- OPD/ IPD case)

Scholars are posted to the OPD and/or IPD to explore the efficacy of Agadas and/or Vishaghna Yogas.

Step 1: Scholars will identify suitable subjects during their postings, construct the Samprapti of the existing health condition, and screen appropriate Agadas and/or Vishaghna Yogas.

Step 2: They will propose the Chikitsa Sutra, discuss and critique the selected protocol (including dose, duration, and Anupana) with the respective consultants, and select the outcome parameters to be assessed using an acceptable or validated scale.

Step 3: The selected Agadas or Vishaghna Yogas will be administered to the subjects, who will then be followed up for a specific duration.

Step 4: The clinical efficacy of the Agadas and/or Vishaghna Yogas will be assessed at the end of the intervention, and scholars will discuss their pharmacodynamic actions in the department.

Step 5: This activity will involve documenting at least ten cases from the OPD/IPD.

Experiential-Learning 26.3 : Understanding of Classical and Contemporary Pharmacodynamics of Agada and Vishaghna yoga through published Research work

Step 1: Scholars will explore medical databases (e.g., PubMed, Scopus, AYUSH Research Portal) to identify research articles—case studies, case series, and randomized controlled trials—related to Agada and Vishaghna Yoga, focusing on both classical and contemporary pharmacodynamics.

Step 2: Scholars will select relevant articles published in peer-reviewed, indexed journals that discuss the clinical research aspect of Agada and Vishaghna Yoga.

Step 3: Each scholar will critically review the selected article(s), evaluating methodology, outcomes, and interpretations in the context of traditional Ayurvedic principles and modern pharmacological insights.

Step 4: Scholars will engage in group discussions to share findings and interpretations, comparing classical concepts like Rasa, Guna, Virya, Vipaka, and Prabhava with contemporary scientific evidence.

Step 5: Finally, scholars will present their analysis and conclusions to the department, highlighting the relevance of Agada and Vishaghna Yoga in modern clinical research

and their role in detoxification and immunomodulation.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. Long answer questions or short answer questions - 25 Marks 3. Case based assessments - 25 Marks Or Any practical in converted form can be taken for assessment. (25 Marks) and Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)	4

Semester No : 4

Module 27 : Analytical Study of Visha and Vishaghna Yoga.

Module Learning Objectives

(At the end of the module, the students should be able to)

1. Identify the qualitative and quantitative tests required to study Visha and Vishaghna Yogas.
2. Apply the principles and functioning of various instruments to study Visha and Vishaghna Yogas.
3. Demonstrate proficiency in handling analytical instruments.
4. Identify and interpret the analytical techniques in toxicology cases.

M 27 Unit 1 Analytical Study of Visha and Vishaghna Yoga Understand the basic principles of mechanism and functioning of different instruments/ equipment used in the analysis of Visha and Vishaghna yoga

- Thin Layer Chromatography (TLC)
- High-Performance Thin Layer Chromatography (HPTLC)
- High-Performance Liquid Chromatography (HPLC)
- Gas Chromatography - Mass Spectrometry (GC-MS)
- Spectrophotometry
- X-ray diffraction (XRD)
- Atomic Absorption Spectrophotometry (AAS)
- Dynamic Light Scattering (DLS)
- Flame photometry.
- Electrophoresis

References: 61,62,63,64,65,66,67

3A	3B	3C	3D	3E	3F	3G
CO2,CO3,CO6 ,CO7	Discuss the principles of Chromatography and describe Thin Layer Chromatography (TLC) and High-Performance Thin Layer Chromatography (HPTLC)	1	Lecture	CC	Knows-how	L&PPT
CO2,CO3,CO6 ,CO7	Discuss the principles of - Gas Chromatography-Mass Spectrometry) (GC-MS) High-performance liquid chromatography (HPLC), Spectrophotometry	2	Lecture	CC	Knows-how	DIS,L_V C,L&PPT
CO2,CO3,CO6 ,CO7	Discuss the principles of X-ray diffraction (XRD) Atomic Absorption Spectrophotometry (AAS)	1	Lecture	CC	Knows-how	DIS,L_V C,L,L&P PT
CO2,CO3,CO6 ,CO7	Describe the principles of - Dynamic light scattering (DLS) Flame photometry Electrophoresis	1	Lecture	CC	Knows-how	L&PPT , L_VC,PL, L&GD
CO2,CO3,CO6	Demonstrate the process involved in TLC, HPTLC Sample preparation and analysis.	3	Practical	PSY-	Shows-	L_VC,DL

,CO7			Training 27.1	MEC	how	,D,W,DA
CO2,CO3,CO6 ,CO7	Describe techniques of Gas Chromatography and High Performance Liquid Chromatography	3	Practical Training 27.2	CC	Knows-how	L_VC,L&PPT ,DL,W
CO2,CO3,CO6 ,CO7	Distinguish the principles and application of X-ray diffraction (XRD) and Atomic Absorption Spectrophotometry (AAS).	2	Practical Training 27.3	CC	Knows-how	DL,L&PPT ,W,L_VC
CO2,CO3,CO6 ,CO7	Distinguish the functioning of Electrophoresis, Dynamic light scattering (DLS) and Flame photometry	2	Practical Training 27.4	CC	Knows-how	L_VC,W, L&PPT ,PER,DL
CO2,CO3,CO6 ,CO7	Evaluate toxicology reports, published articles on Analytical toxicology.	4	Experiential-Learning 27.1	CC	Knows-how	SDL,PER ,DIS,JC,P L
CO2,CO3,CO6 ,CO7	Enhance the understanding of analytical toxicology related to Visha	5	Experiential-Learning 27.2	CC	Knows-how	W,SY
CO2,CO3,CO6 ,CO7	Investigate Poison based on principles of analytical toxicology	4	Experiential-Learning 27.3	PSY-MEC	Shows-how	TPW,DIS

M 27 Unit 2 Methods for Examinations of Visha and visha sadrushya dravya (Suspicious substance)

- Illustrate chemical tests for examination of Visha
- Illustrate tests for the examination of the biological samples in Vishaktata.

References: 51,54,55,56,57,58,59,60

3A	3B	3C	3D	3E	3F	3G
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CO2,CO3,CO6,CO7	Describe common Reagents and Chemicals used in Toxicology Laboratories and chemical tests for the examination of Visha.	2	Lecture	CC	Knows-how	L,L&PPT
CO2,CO3,CO6,CO7	Describe Immunoassay Methods for Drug Detection. (ELISA)	2	Lecture	CC	Knows-how	L&PPT , L_VC,L&GD
CO2,CO3,CO6,CO7	Describe DNA Analysis and Techniques for identifying toxic-substance-related DNA damage.	2	Lecture	CC	Knows-how	LS,L&GD,L&PPT ,L
CO2,CO3,CO6,CO7	Explain and integrate Nanotechnology in Toxicology and the application of nanomaterials in detecting poisons.	2	Lecture	CC	Knows-how	L,L&PPT ,PL,LS
CO2,CO3,CO6,CO7	Describe the role of Artificial Intelligence (AI) and machine learning in predictive toxicology and data analysis.	2	Lecture	CC	Knows-how	LS,PAL,L&PPT ,L
CO2,CO3,CO7,CO8	Demonstrate Color Tests for detection of Visha (e.g., Marsh Test for Arsenic, Lassaigne's Test for Cyanide).	5	Practical Training 27.5	PSY-MEC	Shows-how	DA,D,LR I,DL
CO2,CO3,CO6,CO7	Demonstrate precipitation tests for Heavy metals.(Lead, Mercury, etc.)	5	Practical Training 27.6	CC	Shows-how	DA,LRI, D
CO2,CO3,CO6,CO7	Demonstrate standard Extraction Methods for Poison Detection from Biological Samples.	5	Practical Training 27.7	PSY-MEC	Shows-how	D,DL
CO2,CO3,CO6,CO7	Observe the process of Enzyme-Linked Immunosorbent Assay (ELISA) for poison/venom and Drug Screening.	5	Practical Training 27.8	CC	Knows-how	W,DIS,SDL,PAL, SY
CO2,CO3,CO6,CO7	Analyse chemical tests performed to investigate suspected poisonings.	6	Experiential-Learning 27.4	CE	Knows-how	PER,JC,DIS
CO2,CO3,CO6	Interpret chemical tests on simulated poisoning samples.	5	Experiential-	PSY-	Shows-	TBL,DA,

,CO7			Learning 27.5	MEC	how	L&GD,PER,SY
CO2,CO3,CO6,CO7	Discuss methods for the examination of Poison	6	Experiential-Learning 27.6	CC	Knows-how	W,DIS,PL,SY
CO2,CO3,CO6,CO7	Appraise different skills of analytical methods in toxicology.	9	Experiential-Learning 27.7	PSY-MEC	Shows-how	DL,FV,PAL

Practical Training Activity

Practical Training 27.1 : Hands-on training or Video demonstration or Laboratory Visit for TLC, HPTLC Sample preparation and analysis.

Video demonstration of the functioning of HPTLC.

OR

Step 1: Teacher will brief the principle and demonstrate the sample preparation and functioning of the instrument HPTLC.

Step 2: Successively the scholars will be instructed to perform practicals.

Step 3: Scholars will document the practical and prepare a report on challenges faced and scientific gap in analysing Visha or Vishaghna yogas.

And

Hands-on training for TLC

Prepare a TLC plate with a thin silica or alumina layer and apply sample spots near the bottom.

Sample preparation and analysis by using TLC.

Place the plate in a chamber with solvent and allow the solvent to separate the compounds as it rises.

Once complete, visualize the spots using UV light or a chemical spray and calculate the R_f values for each spot.

The teacher shall summarize the key concepts covered in the practical.

Practical Training 27.2 : Laboratory Visit/ Video demonstration to understand the functioning of gas chromatography (GC)/ HPLC

The teacher will demonstrate the functioning of HPLC with a video demonstration. The steps involved can be explained during the presentation. The teacher shall summarize the key concepts covered in the video demonstration.

Practical Training 27.3 : Laboratory Visit/ Video demonstration for understanding the functioning of -

X-ray diffraction (XRD) Atomic Absorption Spectrophotometry (AAS).
Video demonstration by the teacher followed its application in visha chikithsa.
Practical Training 27.4 : Laboratory Visit/ Video demonstration for understanding the functioning of - Electrophoresis Dynamic light scattering (DLS) Flame photometry
Video Demonstration by the teacher about the steps involved in Electrophoresis, Dynamic light scattering (DLS) and Flame photometry.
Practical Training 27.5 : Color Tests for detection of Visha
Marsh Test for Arsenic Lassaigne's Test for Cyanide The teacher shall summarize the key concepts covered in the practical.
Practical Training 27.6 : Perform precipitation tests for Heavy metals
Precipitation Test for Lead (Pb ²⁺) Precipitation Test for Mercury (Hg ²⁺) The teacher shall summarize the key concepts covered in the practical.
Practical Training 27.7 : Standard Extraction Methods for Poison Detection from Biological Samples.
The teacher will demonstrate and instruct the steps involved in the practical. - o Collect and homogenize the biological sample, then add an organic solvent to dissolve the poison. - o Vortex the mixture, centrifuge to separate the solvent phase containing the poison, and collect the solvent layer. - o Evaporate the solvent and reconstitute the residue in a suitable medium for further analysis. The teacher shall summarize the key concepts covered in the practical.
Practical Training 27.8 : Acquaintance to Enzyme-Linked Immunosorbent Assay (ELISA) for poison/venom and Drug screening

The teacher will demonstrate the steps involved in the ELISA on Video.

OR

Alternatively, the institute will arrange a visit to the laboratory with the ELISA test facility to help students understand the principles.

Key Steps to be followed in the ELISA test.

Step 1: Dilute the biological sample and dispense it into wells of an ELISA plate coated with antibodies specific to the target drug.

Step 2: Incubate the plate to allow binding, then add an enzyme-conjugated antibody and substrate solution to produce a color change.

Step 3: Measure the color intensity with a spectrophotometer and compare it to a standard curve to determine the drug concentration.

Students will observe the video demonstration and interact with the teacher.

The teacher shall summarize the key concepts covered in the practical.

Experiential learning Activity

Experiential-Learning 27.1 : Analysis of a toxicology report and articles published in Journals.

Scholars will be briefly introduced Analytical studies in toxicology.

Step 1: Scholars will explore different databases and search for scientific literature using keywords like "Analytical techniques," "poisoning" "toxicology," and filter results by relevance and publication date.

Step 2: Scholars will analyse the selected publications (minimum 5 articles) and critically analyse the specific agents and tests related to them.

Step 3: Discuss the findings and summarize key insights from the scientific papers analyzed.

Step 4: Discuss any challenges faced in using scientific databases and evaluating published works.

Scholars can present the findings incorporating the view of Agadatantra before the department.

Experiential-Learning 27.2 : Workshops and symposium on Analytical toxicology

Understanding the Analytical methods for detection of poisons can be adopted in following manner

Option 1: Visit to Poison detection center

Option 2: Workshop will be organised by inviting an expert from respective stream to demonstrate the tests and explain the rationality.

Option 3: Scholars will be encouraged to participate in various symposiums and workshops on Laboratory methods to examine and detect poisons.

Experiential-Learning 27.3 : Conduct a short Project to Investigate Poison based on principles of analytical toxicology

Scholars will be asked to conduct short projects investigating heavy metals in various samples and draw meaningful conclusions.

Experiential-Learning 27.4 : Critical analysis of Chemical tests applied in investigating suspected poisonings.

Scholars will be briefly introduced chemical tests in poisonings.

Scholars will explore different databases and search for scientific literature using keywords like "chemical tests," "suspected poisoning," "poisonings," and related terms, filter results by relevance and publication date.

Scholars will analyse the selected publications (minimum of 5 articles) and critically analyse the tests for agents chemicals used against different poisons

Discuss the findings and evaluate how well the studies explain the case findings

Summarize key insights from the scientific papers analyzed.

Discuss any challenges faced in using scientific databases and evaluating published works.

Scholars can present the findings by incorporating them to Agadatantra contexts and basics.

Experiential-Learning 27.5 : Perform Chemical tests (precipitation tests) on simulated poisoning samples.

Understanding the chemical methods for detection of poisons can be adopted in following manner

Option 1: Workshop may be organised by inviting a expert from respective stream to demonstrate the tests and explain the rationality.

Option 2: Scholars will conduct chemical tests on simulated poisoning samples. They will apply color tests and precipitation reactions to identify potential toxins and their concentrations. This hands-on experience fosters teamwork and enhances their practical skills in forensic toxicology.

Experiential-Learning 27.6 : Methods for the examination of Poison: Workshops, Symposiums

Understanding the examination of poisons in following manner

Option 1: Visit to Poison detection center

Option 2: Workshop may be organised by inviting a expert from respective stream to demonstrate the tests and explain the rationality.

Option 3: Scholars will be encouraged to participate in various symposiums and workshops on Laboratory methods to examine and detect poisons.

Scholars will share experiences with peers and Teachers.

Experiential-Learning 27.7 : Conduct Visit to institutions/ laboratories/ workshops to get skilled in analytical methods.

Understanding the Analytical methods for detection of poisons can be adopted in following manner

Option 1: Visit to Poison detection center

Option 2: Workshop may be organised by inviting a expert from respective stream to demonstrate the tests and explain the rationality.

Option 3: Scholars will be encouraged to participate in various symposiums and workshops on Laboratory methods to examine and detect poisons.

Modular Assessment	
Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 75 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. Practical performance - 25 Marks 2. Long answer questions or short answer questions - 25 Marks 3. Assessment based on interpretation of results - 25 Marks or 4. Spotting - 25 Marks or Any practical in converted form can be taken for assessment. (45 Marks) and Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (30 Marks)	6
Module 28 : Pharmacovigilance and Toxicovigilance	
Module Learning Objectives (At the end of the module, the students should be able to) 1. Describe Pharmacovigilance, Adverse Drug Events, Drug Interaction, and Drug Incompatibility. 2. Explain the Three-Tier System of Pharmacovigilance. 3. Describe the Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954 4. Demonstrate reporting of suspected Adverse Drug Events and Misleading Advertisement. 5. Describe the Toxicovigilance and functions of the Poison Information Centre in India.	
M 28 Unit 1 Pharmacovigilance and Toxicovigilance 1. Pharmacovigilance, Adverse Drug Events, Drug Interaction and Drug Incompatibility. 2. Reporting Adverse Drug Events and Misleading Advertisement.	

3. The Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954
 4. Definitions and purpose of Toxicovigilance and functions of the Poison Information Centre in India.

References: 68,69,71,72,73,74,75,76,77,78,79,80,81

3A	3B	3C	3D	3E	3F	3G
CO1,CO3,CO9	Discuss Pharmacovigilance, Adverse Drug Events, and their need in ASU Drugs, and explain the concepts of Drug Interaction and Drug Incompatibility	1	Lecture	CC	Knows-how	SDL,L&PPT, L&GD,LS
CO1,CO9	Describe the Functions of the Uppsala Monitoring Centre (UMC) and Functions of the National Pharmacovigilance Centre	1	Lecture	CC	Knows-how	PL,L&PPT,LS,SDL,L&GD
CO1,CO5,CO9	Understand the glossary and assessment terms used in Pharmacovigilance, and explain the Drugs and Magic Remedies (Objectionable Advertisements) Act, 1954.	1	Lecture	CC	Knows-how	L&GD,L&PPT,SDL,LS,BL
CO1,CO9	Explain the three-tier system of Pharmacovigilance in ASU & H drugs, including its hierarchy, and explain the reporting forms for Adverse Drug Events and Misleading Advertisements.	1	Lecture	CC	Knows-how	SDL,BL,LS,PL,L&PPT
CO1,CO9	Describe the Toxicovigilance and functions of the Poison Information Centre in India	1	Lecture	CC	Knows-how	SDL,LS,BL,L&GD,L&PPT
CO1,CO9	Demonstrate the functioning of Ayushsuraksha portal	3	Practical Training 28.1	PSY-GUD	Shows-how	D,L&PPT,BL,SDL
CO1,CO7,CO9	Prepare a report of suspected / reported Adverse drug events due to Ayurvedic formulations	5	Practical Training 28.2	PSY-GUD	Shows-how	SIM,D,CBL

CO1,CO6,CO9	Prepare a Report on misleading advertisements	2	Practical Training 28.3	PSY-GUD	Shows-how	SIM,D
CO1,CO9	Understand the structure and functions of the National / Regional / Peripheral Pharmacovigilance Centres for reporting suspected ADR and Misleading Advertisement	5	Experiential-Learning 28.1	CC	Knows-how	FV
CO1,CO9	Analyze critically the published ADR reports and published Research works on Toxicovigilance.	5	Experiential-Learning 28.2	CAN	Does	SDL,LS,J C,DIS
CO1,CO3,CO9	Understand the structure and functions of the National Poison Information Centre	3	Experiential-Learning 28.3	CC	Knows-how	SDL,FV

Practical Training Activity

Practical Training 28.1 : Demonstration of the functioning of Ayushsuraksha portal

Step 1: The teacher should demonstrate the components and functionality of the Ayushsuraksha portal.
Step 2: then the Scholars should learn to navigate through the portal, exploring its features and interface.
Step 3: After that the Scholars should practice handling the portal under the guidance of the faculty.
Step 4: The session should conclude with a question-and-answer session to address scholars' queries and clarify any points that need further understanding.

Practical Training 28.2 : Reporting of Suspected / Reported Adverse Drug Events due to Ayurvedic Formulations: 5 Cases

Step 1: The faculty should show how to download the reporting form for suspected adverse drug reactions from the Ayushsuraksha portal.
Step 2: The faculty should demonstrate how to complete the ADR reporting form correctly.
Step 3: The scholars should be given details of a minimum FIVE suspected ADR case or simulated cases of ADR and they should be asked to complete the process of reporting of ADR by downloading the ADR reporting form.
Step 4: Then the reports prepared and submitted by the scholars should be reviewed for accuracy and completeness.
Step 5: Then the reviewer should be give feedback and discuss about the positives and shortcomings.

Practical Training 28.3 : Preparation of a Report on Misleading Advertisements: 3 Cases

Step 1: The faculty should demonstrate how to download and fill out the Reporting Form for Misleading Advertisements from the Ayushsuraksha portal.

Step 2: The faculty should explain the key components required in the report, including details about the misleading advertisement.

Step 3: The scholars should be given THREE Reported misleading advertisements or Simulated misleading advertisement and asked to prepare the report as per the method demonstrated by the faculty.

Step 4: Finally the faculty should review the reports and discusses them with the scholars for improvement and feedback.

Experiential learning Activity

Experiential-Learning 28.1 : Visit to the National / Regional / Peripheral Pharmacovigilance Centres to understand the structure and functions of the Pharmacovigilance Centre for ASU drugs

To understand the structure and functions of the National / Regional / Peripheral Pharmacovigilance Centres, one of the following options can be considered as per the feasibility.

Option 1: Visit to any of the Pharmacovigilance Centres: At the center scholars can interact with the experts and understand its structure and function and they should observe and document the activities and reporting mechanisms of the Centre. Finally, they should prepare visit report summarizing their observations and learnings.

Option 2: Organizing a workshop on Pharmacovigilance: Experts from the National / Regional / Peripheral Pharmacovigilance Centres can be invited and workshop can be conducted. The workshop should focus on structure and functions of Pharmacovigilance Centres and reporting of ADR. Followed by interaction session with the experts.

Experiential-Learning 28.2 : Critical Analysis of the published ADR reports and published Research works on Toxicovigilance.

Step 1: Scholars should explore Scientific medical databases (e.g., PubMed, Scopus, AYUSH Research Portal) to identify published ADR reports and research works on Toxicovigilance.

Step 2: Scholars should select at least FIVE relevant articles on ADRs due to Ayurvedic formulations and works published on Toxicovigilance.

Step 3: Each scholar should critically review the selected article(s), evaluating methodology, outcomes, and interpretations in the context of Ayurvedic principles and modern insights.

Step 4: Scholars should engage in group discussions to share findings and interpretations, comparing classical concepts adverse drug reactions along with contemporary scientific evidence.

Step 5: Finally, scholars should present their analysis and conclusions in the department, highlighting the relevance of ADRs in Ayurveda and current significance of Toxicovigilance.

Experiential-Learning 28.3 : Field visit or Self-directed Learning to understand the Structure and functions of the National Poison Information Centre in India

This can be achieved by one of the following options.

Option 1: The scholars should visit the National Poison Information Centre and interact with experts to understand its structure and functioning. Then they document the details and present in the department.

Option 2: Alternatively, scholars can understand the structure and functioning of the National Poison Information Centre by browsing their respective websites or portals. Then document all the details and present in the department.

In both the options faculty should act as facilitators.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 25 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. Long answer questions or short answer questions - 25 Marks OR 2. Case based assessments - 25 Marks or Any practical in converted form can be taken for assessment. (25 Marks) or Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)	2

Semester No : 5

Module 29 : Experimental Toxicology

Module Learning Objectives

(At the end of the module, the students should be able to)

1. Understand OECD Guidelines for Toxicity Study and CCSEA Guidelines for animal experimentation.
2. Describe CCRAS Guidelines for safety and toxicity evaluation of Ayurveda formulations.
3. Select appropriate guidelines for designing toxicity studies.
4. Design an appropriate research protocol for conducting pre-clinical studies in Agada Tantra

M 29 Unit 1 Guidelines for Experimental Toxicology 1. OECD Guidelines for Toxicity Study.

2. CCSEA Guidelines for animal experimentation.

3. CCRAS Guidelines for safety/toxicity evaluation of Ayurvedic formulations

References: 82,83,84,85,86

3A	3B	3C	3D	3E	3F	3G
CO1,CO3,CO9	Interpret the OECD Guidelines and their five sections, and describe acute, subacute, sub-chronic, and chronic toxicity as per Section 4 of the OECD Guidelines	2	Lecture	CC	Knows-how	L&PPT ,SDL,LS,L &GD
CO1,CO9	Describe the objectives, functions, and guidelines of CCSEA	2	Lecture	CC	Knows-how	L&GD,S DL,LS,L &PPT
CO1,CO7,CO9	Describe the CCRAS guidelines for the safety and toxicity evaluation of Ayurvedic formulations	1	Lecture	CC	Knows-how	L&GD,S DL,L&PPT ,LS
CO1,CO9	Assess the OECD guidelines through the OECD portal	2	Practical Training 29.1	PSY-GUD	Shows-how	SDL,PL, D,BL
CO1,CO9	Demonstrate the functioning of the CCSEA portal	2	Practical Training 29.2	PSY-GUD	Shows-how	D,SDL
CO1,CO9	Demonstrate animal handling skills in safe manner	4	Practical Training 29.3	CAP	Knows-how	D,W,L&PPT ,L_VC
CO1,CO9	Illustrate CCSEA-Compliant Euthanasia and necropsy examination	2	Practical Training 29.4	CAP	Knows-how	L_VC,D, SDL

CO1,CO9	Identify, analyze, and discuss Research published on the OECD and CCSEA guidelines	5	Experiential-Learning 29.1	CAN	Does	SDL,JC,P L,LS,DIS
CO1,CO9	Develop research protocols for acute, subacute, sub-chronic, and chronic toxicity studies using OECD guidelines for drugs or formulations in Ayurveda	8	Experiential-Learning 29.2	CS	Does	BL,PL,L &PPT ,LS,SDL
M 29 Unit 2 Pre-clinical Evaluation Models1. LD-50 and Chronic, cumulative, and residual toxicity. 2. Preclinical studies in the context of Agada Tantra Research 3. In Vivo study models 4. In Vitro Study models 5. In silico study models References: 1,2,87,88,89,90,91,92,93						
3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO9	Explain LD-50, Chronic, cumulative, and residual toxicity	1	Lecture	CC	Knows-how	L&GD,S DL,L&PP T ,PL
CO1,CO2,CO3 ,CO9	Explain the application of the following in vivo models for efficacy studies of Agada, Vishaghna Yoga, and Vishadravyas. - Hepatotoxicity model - Nephrotoxicity model - Dermal toxicity model - Oxidative stress model - Other toxicity models - Snakebite/Scorpion Sting - Rodent Model - Disease-specific in vivo models	6	Lecture	CC	Knows-how	LS,SDL, BL,L&PP T ,L&GD
CO1,CO2,CO3	Discuss the various types of in vitro studies used in the context of Agada Tantra	2	Lecture	CC	Knows-	L&GD,B

,CO9	Research				how	L,SDL,PL ,L&PPT
CO1,CO2,CO9	Describe the In-silico study in the context of Agada Tantra Research	1	Lecture	CC	Knows-how	BL,LS,L &PPT ,L &GD,SD L
CO1,CO2,CO3 ,CO9	Design in vivo research protocol to evaluate the efficacy of Agada, Vishaghna yoga and formulations of Vishadravya.	10	Practical Training 29.5	CS	Knows-how	D,L&PPT ,SDL,PL, L&GD
CO1,CO2,CO3 ,CO9	Design in vitro research protocol to evaluate the efficacy of Agada, Vishaghna yoga and formulations of Vishadravya.	8	Practical Training 29.6	CS	Knows-how	L&GD,D, PL,SDL,L &PPT
CO1,CO3,CO7 ,CO9	Design an in silico research protocol in the context of Agada Tantra research	2	Practical Training 29.7	CS	Knows-how	L&GD,L &PPT ,D,SDL,P L
CO1,CO2,CO9	Appraise the concept of Dooshivisha with chronic, cumulative, and residual toxicity.	6	Experiential- Learning 29. 3	CC	Knows-how	BS,SDL, DIS,PL
CO1,CO2,CO3 ,CO9	Evaluate the published preclinical studies related to Agada Tantra and toxicology.	10	Experiential- Learning 29. 4	CAN	Does	SDL,JC,L S
CO1,CO2,CO9	Participate in Symposium/ Workshop on Preclinical Study Model (In vivo, In-vitro, In silico study model)	10	Experiential- Learning 29. 5	CAP	Does	L&PPT ,S Y,L&GD, W
Practical Training Activity						

Practical Training 29.1 : Familiarization with the OECD guidelines by exploring the OECD portal

1. The teacher will demonstrate how to access the OECD portal, highlighting key features and important resources.
2. Scholars will independently explore the OECD portal to understand its structure and content.
3. Scholars will familiarize themselves with the OECD Guidelines, including the five main sections.
4. A special focus will be given to Section 4, which covers acute, subacute, sub-chronic, and chronic toxicity guidelines.

Practical Training 29.2 : Familiarization with the CCSEA guidelines through exploration of the CCSEA portal

1. The teacher will introduce the purpose of the CCSEA portal and its relevance to animal research and ethics.
2. The teacher will demonstrate how to navigate the CCSEA portal, highlighting key features, sections, and available resources.
3. Scholars will explore the CCSEA portal individually to understand its structure and available content.
4. Scholars will locate and review the key guidelines, objectives, and functions of CCSEA as presented on the portal.
5. A group discussion will follow to clarify doubts, share findings, and ensure understanding of the CCSEA's role and regulatory framework.

Practical Training 29.3 : Demonstration by an Expert on Animal Handling and Care under CCSEA Guidelines, or a Video Demonstration on Animal Handling and Care according to CCSEA Guidelines

(Field Visit- Animal House or Video Demonstration by an Expert)

The expert will demonstrate animal handling and care in the animal house:

1. Restraint Techniques for Small Animals (mice, rats) and Large Animals (rabbits, guinea pigs).
2. Injection Techniques: Intraperitoneal (IP), Intravenous (IV), and Intramuscular (IM).
3. Blood Collection Methods: Tail nick and cardiac puncture.
4. Animal Movement and Transportation: Safe handling and transfer of animals between cages.
5. Housing and Enrichment: Setting up and maintaining animal enclosures, and providing environmental enrichment.
6. Nutrition and Hydration: Preparing and administering diets, and demonstrating watering systems (bottles/bowls).
7. Health Monitoring and Hygiene: Recognizing clinical signs of illness and demonstrating sanitation and disinfection protocols.

OR

The scholars will be shown video clips regarding animal handling and restraint, injection techniques, blood collection methods, animal behavior and body language, and

animal nutrition and hydration.

- At the end, the scholars will discuss the importance and utility of these practices in animal trials and write about methods of animal handling and care in their practical journals

Practical Training 29.4 : Learn methods of CCSEA-Compliant Euthanasia and necropsy examination (by Field Visit- Animal House or Video Demonstration by an Expert)

1. The expert will demonstrate CCSEA-compliant euthanasia and post-mortem examination procedures to the scholars through relevant video clips or demonstration if any study are ongoing keeping ethical considerations in view.
2. Scholars will observe the procedures to understand ethical and technical aspects.
3. A discussion will be conducted on the importance and utility of these methods in animal trials.
4. Scholars will document their understanding of euthanasia and post-mortem examination in their practical journals.

Practical Training 29.5 : Designing a Research protocol for an In vivo study to evaluate the efficacy of Agada, Vishaghna yoga or Vishadravya formulations in promoting health and well-being
(5 Research Protocols)

1. The teacher will demonstrate the structure and essential components of a research protocol for an in vivo study, including objectives, methodology, animal model selection, ethical considerations, and data analysis.
2. Scholars will choose appropriate in vivo experimental models and corresponding intervention drugs or formulations (Agada, Vishaghna yoga, or formulations of Vishadravya) relevant to their research objectives.
3. Scholars will engage in a group discussion to finalize the research question, hypothesis, and protocol design for the selected in vivo models and interventions.
4. Each scholar will write five distinct research protocols in their practical journal, covering different in vivo study models and formulations, ensuring adherence to ethical and scientific standards.

Practical Training 29.6 : Designing a Research protocol for an In-silico study in the context of Agada Tantra research
(1 Research Protocol)

1. The teacher will demonstrate how to write a research protocol for an in-silico study in the context of Agada Tantra.
2. Scholars will learn about various in-silico models applicable to Agada Tantra research.
3. Each scholar will select a suitable in-silico study model for protocol design.
4. Scholars will draft and write one detailed research protocol in their practical journal based on the selected model.

Practical Training 29.7 : Designing a Research protocol for an In vitro study to evaluate the efficacy of Agada, Vishaghna yoga or Vishadravya formulations (4 Research Protocols)

1. The teacher will demonstrate the process of writing a research protocol for an in vitro study, including essential components such as objectives, methodology, and analysis.
2. Scholars will explore and select appropriate in vitro models and intervention drugs or formulations (Agada, Vishaghna yoga or Vishadravya formulations) relevant to their area of interest.
3. Based on their selections, scholars will design detailed research protocols tailored to their chosen in vitro study model.
4. Scholars will document four complete research protocols in their practical journals, each focusing on a different in vitro model or formulation.
5. The teacher will review and provide feedback on the written protocols for accuracy, clarity, and scientific relevance.

Experiential learning Activity

Experiential-Learning 29.1 : Evaluation of compliance with OECD and CCSEA guidelines in ASU drug research publications

1. Scholars will search medical and regulatory research databases (e.g., PubMed, Scopus, AYUSH Research Portal) to identify research articles published in peer-reviewed, indexed journals that relate to OECD and CCSEA guidelines.
2. Each scholar will select relevant articles that focus on the application, implementation, or evaluation of OECD and CCSEA guidelines in research or regulatory contexts.
3. Scholars will critically analyze the methodology, adherence to guidelines, and the scientific validity of the selected research articles.
4. The analyzed articles will be discussed in peer groups to compare interpretations, insights, deviations, modifications, and gaps identified during the review process.
5. Scholars will present their findings and analyses in the department, highlighting the role and impact of OECD and CCSEA guidelines in research quality and regulatory compliance.

Experiential-Learning 29.2 : Preparation of one research protocol each for acute, subacute, sub-chronic, and chronic toxicity studies

1. Scholars will review and discuss various OECD guidelines relevant to toxicity studies and select appropriate guidelines for acute, subacute, sub-chronic, and chronic toxicity studies applicable to an Ayurvedic drug or formulation.
2. A structured group discussion will be conducted to analyze and interpret the selected OECD guidelines, with a focus on their applicability to Ayurvedic formulations.
3. Based on the selected guidelines, scholars will collaboratively prepare detailed research protocols for the chosen Ayurvedic drug or formulation, covering each type of toxicity study.
4. Scholars will present their designed research protocol in the department, explaining the rationale behind their design, selection of OECD guidelines, and their relevance to Ayurvedic research

Experiential-Learning 29.3 : Group Activity-

Discussion on the comparison of the concept of Dooshivisha with chronic, cumulative, and residual toxicity, using examples from the literature and case studies

1. Scholars will begin with a guided discussion on the Ayurvedic concept of Dooshivisha and its modern toxicological parallels—chronic, cumulative, and residual toxicity.
2. They will conduct literature reviews and examine relevant case studies to explore real-world instances of these toxicities.
3. In groups, scholars will compare findings and critically analyze the similarities and differences between Ayurvedic and modern perspectives.
4. Each group will present its insights, followed by an interactive discussion to consolidate collective learning.
5. The session will conclude with a reflection on the relevance of these toxicological concepts in Ayurvedic diagnosis and treatment planning

Experiential-Learning 29.4 : Journal club: Research published on Preclinical studies (In vivo, In vitro, In silico studies) in the context of Agada Tantra Research

1. Scholars will search and identify research articles from peer-reviewed, indexed journals related to preclinical studies (In vivo, In vitro, In silico) within the context of Agada Tantra research.
2. Each scholar will critically analyze the methodology, results, and relevance of the selected articles.
3. Scholars will form groups to discuss their analyses and share interpretations with peers.
4. Groups will prepare and deliver presentations in the department summarizing their findings and insights.
5. A departmental discussion will follow, encouraging feedback and a deeper understanding of preclinical research in Agada Tantra

Experiential-Learning 29.5 : Participation in Symposium/ Workshop on Preclinical Study Model (In vivo, In-vitro, In silico study model)

1. Scholars will attend offline or online symposiums and workshops focused on preclinical study models, including In vivo, In vitro, and In silico approaches.
2. They will actively participate in sessions led by experts to understand various research methodologies and their applications.
3. Scholars will engage in Q&A sessions, panel discussions, or hands-on demonstrations where applicable.

4. They will interact with peers and professionals to exchange ideas and experiences.
5. After the event, scholars will reflect on key learnings and document insights relevant to Agada Tantra research

Modular Assessment

Assessment method

Hour

Conduct a structured modular assessment. The assessment will be for 75 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C.

6

1. Protocol development - 50 Marks

2. Long answer questions or short answer questions - 25 Marks

or

Any practical in converted form can be taken for assessment. (45 Marks)

and

Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (30 Marks)

Semester No : 6

Module 30 : Toxicogenomics

Module Learning Objectives

(At the end of the module, the students should be able to)

1. Discuss toxicogenomics and its applications in Agadatantra.
2. Describe molecular biology techniques related to toxicogenomics.
3. Describe the role of toxicogenomics in developing personalized medicine scenarios.

M 30 Unit 1 Toxicogenomics

- Describe definition, history and scope of Toxicogenomics
- Explain techniques used in Toxicogenomics
- Apply of toxicogenomics principles in Agadatantra

References: 304,305,306,307

3A	3B	3C	3D	3E	3F	3G
CO2,CO3,CO7,CO9	Describe Toxicogenomics, its history, and scope in personalized medicine.	1	Lecture	CC	Knows-how	DIS,L&PPT ,L
CO2,CO3,CO7,CO9	Discuss the Mechanisms of Toxicogenomics – Transcriptomics	1	Lecture	CC	Knows-how	PER,L,L&PPT ,SDL
CO2,CO3,CO7,CO9	Describe the Mechanisms of Toxicogenomic - Metabolomics	1	Lecture	CC	Knows-how	L&PPT ,PER,L,L&GD
CO2,CO3,CO7,CO9	Discuss the role of Toxicogenomics in Risk Assessment.	1	Lecture	CC	Knows-how	TUT,L&PPT ,PER,L
CO2,CO3,CO7,CO9	Describe Personalized Medicine and Predictive Toxicology with challenges and ethical concerns.	1	Lecture	CC	Knows-how	L,L&GD,L&PPT ,DIS
CO2,CO3,CO7,CO9	Illustrate laboratory techniques used in Toxicogenomics.	4	Practical Training 30.1	PSY-MEC	Shows-how	L_VC,DL ,FV
CO2,CO3,CO7,CO9	Demonstrate Gene Expression Profiling	4	Practical Training 30.2	PSY-MEC	Shows-how	TUT,SIM ,FV,DL,L_VC
CO2,CO3,CO7	Utilize Bioinformatics and Data Analysis.	2	Practical	PSY-	Shows-	DL,PBL,

,CO9			Training 30.3	GUD	how	PER,W,T UT
CO2,CO3,CO7 ,CO9	Appraise Toxicogenomics on Environmental Health.	8	Experiential- Learning 30. 1	PSY- ADT	Shows- how	PER,JC,D IS
CO2,CO3,CO7 ,CO9	Analyze Toxicogenomics for Drug Safety.	5	Experiential- Learning 30. 2	CAN	Knows- how	SDL,W,S Y
Practical Training Activity						
Practical Training 30.1 : Laboratory Techniques in Toxicogenomics						
The teacher can provide a video demonstration or if feasible visit a laboratory demonstration on steps related to collecting the biological sample, homogenizing, extracting, and quantifying RNA, treating the RNA with DNase, synthesizing cDNA via reverse transcription, and storing it for gene expression analysis.						
Practical Training 30.2 : Gene Expression Profiling						
The teacher can provide a video demonstration on gene expression profiling to enhance understanding, focusing on how to perform DNA microarray or RNA-Seq to assess gene expression changes after toxicant exposure and analyze differential gene expression patterns in response to toxins. OR Alternatively, a visit to a suitable laboratory or research facility can be arranged for hands-on learning. This approach offers students practical insights into the process and its applications in real-world settings. Both options aim to deepen engagement with the subject matter.						
Practical Training 30.3 : Utilization of videos demonstrating Bioinformatics and Data Analysis.						
The Teacher can give a Video Demonstration to help students understand the software tools and basics of interpreting gene expression data and pathway analysis. Alternatively, a visit to a suitable laboratory or research facility can be arranged for hands-on learning.						
Experiential learning Activity						
Experiential-Learning 30.1 : Journal club on Toxicogenomics in Environmental Health						
Scholars will be briefly introduced to toxicogenomics in view of toxins and health impacts.						

Scholars will explore different databases and search for scientific literature using keywords like "toxicants," "ecosystem pollution," "genomics," and other relevant key words, filter results by relevance and publication date.

Scholars will analyse the selected publications (minimum 5 articles) and critically analyse the health impacts and pathophysiology related to specific agents.

Discuss the findings and evaluate how well the studies explain the impact of toxins on health and genomics

Summarize key insights from the scientific papers analyzed.

Discuss any challenges faced in using scientific databases and evaluating published works.

Scholars can present the findings incorporating the view of Agadatantra before the department.

Brainstorming to explore the implications of their findings for public health and environmental policies, and discuss potential solutions for mitigating the risks posed by these pollutants.

Experiential-Learning 30.2 : Journal Club and Workshop/ Symposium on Toxicogenomics for Drug Safety.

Scholars will be briefly introduced Drug safety and genomics.

Scholars will explore different databases and search for scientific literature using keywords like "drug safety," toxicogenomics," "molecular biology," and relevant terminologies, filter results by relevance and publication date.

Scholars will analyse the selected (minimum 3 articles) publications and critically analyse the drug and plausible relation with toxicity predictions

Discuss the findings and evaluate how well the studies explain the impact on health and safety.

Summarize key insights from the scientific papers analyzed.

Discuss any challenges faced in using scientific databases and evaluating published works.

Scholars can present the findings incorporating the view of Agadatantra before the department.

OR

Scholars will be encouraged to attend workshops or symposiums focused on toxicogenomics in drug safety. These events will provide valuable opportunities for hands-on learning and networking with experts in the field. Participation will deepen their understanding of toxicogenomics' role in evaluating drug safety.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. The assessment will be for 25 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C. 1. Long answer questions or short answer questions - 25 Marks or 2. Structured Viva voce - 25 Marks or	2

Any practical in converted form can be taken for assessment. (25 Marks)

or

Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)

Module 31 : Survey and study of the traditional and folklore Vishachikitsa Sampradaya

Module Learning Objectives

(At the end of the module, the students should be able to)

1. Describe the fundamental principles of practices related to vishachikitsa used by traditional and tribal healers from various regions of India.
2. Explain the principles of Vishachikitsa from traditional and tribal literatures.
3. Enlist the herbs and minerals used in traditional and folklore Vishachikitsa.

M 31 Unit 1 Survey and study of the traditional and folklore Vishachikitsa Sampradaya

- Survey study of or field visit to the centers of Traditional Vishachikitsa Sampradaya and Tribal practices of Vishachikitsa.
- Literature search and survey of folklore Vishachikitsa methods in various regions of India
 - Kerala - (Visha Vaidyam)
 - Tamil Nadu - Siddha Tradition
 - West Bengal and Odisha - Baul and Naga Sadhu Traditions

References: 234,235,236,237

3A	3B	3C	3D	3E	3F	3G
CO1,CO9	Discuss the traditional, folklore and tribal practices of Vishachikitsa along with their clinical, academic and research scope.	2	Lecture	CK	Knows-how	L&PPT , L_VC,L&GD,L
CO1	Describe ethnopharmacology and its scope in traditional/tribal vishachikitsa practices.	2	Lecture	CK	Knows-	L&GD,L,

					how	L&PPT
CO1,CO9	Discuss the role of community education and engagement in preserving traditional, folklore, and tribal practices of visha chikitsa and strategies for advocating traditional practices within the community.	1	Lecture	CK	Knows-how	L&GD,L, L&PPT
CO1	Document and analyze traditional, folklore and tribal practices of Vishachikitsa from various regions of India.	10	Practical Training 31.1	PSY-MEC	Does	C_L,TBL, FV,SDL
CO1	Reflect on the scientific validation of traditional, folklore and tribal practices in Vishachikitsa	8	Experiential-Learning 31.1	AFT-VAL	Does	PAL,FV, SDL,TP W,C_L
CO1,CO9	Construct a report on scientific bases for traditional, folklore and tribal practices of visha chikitsa using published data.	5	Experiential-Learning 31.2	CS	Does	TPW,PE R,SDL,JC

Practical Training Activity

Practical Training 31.1 : Survey or field visit to Document and analyse traditional, folklore and tribal practices of Vishachikitsa from various regions of India.

Step 1: The department should identify traditional, Folklore and Tribal practitioners of Vishachikitsa.

Step 2: Then the faculty or department should communicate with the identified practitioners and explain them about the survey or documentation and get their permission for the visit.

Step 3: The scholars should prepare a set of interview questions for interacting with the agreed practitioners and the faculty should verify the questionnaire and make necessary corrections if needed.

Step 4: The scholars should visit the practitioner and document their responses about their practices of Vishachikitsa, medicinal plants used, any specific preparation techniques and whichever are relevant to the context (the scholar should do the documentation ethically and do not document or collect anything without the consent of the practitioner).

Step 5: Additionally, the scholars can observe the environment where these practices occur, so as to understand geological aspects of snake bites, insect bites & stings and other information related to the specific incidences.

Step 6: The scholars can with the permission / consent of the practitioner, collect visual documentation (photos, sketches), and, if possible, gather herb samples in line with ethical guidelines.

Step 7: Finally the scholar should systematically document and present their observations and collected data, in the department.

Note: If the department or the scholars plan to publish article based on the collected data, it is mandatory to take consent of the practitioner from whom the data is collected.

Experiential learning Activity

Experiential-Learning 31.1 : Scientific insights into the traditional, folklore and tribal practices in Visha Chikitsa through group discussions and peer-based learning. .

Step 1: The scholars should gather and compile all the findings of their survey or visit to traditional, folklore and tribal practitioners of visha chikitsa.

Step 2: Divide the data equally among the scholars (data can be given individually or group of scholars as teams) and ask them to collect classical and contemporary evidences about the practices and medicines that are allotted to them.

Step 3: Then the department should arrange group discussion and in that each Scholar or group or team should participate and present their views based on classical and contemporary references about the practices and medicines allotted to them.

Step 4: During the discussion the faculty should encourage positive debates and give his or her feedback and other relevant insights.

Experiential-Learning 31.2 : Preparation of report on scientific bases for traditional, folklore and tribal practices of visha chikitsa using published data.

Step 1: Scholars should explore Scientific medical databases (e.g., PubMed, Scopus, AYUSH Research Portal) to identify published works on traditional, folklore and tribal practices of Vishachikitsa.

Step 2: Scholars should select at least FIVE relevant articles on on traditional, folklore and tribal practices of Vishachikitsa.

Step 3: Each scholar should critically review the selected article(s), evaluating method of data collection, practices and medicines documented and interpretations based on Ayurvedic and contemporary principles.

Step 4: Scholars should try to compare and correlate the practices and medicines that are documented by them during their survey or visit and with the published data and evaluate based on Ayurvedic and contemporary principles.

Step 5: Finally, scholars should present their analysis and conclusions in the department and faculty should give his or her insights on the same.

Modular Assessment

Assessment method

Conduct a structured modular assessment. The assessment will be for 25 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C.

1. Short answer questions - 25 Marks

Hour

2

or
 2. Critical reading of papers - 25 Marks
 or
 Any practical in converted form can be taken for assessment. (25 Marks)
 or
 Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)

Module 32 : Vishopyogeeyam – Therapeutic use of poisons

Module Learning Objectives

(At the end of the module, the students should be able to)

1. Describe the classical references of the therapeutic uses of Visha
2. Differentiate the appropriate therapeutic use of Visha and its contraindications.
3. Summarize the therapeutic application of Visha in treating various disease conditions.

M 32 Unit 1 Vishopyogeeyam – Therapeutic use of Visha

- Classical references of the therapeutic use of visha
- Current research on therapeutic applications of various poisons and venoms.

References: 130,238

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3 ,CO8	Describe the therapeutic application of different formulations containing visha mentioned in Bruhatrayee.	3	Lecture	CAN	Knows-how	L&GD,L &PPT ,L
CO1,CO2,CO3	Discuss the therapeutic application of different formulations containing visha described	3	Lecture	CAN	Knows-	L,PER,L

,CO8,CO9	in different texts of Ayurveda other than Bruhatrayee.				how	&GD,L&PPT
CO1,CO2,CO3,CO8	Appraise the significance of addition of visha in various therapeutic formulations.	1	Lecture	CE	Knows-how	PER,L&GD,L&PPT,L_VC,L
CO1,CO2,CO3,CO8	Describe the appropriate therapeutic dosage of Visha, its indications, contraindications & pathya-apathya to be followed while administering visha as medicine.	1	Lecture	CAN	Knows-how	L,L&PPT,L_VC,L&GD
CO1,CO2,CO3,CO8	Discuss the rationality of medical use of visha based on contemporary science and recent research updates.	1	Lecture	CAP	Knows-how	L&GD,L&PPT,L_VC,L,PER
CO1,CO2,CO3,CO8	Understand ethical and legal considerations along with Ayurvedic and contemporary guidelines, for safe use of visha in formulations.	1	Lecture	CK	Knows-how	L_VC,PER,L&GD,L&PPT
CO1,CO2,CO8	Explore the scientific advances in venom related research.	10	Practical Training 32.1	CAN	Knows-how	FV
CO1,CO2,CO3,CO8	Compile formulations containing visha as an ingredient from various Ayurvedic texts.	10	Practical Training 32.2	CE	Knows-how	PrBL
CO1,CO2,CO8,CO9	Explore recent advances and updates on therapeutic applications of visha	10	Experiential-Learning 32.1	PSY-MEC	Does	JC,DIS,TBL
CO1,CO2,CO3,CO8,CO9	Illustrate recent updates and advances on venom as a therapeutic agent.	8	Experiential-Learning 32.2	CAN	Knows-how	DIS,TBL

CO1,CO2,CO3,CO8	Evaluate Visha and visha-based medicines for their therapeutic safety and efficacy.	8	Experiential-Learning 32.3	PSY-MEC	Does	RLE,CBL
Practical Training Activity						
Practical Training 32.1 : Visit to venom research centers for practical insights into the use of venoms in Ayurveda and modern medicine.						
The scholars shall visit to venom research centers • To observe the process of venom extraction and its safe handling. • To understand venom analysis and bioassay testing. • Interact with scientists in the center and gain first-hand insights into venom research and its medical applications.						
Practical Training 32.2 : Comprehensive compilation of formulations containing visha from various Ayurvedic texts.						
Step 1: The scholars should go through various Ayurvedic texts and compile formulations containing visha as an ingredient along with their therapeutic indications, contraindications, precautions, dose and reference. Step 2: Then they should categorise the formulations based on type of formulation used (Herbal, mineral, or Herbo-mineral) Step 3: Then the scholars should try to find the purpose of visha in that formulation by assessing its quantity, indications and other ingredients. (like whether it is used as Yogavahi or Vishaghna or Rasayana or Pramathi) Step 4: The Scholars should make presentation in the department and the faculty should give feedback on the same.						
Experiential learning Activity						
Experiential-Learning 32.1 : Recent advances and updates on therapeutic applications of visha						
Step 1: Scholars should explore Scientific medical databases (e.g., PubMed, Scopus, AYUSH Research Portal) to identify published works on safety and efficacy of Sthavara visha (vegetable and mineral) as single drug or a multidrug formulations containing visha. Step 2: Scholars should select at least FIVE relevant articles on safety and efficacy of Sthavara visha (vegetable and mineral) as single drug or a multidrug formulations containing visha. Step 3: Each scholar should critically review the selected article(s), evaluating methods used, disease conditions and parameters studied.						

Step 4: Scholars should try to compare and correlate the findings with Ayurvedic principles and understand the rationality of use, parameters to be evaluate while administering such drugs and precautions to be taken.

Step 5: Finally, scholars should present their analysis and conclusions in the department and faculty should give his or her feedback on the same.

Experiential-Learning 32.2 : Review of recents updates and advances on venom as a therapeutic agent.

Step 1: Scholars should explore Scientific medical databases (e.g., PubMed, Scopus, AYUSH Research Portal) to identify published works on therapeutic utilisation of venom in various conditions (in vivo, in vitro and in silico studies).

Step 2: Scholars should select minimum THREE relevant articles on therapeutic utilisation of venom focusing on their safety and efficacy. (The scholar can find articles related to use of venom as medicines in pain management, cancer care, anti-inflammatory etc.)

Step 3: Each scholar should critically evaluate the selected article(s) to understand the rationality of use of venom as medicine.

Step 4: Scholars should try to compare and correlate the findings with Ayurvedic indications of venom and try to understand the mode of action based on Visha guna and gunanusara karma.

Step 5: Finally, scholars should present their analysis and conclusions in the department and faculty should give his or her feedback on the same.

Experiential-Learning 32.3 : Clinical apprenticeship on use of visha and visha containing formulations.

Step 1: The scholars should be posted in Agadatantra OPD or in any other relevant OPD or clinic or hospital where Visha and Visha containing formulations are used in treating diseases.

Step 2: The scholars should interact with the consultants and document the therapeutic utilisation of Visha and Visha containing formulations.

Step 3: The scholars should understand and document pathya apthya, precautions and any other relevant advices that consultant gives to patients after prescibing such formualtions.

Step 4: In follow up patients note any significant negative outcome (if any), probable reason for that and what the consultant prescribes for that. (this will help to overcome such things in future practices)

Step 5: The scholars should inculcate the learnings to safely practice such medicines in future.

Modular Assessment

Assessment method

Conduct a structured modular assessment. The assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per Table 6C.

1. Long answer questions or short answer questions - 25 Marks

2. Case based assessments - 25 Marks

Hour

4

Or
Any practical in converted form can be taken for assessment. (25 Marks)
and
Any experiential as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)

Table 4 : Practical Training Activity

(*Refer table 3 of similar activity number)		
Practical No*	Practical name	Hours
1.1	Demonstration of visha component in sthavara visha (Vegetable poisons).	10
1.2	Clinical demonstration or discussion of case reports of khanija visha	10
1.3	Screening of Toxic phytochemicals in newer sthavara visha (Vegetable poisons)	10
2.1	Demonstration of snakes at regional snake parks	5
2.2	Demonstration of cases or discussion on case reports	5
2.3	Demonstration of laboratorial and clinical examination of snake bite patient.	10
3.1	Identification of Vruschika (Scorpions)	3
3.2	Demonstrate Vruschika visha signs and symptoms	7
3.3	Identification of different types of Luta (Spiders)	4
3.4	Demonstration of Spider envenomation.	6

4.1	Demonstration of diagnosis of Mushika visha with clinical and laboratory investigations.	5
4.2	Demonstration of diagnosis of Alarka visha with clinical and laboratory investigations.	5
4.3	Visit to Entomology/zoology department.	5
4.4	Demonstration of diagnosis and utilization of specific chaturvimsathi upkrama in keeta visha chikitsa.	5
5.1	Demonstration of Diagnosis of Chikungunya, Dengue, Filariasis, Monkey pox and Malaria	6
5.2	Interpretation of laboratory findings	4
5.3	Dundubiswaniya principles in Indian cultural and religious practices	5
5.4	Explore scientific works on indigenous methods of prevention of epidemics and pandemics.	5
6.1	Examination of Alcohol sign and symptoms / Drunkenness	10
6.2	Demonstration of substance abuse	10
7.1	Impact of Eco-toxicants and environmental pollution on Ecosystem.	5
7.2	Assessment of Soil for pesticide and fertilizer residues	8
7.3	Assessment of Vegetables and grains for pesticide and fertilizer residues.	7
8.1	Review of scientific works published on complications due to bites and stings	5
8.2	Review of scientific works published on complications due to oral poisoning.	5
9.1	Case based learning of Gara Visha	5
9.2	Case based learning of drug interactions	5
10.1	Case based learning of Dooshi Visha	5
10.2	Case based learning of Dooshi Visha	5
11.1	Enlist the biomarkers to be observed for the diseases due to EDCs	3

11.2	To prepare the diagnostic criteria and treatment protocol for understanding the EDCs	3
11.3	Manifestations of disorders due to agents that lead to Autoimmune disorders Garbhopaghata (Reproductive toxicity) and Neurotoxicity	5
11.4	Enlist the biomarkers to be observed for the agents that lead to Autoimmune disorders	3
11.5	Assess the biomarkers to be observed for the agents that lead to Garbhopaghata (Reproductive toxicity) and Garbhopaghatakara bhavas (Agents that cause mutations, genotoxicity)	3
11.6	Enlist the biomarkers to be observed for the agents that lead to Neurotoxicity	3
12.1	case study Laboratory postings	10
12.2	Study of chemicals like bisphenol A and valporic acid and their crucial epigenetic effects Explore how epigenetic toxicity can be incorporated into toxicity tests to assess the safety of chemicals Explore the potential of reversing the epigenetic changes through treatment strategies based on the epigenetic mechanisms	10
13.1	Demonstration of Garavishajanya Twak Vikaara or discussion on case reports	10
13.2	Case demonstrations or discussions on case reports related to Dooshivishajanya Twak Vikara	10
13.3	Case demonstrations or discussions on case reports related to Sthavra and Jangama vishajanya Twak Vikara	10
14.1	Demonstration of management of drug induced Hepatotoxicity	4
14.2	Demonstration of management of drug induced cardiotoxicity	4
14.3	Demonstration of management of drug induced nephrotoxicity	4
14.4	Demonstration of management of drug induced haemotoxicity	4
14.5	Demonstration of management of drug induced gastro intestinal toxicity	4
15.1	Experimental Detection of Adulterants in Powdered Spices and Asafoetida	6
15.2	Identify Adulteration in Vishaghna Gana Dravyas	10
15.3	Experimental Detection of Adulterants in Milk and Sugar	7
15.4	Identify Adulteration in Ekasara Gana Dravyas	7

16.1	Demonstrating the Link Between Toxicant Exposure and Cancer	5
16.2	Approach to Assessing Quality of Life and Applying Agada Yoga in Cancer Care to improve the quality of life	8
16.3	Agadatantra-Based Management of Radiation and Chemotherapy Toxicities	7
17.1	Enact court procedure, summons, and doctor as an expert witness.	6
17.2	Demonstrate the procedure of preparation of medicolegal report	4
17.3	Demonstrate the process of consent, medicolegal documentation and legal reporting.	10
18.1	Application of important sections of BNS, BNSS, BSA in medical practice	10
18.2	Application of Acts related to medical practice	10
19.1	Diagnose the death with medical and medicolegal perspective	6
19.2	Estimate time since death with postmortem findings	6
19.3	Identify signs of poisoning	6
19.4	Postmortem Examination in Deaths Caused by Heat, Cold, Lightning, and Electricity	6
19.5	Postmortem Examination in Asphyxial Deaths.	6
20.1	Collection and Preservation of Viscera, Tissues, and Biological Fluids	5
20.2	Demonstration of Medico-Legal Autopsy Procedure	5
21.1	Demonstration of preparing mechanical injury report.	5
21.2	Examination of common weapons	5
21.3	Preparation of Thermal and Electrical injury report.	5
21.4	Preparation of Firearm injury report	5
22.1	Prepare medicolegal reports of sexual offences	10

22.2	Prepare medicolegal reports in cases of Pregnancy, Delivery, Sterilization and Impotence	5
22.3	Duties of a doctor in cases related with surrogacy and artificial insemination	3
22.4	Prepare medicolegal report on Abortion certificate	2
23.1	Discussion on published articles on disorder of sex development	5
23.2	Identify sex by laboratory examination.	5
23.3	Estimation of age by General and dental examination	5
23.4	Estimation of Age by Skeletal / Bone examination	5
23.5	Application of Dermatoglyphic, Forensic odontology in Personal Identification.	5
23.6	Illustrate application of Cheiloscopy, Poroscopy, Rugoscopy and DNA Profiling in personal identification.	5
24.1	Participation in Symposium / Workshop on Medical negligence	5
24.2	Discussion on Published verdicts in case of Law related to medical negligence.	5
25.1	Hands-on training for preparation of Agadas and Vishaghna Yogas –(minimum 10)	10
25.2	Assessment of physicochemical properties of prepared Agada	10
25.3	Assessment of Physicochemical properties of prepared Agadas (Ash value, Extractive values, Mineral component)	10
26.1	Group Discussion and Presentation on Pharmacodynamics of Agada and Vishaghna Yoga	10
26.2	Role Play Based Learning of Pharmacodynamics of Agada and Vishaghna Yogas	10
27.1	Hands-on training or Video demonstration or Laboratory Visit for TLC, HPTLC Sample preparation and analysis.	3
27.2	Laboratory Visit/ Video demonstration to understand the functioning of gas chromatography (GC)/ HPLC	3
27.3	Laboratory Visit/ Video demonstration for understanding the functioning of - X-ray diffraction (XRD) Atomic Absorption Spectrophotometry (AAS).	2
27.4	Laboratory Visit/ Video demonstration for understanding the functioning of - Electrophoresis Dynamic light scattering (DLS) Flame photometry	2

27.5	Color Tests for detection of Visha	5
27.6	Perform precipitation tests for Heavy metals	5
27.7	Standard Extraction Methods for Poison Detection from Biological Samples.	5
27.8	Acquaintance to Enzyme-Linked Immunosorbent Assay (ELISA) for poison/venom and Drug screening	5
28.1	Demonstration of the functioning of Ayushsuraksha portal	3
28.2	Reporting of Suspected / Reported Adverse Drug Events due to Ayurvedic Formulations: 5 Cases	5
28.3	Preparation of a Report on Misleading Advertisements: 3 Cases	2
29.1	Familiarization with the OECD guidelines by exploring the OECD portal	2
29.2	Familiarization with the CCSEA guidelines through exploration of the CCSEA portal	2
29.3	Demonstration by an Expert on Animal Handling and Care under CCSEA Guidelines, or a Video Demonstration on Animal Handling and Care according to CCSEA Guidelines (Field Visit- Animal House or Video Demonstration by an Expert)	4
29.4	Learn methods of CCSEA-Compliant Euthanasia and necropsy examination (by Field Visit- Animal House or Video Demonstration by an Expert)	2
29.5	Designing a Research protocol for an In vivo study to evaluate the efficacy of Agada, Vishaghna yoga or Vishadravya formulations in promoting health and well-being (5 Research Protocols)	10
29.6	Designing a Research protocol for an In-silico study in the context of Agada Tantra research (1 Research Protocol)	2
29.7	Designing a Research protocol for an In vitro study to evaluate the efficacy of Agada, Vishaghna yoga or Vishadravya formulations (4 Research Protocols)	8
30.1	Laboratory Techniques in Toxicogenomics	4
30.2	Gene Expression Profiling	4
30.3	Utilization of videos demonstrating Bioinformatics and Data Analysis.	2
31.1	Survey or field visit to Document and analyse traditional, folklore and tribal practices of Vishachikitsa from various regions of India.	10

32.1	Visit to venom research centers for practical insights into the use of venoms in Ayurveda and modern medicine.	10
32.2	Comprehensive compilation of formulations containing visha from various Ayurvedic texts.	10

Table 5 : Experiential learning Activity

(*Refer table 3 of similar activity number)		
Experiential learning No*	Experiential name	Hours
1.1	Collection of regionally available sthavara visha and creating a database.	8
1.2	General treatments of sthavara visha	7
1.3	Discuss and demonstrate general treatments of sthavara visha	8
1.4	Collection of regionally available khanija visha and creating a database.	8
1.5	Preparation of formulations containing upavisha.	8
2.1	Apprenticeship at an ayurveda snake bite management center	8
2.2	Apprenticeship at an ayurveda snake bite management center.	8
2.3	Apprenticeship at a conventional snake bite management center	10
3.1	Apprenticeship in clinical set up	10
3.2	Apprenticeship in contemporary clinical set up.	3
3.3	Apprenticeship in clinical set up	10
3.4	Apprenticeship in contemporary clinical set up.	3
4.1	Clinical apprenticeship in managing Mushika visha	8
4.2	Visit to Institutes related to Virology or Rabies management centers.	8
4.3	Clinical apprenticeship in the management of Keeta visha.	10
5.1	Clinical apprenticeship on Vector borne diseases.	10
5.2	Utilization of Dundubiswaniya practices in institutional events.	8

5.3	Clinical apprenticeship fin community medicine clinics.	8
6.1	Apprenticeship for Treatment of Madatyaya and various stages of Mada in clinical set up	10
6.2	Diagnosis of Addiction	7
6.3	Apprenticeship for learning Ayurvedic Principles of De-addiction in clinical set up	9
7.1	Identifying eco-toxicants in surroundings through survey or appropriate methods.	10
7.2	Assessment of Government programs to prevent environmental pollution.	5
7.3	Impact of biomagnification on health.	6
7.4	Identifying common chemicals of biomagnification in day-to-day life	5
8.1	Apprenticeship in clinical set up to learn diagnosis, prognosis and management approaches to complications due to bites and stings.	8
8.2	Apprenticeship in clinical set up to learn diagnosis, prognosis and management approaches to complications due to poisoning.	5
9.1	Assessment of Gara Visha in a patient	2
9.2	In house survey of OPD and IPD patients for Gara Visha	4
9.3	Awareness program on the ill effects of the exposure to Gara Visha in day-to-day life by outreach activity	5
9.4	Recent advancements in the researches	2
10.1	Outreach activity	2
10.2	Problem based learning on Dooshi Visha	2
10.3	Journal Club	2
10.4	Outreach activity	7
11.1	Journal club	6

11.2	Audio visual presentations	8
11.3	Problem based learning	6
11.4	Learning recent updates and advancements	6
12.1	Visit to the industries, factories or mines nearby to learn the ill effects caused by the work environment Visit to the residential areas situated near to the industries, factories or mines to understand the diseases prevalent in those places Find an appropriate solution to the prevailing conditions	10
12.2	Outreach activity	10
12.3	Outreach activity	6
13.1	Assessment of Gara Visha in a patient of Twak Vikara	3
13.2	Clinical exposure through IPD postings, simulations, or role-plays to diagnose Gara vishajanya twak vikara and develop treatment plans.	4
13.3	Clinical exposure in dermatology hospitals, simulations, or role-plays to diagnose contact dermatitis and formulate appropriate treatment plans.	7
13.4	Clinical exposure in dermatology hospitals, simulations, or role-plays to diagnose drug induced hypersensitivity reactions and formulate appropriate treatment plans.	10
13.5	Assessment of Dooshi Visha in a patient of Twak vikara	3
13.6	Clinical exposure through IPD postings, simulations, or role-plays to diagnose Dooshivishajanya Twak Vikara and develop treatment plans.	4
13.7	Clinical exposure through IPD postings, simulations, or role-plays to diagnose Jangamavishajanya Twak Vikara and develop treatment plans	4
13.8	Clinical exposure through IPD postings, simulations, or role-plays to diagnose Sthavaravishajanya Twak Vikara and develop treatment plans.	4
14.1	Application of Agadatantra principles in the diagnosis and treatment of drug-induced nephrotoxicity	5
14.2	Diagnosis and management of drug-induced hepatotoxicity through the application of Agadatantra principles	5
14.3	Application of Agadatantra principles in the diagnosis and treatment of drug-induced hemotoxicity	5
14.4	Diagnosis and management of drug-induced cardiotoxicity through the application of Agadatantra principles	5

14.5	Application of Agadatantra principles in the diagnosis and treatment of drug-induced gastrointestinal toxicity.	6
15.1	Assessment of exposure to Viruddha Ahara in subjects using a semi-structured questionnaire.	10
15.2	Educate the society regarding health impacts of viruddha Ahara	10
15.3	Clinical exposure in Ayurvedic centers,modern hospitals,simulations,or role-playing scenarios to diagnose Vishakta Ahara and develop suitable treatment plans	10
15.4	Analysis of Food Adulteration and Poisoning with Agadatantra-Based Approach	9
16.1	Application of Agadatantra Principles in the Assessment and Intervention of Cancer Care	10
16.2	Identifying and Managing Carcinogenic Toxicant Exposure Using Agadatantra Principles	6
16.3	Hands-On Training for Agadatantra-Based Management of Cancer Therapy-Induced Toxicities	10
17.1	Doctor as an expert witness in a court.	6
17.2	Recording evidence and dying declaration	8
17.3	Present complex medical cases in legal contexts	6
17.4	Importance of maintaining and handling medical records.	6
18.1	Simulation Workshop Court posting visit	10
18.2	Practical knowledge of Nursing Home Act, Human Organ Transplantation Act and Drug and Cosmetic Act related with practice of medicine	8
18.3	Practical knowledge of Drugs and Psychotropic Substances Act,Consumer protection Act, Indemnity Insurance Scheme and Biomedical Waste Management Rules	8
19.1	Determining Modes and Types of Death	8
19.2	Medico-Legal Analysis of Death in a Case Scenario.	8
19.3	Visit to a Forensic Laboratory and Courtroom for Poisoning Cases.	8

19.4	Field Visit to a Forensic Department and Electricity Substation	7
19.5	Visit to a Forensic Department and Crime Scene	8
20.1	Hands-on Forensic Case Analysis of a Medico-Legal Autopsy.	7
20.2	Crime Scene Investigation and Evidence Collection.	6
21.1	Examination of Mechanical injury due to blunt forces	6
21.2	Examination of Mechanical injury due to sharp forces	7
21.3	Identification of Thermal and Electrical injury	6
21.4	Identification of Firearm injury	7
22.1	Medicolegal aspects of sexual offences	6
22.2	Duties of a doctor in cases related with POCSO and Sexual harassment of women at workplace Act	7
22.3	Medicolegal examination in pregnancy, delivery and infanticide	7
22.4	Medicolegal aspects of criminal abortion	6
23.1	Demonstration of sex determination with Bones	6
23.2	Analyse and discuss Radiological examination for sex determination	7
23.3	Age estimation by Imaging techniques in Intrauterine life.	5
23.4	Age estimation by Radiological examination in Infants and Adults	8
23.5	Develop practical skills to understand Dermatoglyphic, Forensic odontology for personal identification.	6
23.6	Develop practical skills to understand Cheiloscopy, Poroscopy, Rugoscopy and DNA Profiling for personal identification.	7
24.1	Perform Simulated scenario/ Role play to illustrate common scenarios related with medical negligence	5
24.2	Perform Simulated scenario/ Role play to illustrate precautionary measures to prevent medical negligence.	8

25.1	Critical evaluation of published works on analytical profile of Agada and Vishghna yoga	9
25.2	Survey on the availability of ingredients for various Agadas and Vishaghna Yogas and the market availability of prepared Agada yogas.	10
25.3	Therapeutic utility of Agada through the Knowledge exchange program	10
25.4	Process of large scale manufacturing of Agada and vishaghna yogas in Pharmacies.	10
26.1	Evaluation of Clinical efficacy of Agadas and Vishaghna Yoga in the management of Sthavara, Jangama, and Kritrima visha (10- OPD/ IPD case)	10
26.2	Evaluation of Clinical efficacy of Agadas and Vishaghna Yoga in the management of other disease conditions (10- OPD/ IPD case)	10
26.3	Understanding of Classical and Contemporary Pharmacodynamics of Agada and Vishaghna yoga through published Research work	6
27.1	Analysis of a toxicology report and articles published in Journals.	4
27.2	Workshops and symposium on Analytical toxicology	5
27.3	Conduct a short Project to Investigate Poison based on principles of analytical toxicology	4
27.4	Critical analysis of Chemical tests applied in investigating suspected poisonings.	6
27.5	Perform Chemical tests (precipitation tests) on simulated poisoning samples.	5
27.6	Methods for the examination of Poison: Workshops, Symposiums	6
27.7	Conduct Visit to institutions/ laboratories/ workshops to get skilled in analytical methods.	9
28.1	Visit to the National / Regional / Peripheral Pharmacovigilance Centres to understand the structure and functions of the Pharmacovigilance Centre for ASU drugs	5
28.2	Critical Analysis of the published ADR reports and published Research works on Toxicovigilance.	5
28.3	Field visit or Self-directed Learning to understand the Structure and functions of the National Poison Information Centre in India	3
29.1	Evaluation of compliance with OECD and CCSEA guidelines in ASU drug research publications	5

29.2	Preparation of one research protocol each for acute, subacute, sub-chronic, and chronic toxicity studies	8
29.3	Group Activity- Discussion on the comparison of the concept of Dooshivisha with chronic, cumulative, and residual toxicity, using examples from the literature and case studies	6
29.4	Journal club: Research published on Preclinical studies (In vivo, In vitro, In silico studies) in the context of Agada Tantra Research	10
29.5	Participation in Symposium/ Workshop on Preclinical Study Model (In vivo, In-vitro, In silico study model)	10
30.1	Journal club on Toxicogenomics in Environmental Health	8
30.2	Journal Club and Workshop/ Symposium on Toxicogenomics for Drug Safety.	5
31.1	Scientific insights into the traditional, folklore and tribal practices in Visha Chikitsa through group discussions and peer-based learning. .	8
31.2	Preparation of report on scientific bases for traditional, folklore and tribal practices of visha chikitsa using published data.	5
32.1	Recent advances and updates on therapeutic applications of visha	10
32.2	Review of recent updates and advances on venom as a therapeutic agent.	8
32.3	Clinical apprenticeship on use of visha and visha containing formulations.	8

Table 6 : Assessment Summary: Assessment is subdivided in A to H points**6 A : Number of Papers and Marks Distribution**

Subject Code	Paper	Theory	Practical	Total
AYPG-AT	4	100 x 4 Papers = 400	400	800

6 B : Scheme of Assessment (Formative and Summative Assessment)**Credit frame work**

AYPG-AT consists of 32 modules totaling 64 credits, which correspond to 1920 Notional Learning Hours. Each credit comprises 30 Hours of learner engagement, distributed across teaching, practical, and experiential learning in the ratio of 1:2:3. Accordingly, one credit includes 5 hours of teaching, 10 hours of practical training, 13 hours of experiential learning, and 2 hours allocated for modular assessment, which carries 25 marks.

Formative Assessment :Module wise Assessment:will be done at the end of each module. Evaluation includes learners active participation to get Credits and Marks. Each Module may contain one or more credits.

Summative Assessment:Summative Assessment (University examination) will be carried out at the end of Semester VI.

6 C : Semester 2 Calculation Method for Modular Grade Points (MGP)

Module Number & Name (a)	Credits (b)	Actual No. of Notional Learning Hours (c)	Attended Number of notional Learning hours (d)	Maximum Marks of assessment of modules (e)	Obtained Marks per module (f)	MGP =d* f/c*e*100
Semester No : 3						
Paper No : 1 (Visha chikitsa Vigyan – Sthavara jangama visha vinyasam)						
M1 Study of Sthavara Visha	3	90		75		
M2 Study of Sarpa Visha	2	60		50		
Paper No : 2 (Visha chikitsa Vigyan – Gara-Dooshi visha vinyasam)						
M9 Study on Gara visha	1	30		25		
M10 Study on Dooshi Visha	1	30		25		
Paper No : 3 (Bharatiya Nyaya Vaidyak Shastra)						
M17 Legal Procedure	2	60		50		
M18 Legal aspects of Medical practice	2	60		50		
Paper No : 4 (Prayogika Agadatantra)						
M25 Study of Agada and Vishaghna Yoga	3	90		75		

M26 Pharmacodynamics of Agada and Vishaghna Yoga	2	60		50		
	16	480		400		
Semester No : 4						
Paper No : 1 (Visha chikitsa Vigyan – Sthavara jangama visha vigyaneeeyam)						
M3 Study of Vruschika and Luta Visha	2	60		50		
M4 Study of Alarka, Mushaka and Keeta Visha	2	60		50		
Paper No : 2 (Visha chikitsa Vigyan – Gara-Dooshi visha vigyaneeeyam)						
M11 Applied aspects of Garavisha and Dooshi Visha	2	60		50		
M12 Occupational diseases and Epigenetic Toxicity	2	60		50		
Paper No : 3 (Bharatiya Nyaya Vaidyak Shastra)						
M19 Thanatology	3	90		75		
M20 Medico-legal Autopsy	1	30		25		
Paper No : 4 (Prayogika Agadatantra)						
M27 Analytical Study of Visha and Vishaghna Yoga.	3	90		75		
M28 Pharmacovigilance and Toxicovigilance	1	30		25		
	16	480		400		
Semester No : 5						
Paper No : 1 (Visha chikitsa Vigyan – Sthavara jangama visha vigyaneeeyam)						
M5 Agadatantra Approach to Janpadadwasaniya Vikara	2	60		50		
M6 Substance and Alcohol Abuse	2	60		50		
Paper No : 2 (Visha chikitsa Vigyan – Gara-Dooshi visha vigyaneeeyam)						
M13 Twak Vikara (Dermatological manifestations) due to Visha exposure	3	90		75		
M14 Agadatantra approach to Drug induced toxicity	2	60		50		
Paper No : 3 (Bharatiya Nyaya Vaidyak Shastra)						
M21 Injury and its Medico-legal importance	2	60		50		
M22 Sexual offences, pregnancy, delivery and their Medico-legal aspects	2	60		50		

Paper No : 4 (Prayogika Agadatantra)						
M29 Experimental Toxicology	3	90		75		
	16	480		400		
Semester No : 6						
Paper No : 1 (Visha chikitsa Vigyan – Sthavara jangama visha vigyaneeyam)						
M7 Ecotoxicology and Biomagnification	2	60		50		
M8 Visha Upadrava	1	30		25		
Paper No : 2 (Visha chikitsa Vigyan – Gara-Dooshi visha vigyaneeyam)						
M15 Virudha Ahara	3	90		75		
M16 Agadatantra perspective of Cancer	2	60		50		
Paper No : 3 (Bharatiya Nyaya Vaidyak Shastra)						
M23 Personal Identity and its Medico-legal importance	3	90		75		
M24 Medical Negligence	1	30		25		
Paper No : 4 (Prayogika Agadatantra)						
M30 Toxicogenomics	1	30		25		
M31 Survey and study of the traditional and folklore Vishachikitsa Sampradaya	1	30		25		
M32 Vishopyogeeyam – Therapeutic use of poisons	2	60		50		
	16	480		400		
MGP = ((Number of Notional learning hours attended in a module) X (Marks obtained in the modular assessment) / (Total number of Notional learning hours in the module) X (Maximum marks of the module)) X 100						

6 D : Semester Evaluation Methods for Semester Grade point Average (SGPA)

SGPA will be calculated at the end of the semester as an average of all Module MGPs. Average of MGPs of the Semester For becoming eligible for Summative assessment of the semester, student should get minimum of 60% of SGPA

SGPA = Average of MGP of all modules of all papers = add all MGPs in the semester/ no. of modules in the semester
Evaluation Methods for Modular Assessment

Semester No : 3		
Paper No : 1 Visha chikitsa Vigyan – Sthavara jangama visha vityaneeyam		
A S.N o	B Module number and Name	C MGP
1	M1.Study of Sthavara Visha	C1
2	M2.Study of Sarpa Visha	C2
Paper No : 2 Visha chikitsa Vigyan – Gara-Dooshi visha vityaneeyam		
A S.N o	B Module number and Name	C MGP
3	M9.Study on Gara visha	C3
4	M10.Study on Dooshi Visha	C4
Paper No : 3 Bharatiya Nyaya Vaidyak Shastra		
A S.N o	B Module number and Name	C MGP
5	M17.Legal Procedure	C5
6	M18.Legal aspects of Medical practice	C6
Paper No : 4 Prayogika Agadatantra		
A S.N o	B Module number and Name	C MGP
7	M25.Study of Agada and Vishaghna Yoga	C7
8	M26.Pharmacodynamics of Agada and Vishaghna Yoga	C8
	Semester Grade point Average (SGPA)	(C1+C2+C3+C4+C5+C6+C7+C8) / Number of modules(8)
Semester No : 4		
Paper No : 1 Visha chikitsa Vigyan – Sthavara jangama visha vityaneeyam		
A	B	C

S.N o	Module number and Name	MGP
1	M3.Study of Vruschika and Luta Visha	C1
2	M4.Study of Alarka, Mushaka and Keeta Visha	C2
Paper No : 2 Visha chikitsa Vigyan – Gara-Dooshi visha vigyaneeyam		
A S.N o	B Module number and Name	C MGP
3	M11.Applied aspects of Garavisha and Dooshi Visha	C3
4	M12.Occupational diseases and Epigenetic Toxicity	C4
Paper No : 3 Bharatiya Nyaya Vaidyak Shastra		
A S.N o	B Module number and Name	C MGP
5	M19.Thanatology	C5
6	M20.Medico-legal Autopsy	C6
Paper No : 4 Prayogika Agadatantra		
A S.N o	B Module number and Name	C MGP
7	M27.Analytical Study of Visha and Vishaghna Yoga.	C7
8	M28.Pharmacovigilance and Toxicovigilance	C8
	Semester Grade point Average (SGPA)	(C1+C2+C3+C4+C5+C6+C7+C8) / Number of modules(8)
Semester No : 5		
Paper No : 1 Visha chikitsa Vigyan – Sthavara jangama visha vigyaneeyam		
A S.N o	B Module number and Name	C MGP
1	M5.Agadatantra Approach to Janpadadwasaniya Vikara	C1
2	M6.Substance and Alcohol Abuse	C2
Paper No : 2 Visha chikitsa Vigyan – Gara-Dooshi visha vigyaneeyam		
A S.N o	B Module number and Name	C MGP

3	M13.Twak Vikara (Dermatological manifestations) due to Visha exposure	C3
4	M14.Agadatantra approach to Drug induced toxicity	C4
Paper No : 3 Bharatiya Nyaya Vaidyak Shastra		
A S.No	B Module number and Name	C MGP
5	M21. Injury and its Medico-legal importance	C5
6	M22.Sexual offences, pregnancy, delivery and their Medico-legal aspects	C6
Paper No : 4 Prayogika Agadatantra		
A S.No	B Module number and Name	C MGP
7	M29.Experimental Toxicology	C7
	Semester Grade point Average (SGPA)	(C1+C2+C3+C4+C5+C6+C7) / Number of modules(7)
Semester No : 6		
Paper No : 1 Visha chikitsa Vigyan – Sthavara jangama visha vigyaneeyam		
A S.No	B Module number and Name	C MGP
1	M7.Ecotoxicology and Biomagnification	C1
2	M8.Visha Upadrava	C2
Paper No : 2 Visha chikitsa Vigyan – Gara-Dooshi visha vigyaneeyam		
A S.No	B Module number and Name	C MGP
3	M15.Virudha Ahara	C3
4	M16.Agadatantra perspective of Cancer	C4
Paper No : 3 Bharatiya Nyaya Vaidyak Shastra		
A S.No	B Module number and Name	C MGP
5	M23.Personal Identity and its Medico-legal importance	C5
6	M24.Medical Negligence	C6
Paper No : 4 Prayogika Agadatantra		

A S.No	B Module number and Name	C MGP
7	M30.Toxicogenomics	C7
8	M31.Survey and study of the traditional and folklore Vishachikitsa Sampradaya	C8
9	M32.Vishopyogeeyam – Therapeutic use of poisons	C9
	Semester Grade point Average (SGPA)	$(C1+C2+C3+C4+C5+C6+C7+C8+C9) / \text{Number of modules}(9)$

S. No	Evaluation Methods
1.	Method explained in the Assessment of the module or similar to the objectives of the module.

6 E : Question Paper Pattern

MD/MS Ayurveda Examination AYPG-AT Sem VI

Time: 3 Hours ,**Maximum Marks:** 100
INSTRUCTIONS: All questions compulsory

		Number of Questions	Marks per Question	Total Marks
Q 1	Application-based Questions (ABQ)	1	20	20
Q 2	Short answer questions (SAQ)	8	5	40
Q 3	Analytical based structured Long answer question (LAQ)	4	10	40
				100

6 F : Distribution for summative assessment (University examination)

S.No	List of Module/Unit	ABQ	SAQ	LAQ
Paper No : 1 (Visha chikitsa Vigyan – Sthavara jangama visha vigyaneeyam)				
(M-1)Study of Sthavara Visha (Marks: Range 5-20)				
1	(U-1) Study of Vanaspathi Visha	No	Yes	Yes
2	(U-2) Study of Dhatu visha	Yes	Yes	Yes
3	(U-3) Study of Vegetable poisons in contemporary era	Yes	Yes	Yes
4	(U-4) Study of Upavisha	Yes	No	Yes
(M-2)Study of Sarpa Visha (Marks: Range 5-15)				
1	(U-1) Study of Sarpa Visha	No	Yes	Yes
2	(U-2) Study of snakes in modern aspect	No	Yes	No
(M-3)Study of Vruschika and Luta Visha (Marks: Range 5-15)				
1	(U-1) Study of Vruschika Visha	Yes	Yes	Yes
2	(U-2) Study of Luta Visha	Yes	Yes	Yes
(M-4)Study of Alarka, Mushaka and Keeta Visha (Marks: Range 5-15)				
1	(U-1) Study of Alarka, Mushaka Visha	No	Yes	Yes
2	(U-2) Study of Keeta Visha	No	Yes	Yes
(M-5)Agadatantra Approach to Janpadadwasaniya Vikara (Marks: Range 5-15)				
1	(U-1) Agadatantra Approach to Vector borne diseases	No	Yes	Yes
2	(U-2) Utilization of Dundubiswaniya principles to Janpadadwamsaneeya vikara	No	Yes	Yes
(M-6)Substance and Alcohol Abuse (Marks: Range 5-15)				
1	(U-1) Madya Visha	Yes	Yes	Yes
2	(U-2) Substance Abuse	Yes	Yes	Yes
(M-7)Ecotoxicology and Biomagnification (Marks: Range 5-20)				
1	(U-1) Ecotoxicology	No	Yes	No
2	(U-2) Biomagnification & Bioconcentration	No	Yes	No
(M-8)Visha Upadrava (Marks: Range 5-20)				
1	(U-1) Visha Upadrava: Complications due to Visha	Yes	Yes	Yes
2	(U-2) Visha Upadrava	Yes	Yes	Yes

S.No	List of Module/Unit	ABQ	SAQ	LAQ
Paper No : 2 (Visha chikitsa Vigyan – Gara-Dooshi visha vigyaneeyam)				
(M-9)Study on Gara visha (Marks: Range 5-20)				
1	(U-1) Theoretical implications and clinical relevance of Gara visha	Yes	Yes	Yes
(M-10)Study on Dooshi Visha (Marks: Range 5-20)				
1	(U-1) Theoretical implications and clinical relevance of Dooshivisha	Yes	Yes	Yes
(M-11)Applied aspects of Garavisha and Dooshi Visha (Marks: Range 5-15)				
1	(U-1) Understanding toxin induced health impacts of Endocrine Disruptors (EDC)	No	Yes	Yes
2	(U-2) Understanding toxicants induced systemic Health impacts	No	Yes	Yes
(M-12)Occupational diseases and Epigenetic Toxicity (Marks: Range 5-15)				
1	(U-1) Occupational Disorders	No	Yes	Yes
2	(U-2) Epigenetics in Toxicity Perspectives	No	Yes	Yes
3	(U-3) Occupational Disorders	No	Yes	Yes
4	(U-4) Epigenetic Toxicity	No	Yes	Yes
(M-13)Twak Vikara (Dermatological manifestations) due to Visha exposure (Marks: Range 5-20)				
1	(U-1) Dermatological manifestations due to Garavisha	Yes	Yes	Yes
2	(U-2) Dermatological manifestations due to Dooshi Visha	Yes	Yes	Yes
3	(U-3) Dermatological manifestations in Bites and Stings	Yes	Yes	Yes
(M-14)Agadatantra approach to Drug induced toxicity (Marks: Range 5-20)				
1	(U-1) Agadatantra approach to Drug induced toxicity	Yes	Yes	Yes
(M-15)Virudha Ahara (Marks: Range 5-20)				
1	(U-1) Role of Virudha Ahara in disease manifestation	No	Yes	Yes
2	(U-2) Ahara Vishaktata	Yes	Yes	Yes
3	(U-3) Vishakta Ahara pareeksha	Yes	Yes	Yes
(M-16)Agadatantra perspective of Cancer (Marks: Range 5-15)				
1	(U-1) Agadatantra perspective of Cancer.	No	Yes	Yes

S.No	List of Module/Unit	ABQ	SAQ	LAQ
Paper No : 3 (Bharatiya Nyaya Vaidyak Shastra)				
(M-17)Legal Procedure (Marks: Range 5-20)				
1	(U-1) Courts and Legal procedures	No	Yes	Yes
2	(U-2) Documentation of medical legal cases (MLC)	Yes	Yes	Yes
(M-18)Legal aspects of Medical practice (Marks: Range 5-20)				
1	(U-1) Laws and rules in Indian legal system	No	Yes	Yes
2	(U-2) Acts related to Medical profession	No	Yes	Yes
(M-19)Thanatology (Marks: Range 5-20)				
1	(U-1) Death and its Medico-legal aspects	Yes	Yes	Yes
2	(U-2) Asphyxial death	Yes	Yes	Yes
(M-20)Medico-legal Autopsy (Marks: Range 5-15)				
1	(U-1) Autopsy and its procedure	No	Yes	Yes
(M-21) Injury and its Medico-legal importance (Marks: Range 5-20)				
1	(U-1) Mechanical Injury and its Medico-legal importance	Yes	Yes	Yes
2	(U-2) Thermal, firearm and electrical injury	Yes	Yes	Yes
(M-22)Sexual offences, pregnancy, delivery and their Medico-legal aspects (Marks: Range 5-20)				
1	(U-1) Sexual offences and their Medico-legal aspects	No	Yes	Yes
2	(U-2) Pregnancy, Delivery and their Medico-legal aspects	Yes	Yes	Yes
3	(U-3) Abortion	No	Yes	Yes
(M-23)Personal Identity and its Medico-legal importance (Marks: Range 5-15)				
1	(U-1) Sex determination and its Medico-legal importance	No	Yes	Yes
2	(U-2) Estimation of Age and its Medico-legal importance	No	Yes	Yes
3	(U-3) Techniques used in Personal Identification	No	Yes	Yes
(M-24)Medical Negligence (Marks: Range 5-15)				
1	(U-1) Concept of Medical Negligence and ramification	No	Yes	Yes

S.No	List of Module/Unit	ABQ	SAQ	LAQ
Paper No : 4 (Prayogika Agadatantra)				
(M-25)Study of Agada and Vishaghna Yoga (Marks: Range 5-20)				
1	(U-1) Study of Agada and Vishaghna Yoga	Yes	Yes	Yes
(M-26)Pharmacodynamics of Agada and Vishaghna Yoga (Marks: Range 5-20)				
1	(U-1) Pharmacodynamics of Agada and Vishaghna Yoga (Vishaghna Mahakashaya, Ekasara gana, Bilwadi Agada, Dashanga Agada, Dooshivishari Agada, Panch Shirish Agada, Murvadi agada, Aragwadhadi Yoga, Shirishabijadi Yog, Drakshadi Agada, Sarvakarmika Agada, Sanjeevan Agada, Himawan Agada, Kottam tagadardi, Jeevaraksha agada, Avipattikar Churna, Tarunabhaskara Agada, Vishahari leha, Ksharagada, Natadi Yoga, Trimoorthis agada, Patol Katu Rohinyadi Kashaya, Kalyanak Ghrita, Visha Vilwadi agada, Shigrupunanavadi yoga, Lodrasevyadi Yoga, Siddharthakadi agada, Padmakadi Agada and other Agada related to the regional practices and availability)	Yes	Yes	Yes
(M-27)Analytical Study of Visha and Vishaghna Yoga. (Marks: Range 5-20)				
1	(U-1) Analytical Study of Visha and Vishaghna Yoga	No	Yes	Yes
2	(U-2) Methods for Examinations of Visha and visha sadrushya dravya (Suspicious substance)	Yes	Yes	Yes
(M-28)Pharmacovigilance and Toxicovigilance (Marks: Range 5-15)				
1	(U-1) Pharmacovigilance and Toxicovigilance	No	Yes	Yes
(M-29)Experimental Toxicology (Marks: Range 5-20)				
1	(U-1) Guidelines for Experimental Toxicology	Yes	Yes	Yes
2	(U-2) Pre-clinical Evaluation Models	No	Yes	Yes
(M-30)Toxicogenomics (Marks: Range 5-15)				
1	(U-1) Toxicogenomics	No	Yes	Yes
(M-31)Survey and study of the traditional and folklore Vishachikitsa Sampradaya (Marks: Range 5-15)				
1	(U-1) Survey and study of the traditional and folklore Vishachikitsa Sampradaya	No	Yes	Yes
(M-32)Vishopyogeeyam – Therapeutic use of poisons (Marks: Range 5-15)				
1	(U-1) Vishopyogeeyam – Therapeutic use of Visha	No	Yes	Yes

6 G : Instruction for the paper setting & Blue Print for Summative assessment (University Examination)

Instructions for the paper setting.

1. University examination shall have 4 papers of 100 marks.
Each 100 marks question paper shall contain:-
 - Application Based Question: 1 No (carries 20 marks)
 - Short Answer Questions: 8 Nos (each question carries 05 marks)
 - Long Answer Questions: 4 Nos (each question carries 10 marks)
2. Questions should be drawn based on the table 6F.
3. Marks assigned for the module in 6F should be considered as the maximum marks. No question shall be asked beyond the maximum marks.
4. Refer table 6F before setting the questions. Questions should not be framed on the particular unit if indicated “NO”.
5. There will be a single application-based question (ABQ) worth 20 marks. No other questions should be asked from the same module where the ABQ is framed.
6. Except the module on which ABQ is framed, at least one Short Answer Question should be framed from each module.
7. Long Answer Question should be analytical based structured questions assessing the higher cognitive ability.
8. Create Blueprint based on instructions 1 to 7

6 H : Distribution of Practical Exam (University Examination)

S.No	Heads	Marks
1	A long case from topics of Sarpa visha, Sthavara visha, Kritrima visha, dermatological manifestations of visha, with detailed case history, examination, interpretation of lab reports, analysis of visha component and treatment plan.	100
2	Short case on Luta visha, Vrischika visha, Keeta visha, Mushika/ Alarka visha with case history, management strategy, specific formulations and procedures and prophylactic measures.	50
3	Spotters - 10 ispecimens of 5 marks each (50 marks) from Sthavara visha, Jangama visha, Kritrima visha, Agada formulations or their ingredients (Questions should contain multiple components other than identification)	50
4	Any topics in syllabus can be used for assessing the teaching skills of scholars. The scholar should be assessed for command in subject, body language, voice modulation, eye contact, level of confidence and communication skills.	20
5	Any topics in syllabus can be used for assessing the presentation skills of scholars. The scholar should be assessed for set induction, the quality of powepoint slides, body language, voice modulation, eye contact, level of confidence and communication skills.	20
6	Structured viva vove by four examiners (20 marks per examiner). Pattern of questions: Per paper 5 marks and minimum of five questions should be asked from each paper. Communication skills - 5 marks.	80
7	Dissertation viva including question from the review of literature part, methodology, statistical analysis and interpretation, discussion, limitations and recommendations. Each examiner evaluates the scholar for 10 marks.	40
8	Log book should be evaluated for completeness, neatness, and competencies attained (five marks for each examiner)	20
9	Practical Records - Separate records for Practicals and Experiential activities should be maintained	20
Total Marks		400

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Abbreviations

Domain		T L Method		Level	
CK	Cognitive/Knowledge	L	Lecture	K	Know
CC	Cognitive/Comprehension	L&PPT	Lecture with PowerPoint presentation	KH	Knows how
CAP	Cognitive/Application	L&GD	Lecture & Group Discussion	SH	Shows how
CAN	Cognitive/Analysis	L_VC	Lecture with Video clips	D	Does
CS	Cognitive/Synthesis	REC	Recitation		
CE	Cognitive/Evaluation	SY	Symposium		
PSY-SET	Psychomotor/Set	TUT	Tutorial		
PSY-GUD	Psychomotor/Guided response	DIS	Discussions		
PSY-MEC	Psychomotor/Mechanism	BS	Brainstorming		
PSY-ADT	Psychomotor Adaptation	IBL	Inquiry-Based Learning		
PSY-ORG	Psychomotor/Origination	PBL	Problem-Based Learning		
AFT-REC	Affective/ Receiving	CBL	Case-Based Learning		
AFT-RES	Affective/Responding	PrBL	Project-Based Learning		
AFT-VAL	Affective/Valuing	TBL	Team-Based Learning		
AFT-SET	Affective/Organization	TPW	Team Project Work		
AFT-CHR	Affective/ characterization	FC	Flipped Classroom		
		BL	Blended Learning		
		EDU	Edutainment		
		ML	Mobile Learning		
		ECE	Early Clinical Exposure		
		SIM	Simulation		
		RP	Role Plays		
		SDL	Self-directed learning		
		PSM	Problem-Solving Method		
		KL	Kinaesthetic Learning		
		W	Workshops		
		GBL	Game-Based Learning		
		LS	Library Session		
		PL	Peer Learning		
		RLE	Real-Life Experience		
		PER	Presentations		
		D-M	Demonstration on Model		
		PT	Practical		
		X-Ray	X-ray Identification		
		CD	Case Diagnosis		

		LRI	Lab Report Interpretation		
		DA	Drug Analysis		
		D	Demonstration		
		D-BED	Demonstration Bedside		
		DL	Demonstration Lab		
		DG	Demonstration Garden		
		FV	Field Visit		
		JC	Journal Club		
		Mnt	Mentoring		
		PAL	Peer Assisted Learning		
		C_L	Co Learning		
		DSN	Dissection		
		PSN	Prosection		

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