

## Course curriculum for Second Professional BAMS

(PRESCRIBED BY NCISM)

शास्त्रं ज्योतिः प्रकाशार्थं दर्शनं बुद्धिरात्मनः।

### Rasashastra evam Bhaishajyakalpana

(SUBJECT CODE : AyUG-RB)

(Applicable from 2021-22 batch, from the academic year 2023-24 onwards for 5 years or until further notification by NCISM, whichever is earlier)



॥ आयुषे सर्वलोकानाम् ॥



BOARD OF AYURVEDA  
NATIONAL COMMISSION FOR INDIAN SYSTEM OF MEDICINE  
NEW DELHI-110058

## II Professional Ayurvedacharya (BAMS)

### Subject Code : AyUG-RB

### Summary

Total number of Teaching hours: 450			
Lecture hours(LH)-Theory		150	150(LH)
Paper I	75		
Paper II	75		
Non Lecture hours(NLH)-Theory		300	300(NLH)
Paper I & II	90		
Non Lecture hours(NLH)-Practical			
Paper I & II	210		

Examination (Papers & Mark Distribution)					
Item	Theory Component Marks	Practical Component Marks			
		Practical	Viva	Elective	IA
Paper I	100	100	70	-	30
Paper II	100				
Sub-Total	200	200			
Total marks	400				

**Important Note:-**The User Manual II BAMS 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 II 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.

In case of difficulty and questions regarding curriculum write to [cur.imp@ncismindia.org](mailto:cur.imp@ncismindia.org)

## **PREFACE**

Ayurvedic physician, Pranabhisara Vaidya, makes efforts for his task of management of diseases and maintenance of health. For this role his tool is Potent medicine and tactful techniques acquired from profound knowledge of classics.

Bheshaja is important in chikitsa chatushpada. Prepared personally or purchased or prescribed, the medicines must be potent. Identity, Purity, Quality, Stability, Safety and Efficacy all factors must be assessed carefully so that extensive therapeutic utility without any adverse drug reaction can be achieved. Education of Ayurvedic Pharmaceutics i. e. Ayurvediya Aushadhi Nirmana Shastra must provide foundation through guidance for academicians, Researchers, entrepreneurs and clinicians. Yogavijyana and prayogavijnyana is that expected foundation. Ayurvedic classics expect yuktijna, siddhahasta, sarva bhaishajya kovid ( carak su. 20/22) physician as an outcome of studying Ayurveda.

To achieve the programme outcome of the Professional BAMS course of NCISM , this particular subject contributes a lot by providing thorough multidimensional knowledge in cognitive domain, hands on training of pharmaceutical processing in Psychomotor domain and ethical attitudes towards drug development in affective domain.

The thought process by which Rasa Bheshaja Yogas reaches yojana- administration is very much important. Dose, Duration, Time and Route of administration, anupana all such factors are unique features of holistic Ayurvedic Practice. Acquiring details of these topics along with practical application with understanding its significance is the course objective of the subject RS& BK. The main Goal is to cater professional Competency in Ayurvedic Pharmaceutics and make them capable to select proper / effective yoga and administer it safely.

It is the need of time to make some addition in the current teaching and learning process of Rasashastra & Bhaishajya Kalpana to make it more relevant, practical and contemporary. New teaching technology tools will certainly be helpful in the effective delivery of knowledge of Rasashastra & Bhaishajya Kalpana. As per the revised regulation, the nomenclature of the subject is Ayurvediya Aushadhi Nirmana Vigyana as paper I and Ayurvediya Aushadhi Prayoga Vigyana as paper II for Second Professional BAMS course.

In this revision, NCISM has tried its best to take Rasashastra & Bhaishajya Kalpana teaching beyond the four walls of the classroom and get it connected with present global needs. For effective content delivery create interest in the subject it becomes evident to teach Rasashastra & Bhaishajya Kalpana with practical demonstrations. In order to facilitate proficiency in pharmaceutical preparation and its application in clinical practice, more non-lecture classes are allotted . Teaching methodology guidelines are provided which shall be followed while teaching, to make baseline uniformity in the process of learning. Activity-based learning will enable the internalization of the concepts and will build a strong platform while learning other subjects of Ayurved.

# INDEX

<b>Course Code and Name of Course</b> .....	5
<b>Table 1- Course learning outcomes and matched PO</b> .....	5
<b>Table 2 : Contents of Course</b> .....	6
Paper 1 .....	6
Paper 2 .....	13
<b>Table 3: Learning objectives (Theory) of Course</b> .....	21
Paper 1 .....	21
Paper 2 .....	38
<b>List of Practicals</b> .....	48
<b>Table 4: Learning objectives (Practical)</b> .....	49
Practical 1 .....	49
<b>Table 4a: List of Practical</b> .....	60
<b>Activity</b> .....	68
<b>Table 5- Teaching learning method</b> .....	97
<b>Table 6: Assessment Summary: Assessment is subdivided in A to H points</b> .....	98
<b>6 A-Number of Papers and Marks Distribution</b> .....	98
<b>6 B - Scheme of Assessment (formative and Summative)</b> .....	98
<b>6 C - Calculation Method for Internal assessment Marks</b> .....	99
<b>6 D - Evaluation Methods for Periodical Assessment</b> .....	99
<b>6 E Question Paper Pattern</b> .....	100
<b>6 F Distribution of theory examination</b> .....	101
Paper 1 .....	101
Paper 2 .....	102
<b>6 G Blue print of paper I &amp; II</b> .....	103
<b>6 H Distribution of Practical Exam</b> .....	106
<b>References Books/ Resources</b> .....	111
<b>Abbreviations</b> .....	114

**Course Code and Name of Course**

<b>Course code</b>	<b>Name of Course</b>
AyUG-RB	Rasashastra evam Bhaishajyakalpana

**Table 1- Course learning outcomes and matched PO**

<b>SR1 CO No</b>	<b>A1 Course learning Outcomes (CO) AyUG-RB At the end of the course AyUG-RB, the students should be able to-</b>	<b>B1 Course learning Outcomes matched with program learning outcomes.</b>
CO1	Demonstrate application of principles of Ayurvediya Aushadhi Nirmana (Ayurvedic Pharmaceuticals)	PO1,PO5,PO7
CO2	Demonstrate application of principles of Ayurvediya Aushadhi Prayoga Vigyana (Clinical Pharmacology)	PO1,PO5,PO7
CO3	Prepare Ayurvedic formulations in adherence to quality control parameters for raw materials, in-process and finished products	PO1,PO3,PO4,PO5, PO6,PO7,PO8
CO4	Justify rationality of selection and administration of Ayurvedic formulations	PO3,PO5,PO6,PO7, PO8,PO9
CO5	Demonstrate application of ethical, legal and regulatory aspects of manufacturing and sale of Ayurvedic formulations.	PO2,PO8,PO9
CO6	Appraise research in current and emerging trend in Ayurvedic pharmaceuticals and allied sciences.	PO7,PO9

**Table 2 : Contents of Course**

<b>Paper 1 Ayurvediya Aushadhi Nirmana Vigyana</b>					
<b>Sr. No</b>	<b>A2 List of Topics</b>	<b>B2 Term</b>	<b>C2 Marks</b>	<b>D2 Lecture hours</b>	<b>E2 Non- Lecture hours</b>
1	<p><b>1.Chronological development of Ayurvediya Aushadhi Nirmana</b>  Definition, chronological development, significance and scope of Rasashastra and Bhaishajya Kalpana. Concept of Rasashala , Rasa-mandapa and Bheshajagara Concept of Rasa-Rasayana Briefing on Indians are first to prepare metal based medicines and Recent development in Ayurvedic Pharmaceuticals.</p>	1	05	2	1
2	<p><b>2.Paribhasha ( Terminology)</b>  1. Definition and Importance of Paribhasha  2. Word Derivation- Aushadha, Bheshaja, Kalpana, Kashaya, Pancha kashaya Yoni, Samskara  3.Dravya/Varga Paribhasha- (Classical Names, English names,Chemical Composition/ Formula)  A) Rasa, Maharasa, Uparasa, Dhatuvarga, Upadhatu, Ratna, Uparatna, Sudhavarga, Sikatavarga, Lavanavarga, Visha, Upavisha, Kajjali, Mitrpanchaka, Dravaka Gana,  B) Sandigdha(Contraversial): Vaikranta, Chapala, Rasanjana, Pushpanjana, Vahnijara, Girisindura, Kankushtha.  C) Anupalabdh (Not Available): Rasaka, Sauviranjana  D) Krutrima (Artificial): Sasyaka, Gandhaka, Kasisa, Rasanjana, Hingula  E) Pratinidhi (Substitute) : Vajrabhave Vaikranta, Suvarna-Suvarna Makshika  4. Prakriya Paribhasha-  A) Shodhana: Types of Shodhana, Samanya Shodhana, Vishsha Shodhana, Different techniques used for Shodhana, Swedana, Mardana, Dhalana, Nirvapa, Nirjaleekarana, Nimajjana, Bhavana,Bharjana  B) Marana,: Definition, Importance of Marana, Types of Marana- Agnipaka Method, Putapaka Method, Kupipakwa Method, Bhanupaka Method, Swanga Sheeta  C) Amrutikarana, Lohitikarana  D) Sattvapatana, Shuddhavarta, Beejavarta  E) Druti: Definition, Druti lakshana  F) Parada Samskara: Definition, Importance, Ashtasamskara  Parada Jaranaa, Murchchhana, Names of Parad-Bandhas  5) Pramanikarana Paribhasha (Terms for Standardization)-  A) Grahya-Agrahyattva, Siddhilakshana  B) Bhasma pariksha: Varitara, Rekhapurnata, Unama,</p>	1	10	8	4

	<p>Slakshnattva, Sukshma, Anjana Sannibha, Dantagre na Kachakacha Bhavati, Varna, Avami, Apunarbhava, Niruttha, Gata Rasattva, Nischandrattva, Niramlattva, Nirdhumattva, Jihvagre adahyamanattva, Dadhi/ Nimbu Pariksha,</p> <p>6) Puraka Paribhasha (Supplementary)- Rudra Bhaga, Dhanvantari Bhaga7) Mana-Paribhasha-</p> <p>A) Definition, Classical Types B) Classical and Modern- Conversion chart as per AFI, Scientific Metrology C) Essential Kala- mana.</p>				
3	<p><b>3.Adharbhuta Siddhanta (Application of fundamental principles )</b> <b>Dravya Sangrha and Samrakshana</b></p> <ul style="list-style-type: none"> <li>• Time of drug Collection</li> <li>• General Rules</li> <li>• Specific time for specific plant part collection</li> <li>• Time of the day for drug collection</li> <li>• Collection of Pranija Dravya</li> <li>• Place of Drug collection Bhumi mahabhuta predominance</li> </ul> <ul style="list-style-type: none"> <li>• Places from where drugs should not be collected</li> <li>• Stage of drug collection</li> <li>• Rule of Duplication(Dwiguna Mana Ganana)</li> <li>• Ardra and Shushka Dravya mana</li> <li>• Dravya Sangraha Vidhi and Dravya samrakshana</li> <li>• Rasa, Guna, Virya ,Vipaka, Prabhava</li> </ul> <p><b>Anukta Visheshokta grahana:</b> Considering Anukta Dravya <b>Aushadha Namakarana:</b> Naming a Preparation <b>Aushadha Sevana Kala:</b> Time of Drug Administration <b>Saveeryata Avadhi</b> (Shelf life of different kalpana) <b>Aushadha Matra:</b>Dosage / Posology <b>Anupana &amp; Sahapana (Adjuvant)</b> <b>Youngika Dravya Siddhanta(Drug Combination)</b></p>	1	05	4	2
4	<p><b>4.Yantropakaranani- I (Equipments and machineries)</b> <b>Principles involved, currently used yantras, their correlation, utility, and Instruments used in Large scale Production</b></p> <p>Dola Yantra Valuka Yantra Putra Yantra Khalwa Yantra Patana Yantra Darvika Yantra Ulukhala Yantra Patala Yantra Kupi Yantra Arkapatana Yantra Pithara Yantra</p>	1	05	6	4

	Sharava Yantra Palika Yantra Sthali Yantra Swedana Yantra Vidyadhara Yantra <b>Modern Machinery-Grinder</b> Disintegrator Pulverizer Powder Mixer Mechanical sifter Ball mill Granulator Dryer Tablet compressing machine Pills making machine Coating pan Polishing pan End runner machine Edge runner machine Capsule filling machine Ointment mixer Tube filling machine Sieves & Meshes Liquid filling machine Distillation plant Strip packing machine Pouch filling machine Pyrometer				
5	<b>5.Yantropakaranani -II (Equipments, fuel and Heating Devices)</b> <b>Principle involved, importance of temperature, currently used heating devices utility, quantum of heat and Instruments used in Large scale Production Puta-</b> Chandra Puta Surya Puta Maha Puta Gaja Puta Varaha Puta Kukkuta Puta Kapota Puta Lavak Puta Budhar Puta Gorvara Puta Valuka Puta Kumbha / Bhandra Puta <b>Musha</b> Samanya Musha Crucibles- Silica Mudra	1	05	5	4



	<p>Sandhi Bandhan Material</p> <p><b>Koshthi-</b> Chullika Angar Koshthi Satwapatan Bhrashtri Gas Stove Hot Plate Heating Mantle Induction Stove Hot Air Oven Muffle Furnace- Horizontal and Vertical</p> <p><b>Heating Material-</b> Solid- Kashtha, coal(wooden / stone), Kshara, Lavana, Valuka, Shakrit, Dhanya Drava- Jala/ steam, Taila Indirect heating- Dhanya Rashi, Bhugarbha sthapana</p>				
6	<p><b>6.Kalpna Nirmana I (Primary &amp; Secondary dosage forms)</b> <b>Definition, classification with suitable examples, reference ingredients, quantity, method of preparation, principle involved, instruments used in small and large scale production, siddhi lakshana, storage, shelf life, modern aspect of related preparation of the following Panchavidha Kashya Kalpna (Primary dosage forms):</b> Swarasa, Kalka, Kwatha, Hima, Phanta <b>Upaklpna (Secondary dosage forms):</b> <b>Kalka:</b> Churna Kalpna <b>Kwatha:</b> Pramathya Kalpna, Paniya Kalpna, Ushnodaka, Ksheera Paka Kalpna, Laksha Rasa, Mamsa Rasa</p> <p><b>Hima Kalpna :</b> Mantha Kalpna, Udaka Kalpna, Panaka Kalpna <b>Phanta Kalpna:</b> Arka</p>	1	10	6	4
7	<p><b>7.Kalpna Nirmana-II (Method of Preparation of different dosage forms&amp; Dietary Supplements) )</b> <b>Avaleha</b> Definition, reference, essential ingredients, general method of preparation, specific rules of avaleha preparation, importance of temperature, siddhi lakshana, shelf life with examples i.e Vasavaleha, Kushmanda avaleha, research updates on Avaleha Kalpna, market survey <b>Sneha Kalpna</b> Aims of Sneha Kalpna, definition,reference, essential ingredients, general method of preparation, specific rules of sneha preparation, importance of temperature, gritha murchana, taila murchana, sneha siddhi lakshana, types of snehapaka, Patra(Gandha Paka), time duration to cook sneha preparation, shef life with examples Phala gritha and</p>	1	10	5	4

	<p>Ksheerabala Bala Taila, Concept of Avartana, Research updates on snehakaalpana, market survey</p> <p><b>Sandhana Kalpana</b> Introduction, significance of sandhana kalpana, classification, difference between Madhya and Shukta Kalpana, general method of preparation, essential ingredients, anukta Mana, sandhana vidhi, observations, Burnig candle test, Lime water Test, important factors in Asava Arishta Preparation like sandhanan patra selection, place for fermentaion, importance of room temperature, sandhana kala, adding of honey, bhasma, prakshepaka dravya, difference between Asava &amp; Arishta, shelf life and alcohol % with examples Draksharista and Usheerasava, Research updates on Sandhana Kalpana, market survey</p> <p><b>Pathya Kalpana</b> Definition , significance of Pathya, types, general, method of preparation Manda, Peya, Yavagu, Vilepi, Anna or Odana Kalpana, Krashara, Yusha, Takra, Khada, Kambalika, Raga, Shadava, Related Research updates, Market survey of Dietary Supplements</p>				
8	<p><b>8.Rasa Dravya Parichaya- I</b> <b>Synonyms, minerological identification, sources, types, grahya and agrahyata, doshas, shodhana, marana and other processing techniques, Probable Physico-chemical Changes, importance of temperature while processing , yoga, Research updates of the following</b> <b>Must to know Drugs</b> Parada (mercury) Abhraka (Biotite Mica) Makshika (Chalco-pyrite) Shilajatu(Asphaltum Punjabianum) Gandhaka (Sulfur) Gairika(Red Ochre) Kankshi (Alum) Haratala (Orpiment) Manahshila (Realgar) Kampillaka(Mallotus Philippinensis) Navasadara (Ammonium chloride) Hingula (Red Cinnabar) Swarna (Gold) Rajata (Silver) Tamra (Copper) Loha (Iron) Mandur (rust iron) Vanga (Tin) Naga (Lead) Yashada (Zinc) Mukta (Pearl), Pravala (Coral)</p>	2	10	12	4

	Vajra (Diamond) Kaparda (Cowries) Shukti (Oyster Shell) Shankh (Conch Shell) Godanti (Gypsum) Samudraphena (Cattle Fish bone) Kukkutanda twak (Hen's EggShell) Tankana kshara (Borax)				
9	<b>9.Rasa Dravya Parichaya II</b> <b>Synonyms, mineralogical identification, sources, types, grahya and agrahyata, shodhana, marana and other processing techniques with probable chemical reactions, the importance of temperature, yoga, research updates of the following: Desirable to know drugs:</b> Sasyaka (Peacock ore) Kaseesa (Green Vitriol), Gauri pashana (Arsenic oxide); Trinakanta, Akika(Agate), Sudha (Lime stone ), Khatika Ajashthi; Jaharmohara (Serpentine) Dugdhapashana (Talc)	2	5	7	6
10	<b>10.Rasadravya Parichaya III</b> <b>Synonyms, Minerological Identification, sources, types, Grahya, Agrahyata, Shodhana, Marana, Probable Chemical Changes, Properties,dose, Ashuddha/Apakwa Bhasma Sevanajanya Vydhi and their shantyupaya, yoga, Research updates</b> <b>Nice to know drugs:</b> Vaikrantha, Vimala (Iron Pyrite), Chapala Rasaka Anjana Kankustha Agnijara Giri Sindura (Red oxide of Hg) Mriddara shringa (Litharge) Kamsya (Bronze) Pittala (Brass) Vartaloha. Manikya (Ruby) Tarkshya (Emerald) Pushparaga (Topaz) Nilam (Sapphire) Gomeda (Zircon or Cinnamone stone)	2	5	3	6

	Vaidurya (Cats eye) Mriga shringa (Stag horn) Sikata (Silica) Vyomashma (Sangeyashab - Jade) Kousheyashma (Asbestos) Badarshama (silicate of lime)				
11	<p><b>11.Kalpana Nirman -III (Method of Preparation of different dosage forms)</b></p> <p><b>Sharkara Kalpana</b></p> <ul style="list-style-type: none"> <li>• General method of preparation, difference between sharkara kalpana and syrup, importance of temperature, precautions, confirmatory tests, packing, preservation, shelf life with Example of Tulasi Arka Sharkara</li> </ul> <p><b>Gudapaka</b></p> <ul style="list-style-type: none"> <li>• General Method of Preparation, importance of temperature, precautions, confirmatory tests, packing, preservation, shelf life with Example of ManibhadraGuda, Guda Pippali</li> </ul> <p><b>Lavana Kalpana</b></p> <ul style="list-style-type: none"> <li>• General Method of Preparation, importance of temperature, precautions, confirmatory tests, packing, preservation, shelf life with Example of Narikela Lavana</li> </ul> <p><b>Kshara Kalpana</b></p> <ul style="list-style-type: none"> <li>• General Method of Preparation, importance of temperature, precautions, confirmatory tests, packing, preservation, shelf life with Example of Kadali Kshara, chinch Kshara</li> </ul> <p><b>Ayskriti Kalpana</b></p> <ul style="list-style-type: none"> <li>• General Method of Preparation, importance of temperature, precautions, confirmatory tests, packing, preservation, shelf life with Example Ayaskriti</li> </ul> <p><b>Lepa Kalpana</b></p> <ul style="list-style-type: none"> <li>• General Method of Preparation, importance of temperature, precautions, confirmatory tests, packing, preservation, shelf life with Example of</li> </ul>	2	10	8	6

	Avalgunjadi Lepa, Keshavardhaka Lepa.				
12	<p><b>12.Chaturvidha Rasayana</b>  <b>Introduction, definition, importance, types, Procedure, necessary equipment, Shelf life with following example</b>  <b>Kharaliya Rasayana:</b> Shwasakuthara rasa and Vatavidwansana rasa  <b>Parpati Rasayana:</b> Loha parpati and sudha parpati  <b>Kupipakwa Rasayana:</b> Rasasidhura and Rasa karpura  <b>Pottali Rasayana:</b> Tamragarbha pottali and Loha garbha pottali</p>	2	10	4	4
13	<p><b>13.Current and emerging trend in Ayurvedic pharmaceuticals</b>  <b>Cosmetics-Formulation, Regulatory Provisions</b>  Brief Introduction to Cosmetics-Formulation, Regulatory Provisions, Plant Layout and other factory requirements, process used in the manufacture of Cosmetics, Most commonly used cosmetic Raw materials , Control of microbial contamination in the manufacture of cosmetics and Quality Control of cosmetics, Skin Sensitization Sensitivity Testing, In vitro-Tests for Skin Irritation, Quality Control of Raw materials, Intermediates and Finished Products, Stability of Cosmetics  <b>Introduction to Dosage forms</b>  Introduction, Classification of Dosage forms(Solid dosage forms, Liquid dosage forms and Semisolid dosage forms), Need of dosage forms.</p>	3	5	3	4
14	<p><b>14.GMP(Schedule T) &amp; Regulatory aspects of Ayurvedic drugs</b>  <b>Brief overview of following</b></p> <ul style="list-style-type: none"> <li>• <b>Drug and Cosmetics Act 1940 and Rules1945</b> import, manufacture, sale distribution of drugs and cosmetics standards of quality, misbranded, adulterated, spurious drugs and cosmetics as amended from time to time.  <b>New Acts related to Drugs and Devices.</b></li> <li>• <b>Good Manufacturing Practices (GMP) of ASU</b> Drugs in accordance to Schedule- T  <b>Food Safety and Standards Authority of India (FSSAI) and FDA Approval Drugs.</b></li> </ul>	3	5	2	4
<b>Total Marks</b>			<b>100</b>	<b>75 hr</b>	<b>57 hr</b>

**Paper 2 Ayurvediya Aushadhi Prayoga Vigyana**

Sr. No	A2 List of Topics	B2 Term	C2 Marks	D2 Lecture hours	E2 Non-Lecture hours
15	<b>1.Aushadhi Prayoga Vigyana</b> Introduction, Ethymology, Scope of Aushadhi Prayoga vigyana Prashastha beshaja Lakshana	1	5	1	2
16	<b>2.Single drug (Herbal &amp; Mineral)</b> <b>Single drug its variety of formulations and their different indications</b> • <b>Chemical/phytochemical composition</b> • <b>Pharmacodynamics and pharmacokinetics as per formulation</b> • <b>Therapeutic properties</b> • <b>Awasthanusara Uses(as applicable)</b> • <b>Matra</b> • <b>Anupana</b> • <b>Pathyapathya</b> • <b>Sevana Kala</b> • <b>Kala maryada (duration of medication as applicable)</b> • <b>Side effects of medication (as applicable)</b> • <b>Research updates and clinical evidences for each of the following formulations</b> <b>Guduchi</b> Guduchi Swarasa (Sha.Sam.Ma. Kh. Chp1/7 page 138) Guduchyadi Churna (B.R. Pleehayakrut Rogdhikara) Guduchi Kwatha (B.R. Jwaradhikara) Guduchi Hima (B.R. Chardi Rogadhikara) Guduchi Ghana- Samshamani Vati (AFI Part II Page 183) Guduchi Satva (AFI-Part I, Page 205) Amrutadi Guggulu (AFI-Part III, Page 107) Amritarishta (AFI Part I page 6) <b>Amalaki</b> Amalaki Swarasa (Sha.Sam.Ma.Kha.) Amalakyadi Churna (Sha.Sam.M.Kha. Churna kalpana) Triphala Rasayana (Cha.Chi. Rasayana Adhyaya) Chyavanaprasha (AFI Part I page 37) Dhatri Lauha (AFI Part I Page 284) Amalakyadi Gutika (Sha.Sam.Ma.Kha.Vati Kalpana) Phalatrikadi Kwatha (Sha.Sam.Ma.Kha.Kwatha Kalpana) Triphala Ghrita (Sha.Sam.Ma.Kha. Ghrita Kalpana) <b>Bhallataka</b> Bhallataka Modaka (B.R. Pleeha-Yakrit Rogadhikara) Bhallataka Ghrita (B.R. Gulma Rogadhikara) Bhallataka Guda (B.R. Arsha Rogadhikara) Bhallatakadi Taila (B.R. Nadvirina Rogadhikara) Bhallataka Avaleha (B.R. Arsha Rogadhikara)	1	10	8	2

	<p>Bhallatakadi Lepa (B.R. Kushta Rogadhikara)          Bhallatakadi Kwatha (B.R. Urusthabha Rogadhikara)Note:          For Bhallataka additional ashuddha, avidhi sevanajanya          vyadhi and their shantyupaya<b>Gandhaka</b>          Gandhaka churna (SY page 217)          Gandhaka Rasayana (AFI-Part II, Page 115)          Gandhaka Druti (RRR 3rd Chapter)          Gandhaka Taila (R.T. 8th Chapter)          Gandhakadya Malahara (AFI-Part II, Page 165)          Gandhakadi Lepa (RRS Shiroroga Chikitsa)          Gandhaka Vati (B.R. Agnimandya Rogadhikara)  <b>Gairika</b>          Gairika Pradeha (Cha.Chi. Visarpa Rogadhyaya          Laghusuta shekhara Rasa (AFI Part II Page 282)          Gairikadya Malahara (AFI-Part III, Page 224)          Gairikadya Gutikanjana (B.R. Netraroga)          Gairika rasakriya (Cha.Chi.26/235)          Varnakara lepa (Cha.Chi.25/117)</p>				
17	<p><b>3.Single drug(Bhasma, Shuddha &amp; Pishti)</b>  <b>• Single drug/ formulation and its mode of action in different indications</b>  <b>•Chemical/phytochemical composition</b>  <b>• Pharmacodynamics and pharmacokinetics as per formulation</b>  <b>• Therapeutic properties</b>  <b>• Awasthanusara Uses(as applicable)</b>  <b>• Matra</b>  <b>• Anupana</b>  <b>• Pathyapathya</b>  <b>• Sevana Kala</b>  <b>• Kala maryada (duration of medication as applicable)</b>  <b>• Side effects of medication(as applicable)</b>  <b>• Ashuddha apakwa, avidhi sevanajanya vyadhi and their shantyupaya,</b>  <b>• Research updates and clinical evidences for each of the following formulations:</b>          Abhraka Bhasma          Swarna Makshika Bhasma          Swarna Bhasma          Rajata Bhasma          Lauha Bhasma          Tamra Bhasma          Vanga Bhasma          Naga Bhasma          Yashada Bhasma          Kasisa Bhasma          Shuddha Shilajatu          Shuddha Gandhaka          Shuddha Gairika</p>	2	15	12	6

	<p>Shuddha Kankshi  Mukta Pishti &amp; Bhasma  Pravala Pishti &amp; Bhasma  Vajra Bhasma  Kaparda Bhasma  Shankh Bhasma  Godanti Bhasma  Shuddha Tankana  Shuddha Kankshi</p>				
18	<p><b>4.Aushadhi Kalpa -I (Compound formulations)</b>  •<b>Chemical/phytochemical composition</b>  • <b>Pharmacodynamics and pharmacokinetics as per formulation</b>  • <b>Therapeutic properties and its mode of action in different indications,</b>  • <b>Awasthanusara Uses(as applicable)</b>  • <b>Matra</b>  • <b>Anupana</b>  • <b>Pathyapathya</b>  • <b>Sevana Kala</b>  • <b>Kala maryada (duration of medication as applicable)</b>  • <b>Side effects of medication(as applicable)</b>  • <b>Ashuddha apakwa processed , avidhi sevanajanya vyadhi and their shantyupaya,</b>  • <b>Research updates and clinical evidences for each of the following formulations:</b>  <b>Kharaliya Rasayana</b>  • Arogyavardhini Gutika : A.F.I. - I, Rasayoga, 20:4, R.R.S. Visarpa Chi. 20/106  • Kumara Kalyana Rasa : A.F.I. - I, Rasayoga, 20:9, B.R. Balaroga / 163  • Garbhapala Rasa : A.F.I. - II, Rasayoga, 16:14,R.T.Sa. Part - I, 140  Chandraprabha Vati : A.F.I. - I, Vati Gutika, 12:10,Sha.Sa.M.7/40  • Pravala Panhamrita Rasa : A.F.I. - II, Rasayoga, 16:37,B.R. Gulma / 139  • Anandbhairava Rasa : A.F.I. - I, Rasayoga, 20:3,R.Sa.Sa.Jwara 2/103  • Yogendra Rasa : A.F.I. - I, Rasayoga, 20:31,B.R. Vatavyadhi / 506  • Laxmivilas Rasa : A.F.I. - I, Rasayoga, 20:39, B.R. Rasayana / 55  • Vasantakusumakara Rasa : A.F.I. - I, Rasayoga,20:42,R.Sa.Sa.Rasayana Vajikarana / 80  • Vasantamalti Rasa : A.F.I. - I, Rasayoga, 20:41, Si.Bhai.Ma.Ma.Jwara / 60  • Brihat Vata Chintamani Rasa : A.F.I. - I, Rasayoga, 20:26,</p>	2	15	16	4



	<p>B.R.,Vatavyadhi/502</p> <ul style="list-style-type: none"> <li>• Shankha Vati : A.F.I. - I,Vati Gutika, 12:32,B.R. Agnimandya / 182</li> <li>• Shwaskuthara Rasa : A.F.I. - I, Rasayoga, 20:49,Yo.Ra., Swasa / Page 373</li> <li>• Kamadudha Rasa : A.F.I. - II, Rasayoga, 16:9,R.Ta.Sa. Kharaliya Rasayana / 80</li> <li>• Sutashekhara Rasa : A.F.I. - II, Rasayoga, 16:63,Yo.Ra. Amlapita / Page 125</li> <li>• Navayasa Loha : A.F.I. - II, Lauha, 17:2,Cha.Sa.Chi.16/70</li> <li>• Ichchhabhedi Rasa : A.F.I. - I, Rasayoga, 20:5,B.Ra. Udararoga / 84</li> <li>• Krimikuthara Rasa : A.F.I. - II, Rasayoga, 16:12,R.Ta.Sa.Kharaliya Rasayana / P. 103</li> </ul> <p><b>Parpati Rasayana</b></p> <ul style="list-style-type: none"> <li>• Panchamruta Parpati : A.F.I. - I, Parpati, 16:1, B.R.Grahani / 461</li> <li>• Bola Parpati : A.F.I. - I, Parpati, 16:2, Yo.R.,Pradara / P 842</li> </ul> <p><b>Kupipakwa Rasayana</b></p> <ul style="list-style-type: none"> <li>• Swarna Vanga : A.F.I. - I, Kupipakva, 15:9, Rasamruta 3/ 95</li> <li>• Makaradhwaja : A.F.I. - I, Kupipakva, 15: 2, B. R. Vajikarana 2/ 237</li> <li>• Sameerpannaga Rasa : A.F.I. - I, Kupipakva, 15:8, A.A.G.S. Part - 4 Page 88</li> </ul> <p><b>Pottali Rasayana</b></p> <ul style="list-style-type: none"> <li>• Hemagarbha Pottali : A.F.I. - II, Rasayoga, 16:66, Rasamruta Rasavigyaniya 9/218</li> </ul>				
19	<p><b>5.Aushadhi Kalpa-II (Compound Drugs/Formulations)</b></p> <ul style="list-style-type: none"> <li>• <b>Chemical/phytochemical composition</b></li> <li>• <b>Pharmacodynamics and pharmacokinetics as per formulation</b></li> <li>• <b>Therapeutic properties and its mode of action in different indications,</b></li> <li>• <b>Awasthanusara Uses(as applicable)</b></li> <li>• <b>Matra</b></li> <li>• <b>Anupana</b></li> <li>• <b>Pathyapathya</b></li> <li>• <b>Sevana Kala</b></li> <li>• <b>Kala maryada (duration of medication as applicable)</b></li> <li>• <b>Side effects of medication(as applicable)</b></li> <li>• <b>Improperly processed , avidhi sevanajanya vyadhi and their shantyupaya,</b></li> <li>• <b>Research updates and clinical evidences for each of the following formulations:</b></li> </ul> <p>Dashamoola Kwatha (AFI Part I Page 55) Mahamanjistadi Kwatha (AFI Part I page 59)</p>	3	15	14	2

	<p>Pushyanuga Churna (AFI-Part I, Page 113)  Sudarshana Churna (AFI Part I Page 116)  Lavana Bhaskara Churna (AFI-Part I, Page 114)  Bilvadi Gutika (AFI Part I Page 188)  Chitrakadi Gutika (AFI-Part I, Page 186)  Sanjivani Vati (B.R. Jwaradhikara)  Vyoshadi Vati (AFI Part III Page 253)  Bala Chaturbhadrha Rasa (B.R. Balarogadhikara)  Simhanada Guggulu (AFI-Part I, Page 71)  Yogaraja Guggulu (AFI-Part I, Page 69)  Chyavanaprashavaleha (AFI Part I page 37)  Dadimavaleha (Y.R. Jwaratisaradhyaya)  Panchagavya Ghrita (AFI Part I Page 90)  Brahmi Ghrita (AFI Part I Page 93)  Narayana Taila (AFI Part I Page 138)  Neelibhringadi Taila (AFI Part I Page 139)  Panchaguna Taila (AFI-Part II, Page 145)  Aravindasava (AFI Part I page 7)  Ashokarishta (AFI Part I page 8)  Kumaryasava (AFI Part I page 10)  Kutajarishta (AFI Part I page 10)  Gandhakadya Malahara (AFI-Part II, Page 165)  Lepa Gutu (AFI Part III page 232)</p>				
20	<p><b>6.Dosage Forms &amp; Cosmetic Products</b>  Definition of dosage form,-Cosmetics  Advantages and disadvantages of currently available dosage forms and cosmetics. Route of their administration. Research updates on modification of classical Ayurvedic dosage forms and relevant case studies.</p>	3	5	5	2
21	<p><b>7.Nutraceuticals</b>  <b>Introduction</b>  <b>Types, non Indian nutraceuticals and their uses</b>  <b>Ayurvedic Perspective of Nutraceuticals with special reference to dietic preparation, rasayana with one examples for each category , mode of action, nutritional value calculation, research updates and case studies on below mentioned category</b>  <b>General Health :</b> Kushmanda avaleha  <b>Pediatric Health:</b> Preenana Modaka(Kashyapa)  <b>Geriatric Health:</b> Chavanaprasha avaleha  <b>Reproductive Health:</b> Phala Grita  <b>Women's health:</b> Soubhagya shuntipaka, Shatavari grita  <b>Cardio-protective:</b> Arjuna Ksheerapaka &amp; Rasona ksheerapaka  <b>Sports endeavor:</b> Kharjuradi mantha  <b>Mental health:</b> Brahma Rasayana</p>	3	5	6	1
22	<p><b>8.Anupana Prayoga for Aushadhi Kalpa</b></p>	3	5	4	1

	<p><b>Properties of Anupana</b>  <b>Factors to be considered for selection of Anupana</b>  <b>•Dosha</b>  <b>•Aushadha</b>  <b>•Roga/ Rogi</b>  <b>•Ahara</b>  <b>Purpose of Anupana</b>  <b>Contraindications of Anupana</b>  <b>Eka Kalpa Vydi anusara aneka Anupana for following yogas</b>  <b>1.Kaishore Guggulu:</b> Sarangadhar Samhita , Madhyam khanda- 7/72-81, P: 136<b>2. Yogaraj, Guggulu:</b> Sarangadhar Samhita Madhyam khanda- 7/56-69, P:135<b>3. Narayana Churna:</b> Sarangadhar Samhita of Pandit Sarangadharacharya, , Madhyam khanda- 7/83-91, P:123-124<b>4.Rasa Sindoor:</b> Rasa Tarangini Hindi commentary of Sri Sadananda Sarma,Chaukhambha Surbharti, Murcchana vigyaniya Taranga, 6/203-234, P: 125-127<b>5. Rasa Parpati:</b> Rasa Tarangini of Sri Sadananda Sarma,Chaukhambha Surbharti Prakashan, Murcchana vigyaniya Taranga, 6/144-153, P: 116-117<b>6.Kankayan Vati :</b> Sarangadhar Samhita Surbharti Prakashan, Madhyam khanda, 7/50-55, P: 134-135)</p>				
23	<p><b>9.Aushadhi Prayoga Marga</b>  <b>Introduction</b>  <b>Types in ayurveda</b>  <b>Advantages and disadvantages of each aushadhi prayoga marga and probable mode of action after administration of following dosage forms in below mentioned routes</b>  1. Mukha (Oral Cavity): Vati, Gutika, Churna, Asava, Arishta,Kashaya, Avaleha, Khanda, Sneha (Ghrita/Taila),  2. Nasa(Nasal Route)- Dosage form used - Churna, taila, swarasa, arka  3. Karna (Through Ear)- Taila, Ghrita  4. Akshi (Through Eyes)- - Ghrita, Taila,  5. Twak (Through Skin)- Lepa, Alepa, Pralepa, Malahara, upanaha,pradeha, abhyanga, udvartana  • Shirodhara - Takra  • Abhyanga- Sahacharadi Taila  • Ashti Bhagna- Murivenna Taila  • Vrana- Jatyadi Taila  • Smashru – Shankha Bhasma  • Kesha Ghanata- Bringaraja Taila  • Akala Palita – Hasthi Danta Masi  • Indralupta – Icchabhedi Rasa  • Lomashatana – Lomashatana Lepa  6. Guda ( Anal Route)- Dosage forms - Vartis, taila, ghrita, kalka, churna, kashaya  7. Mutra marga (Through urethra)- Uttara Basti with</p>	3	10	5	1

	Dosage forms- Taila, ghrita 8. Yoni marga (Through vagina)- Yoni Dharana, Yoni Dhavana, Yoni Pichu, Yoni Dhoopana				
24	<b>10.Rational prescription along with safe dispensing of Ayurvedic formulations.</b> Rational prescription along with safe dispensing of Ayurvedic formulations as per NABH guideline	3	5	1	4
25	<b>11.Traditional &amp; Local health Practices</b> Introduction to Traditional & Local health Practices and Government initiatives to preserve it. Brief introduction to TKDL	3	5	2	4
26	<b>12.Pharmacovigilance for Ayurveda drugs</b> Pharmacovigilance and Adverse Drug Reactions (ADR) Pharmacovigilance Programme of Ayurveda, Siddha, Unani and Homeopathy (ASU & H) Drugs Central Sector Scheme and Centres of Pharmacovigilance of ASU & H Drugs	3	5	1	4
<b>Total Marks</b>			<b>100</b>	<b>75 hr</b>	<b>33 hr</b>