

## Course outcome for Rasashastra & Bhaishajya kalpana Paper II

Course outcome for course Derivation, History & periodical development of Bhaishajya Kalpana

Topic	Must Know	Desirable to know	Nice to Know
<b>Derivation, History &amp; periodical development of Bhaishajya Kalpana</b> 3 hrs I Semester	Vytupatti , ,Derivation of term Bhesaja and Kalpana , Synonyms of Bhesaja , definitions of Bhaishajya Kalpana , Importance of Bhaishajya Kalpana		
		Itihas and Kramika Vikasa of Bhaishajya Kalpana in Vedic kala	
		Itihas and Kramika Vikasa of Bhaishajya Kalpana in Samhita kala	
Student should be able to- CO-1: Define Bhaishajya & Kalpana 'and describe its synonyms. CO-2: Define the term 'Bheshaj & Kalpana'describe its types CO-3: Describe importance and periodic development of Bhaishajya Kalpana			
<b>Fundamental principles of Bhaishajya Kalpana</b> 2 hrs	Aadharbhuta sidhanta of Bhaishajya Kalpana Dravya Grahana Method, season and time of collection of dravya, collection as per potency , qualities of land to collect the		

I Semester	drugs		
		Collection of Jangama and ahara dravyas.	
<p>Student should be able to-</p> <p>CO-1: Define and describe Aadharbhuta sidhanta of Bhaishajya Kalpana.</p> <p>CO-2: Describe Dravya Grahana Method with reference to season and time of collection of dravya, collection as per potency</p> <p>CO-3: Describe collection of Jangama and ahara dravyas.</p>			
I Semester	2 hrs	Nirukti of Maana, necessity of Knowledge of Maana, types of Maana	
		Measures as per imperial and metric system, weights and measures accepted by Ayurvedic pharmacopoeia Committee.	
<p>Student should be able to-</p> <p>CO-1: Define and describe types and significance of Mana.</p> <p>CO-2: Describe Measures as per imperial and metric system, weights and measures accepted by Ayurvedic pharmacopoeia Committee.</p>			
I Semester	1 hr	Saviryata avadhi ,Aushadha matra	Anupan, sevan kala
			<i>Chronopharmacology</i>
<p>Student should be able to-</p> <p>CO-1: Define and describe Saviryata avadhi it's significance in Aushadi nirmaan</p> <p>CO-2; Define and describe Aushadha matra, Anupan, sevan kala and their therapeutic utility.</p> <p>CO-2: Define Chronopharmacology and it's therapeutic utility.</p>			

Aushadha shala nirmana (1hr) I semester	Aushadha shala nirmana - According to the directions mentioned in the Aushadha Prasadhana, Laws of medicine manufacturing, preparation, Definition of ISM Drugs		
<p>Student should be able to-</p> <p>CO-1: Describe Aushadha shala nirmana -According to the directions mentioned in the Aushadha Prasadhana</p> <p>CO-2; Describe Laws of medicine manufacturing, preparation.</p> <p>CO-3: Define ISM Drugs.</p>			
Panchavidha Kashaya kalpanas (6 hrs) I semester	Nature of Kasaya Kalpanas , Kasaya Yonis , selection of the drugs.		
	Definitions and methods of preparation, dose & shelf life of Swaras Kalpanas,		
	Definitions and methods of preparation, dose & shelf life of Kalka		
	Definitions and methods of preparation, dose & shelf life of Kwatha		
	Definitions and methods of preparation, dose & shelf life of Hima		
	Definitions and methods of preparation, dose & shelf life of Phanta		

Student should be able to-

CO-1: Describe Nature of Kasaya Kalpanas , Kasaya Yonis , selection of the drugs CO-2;

Define Swaras Kalpanas it's methods of preparation, dose & shelf life.

CO-3; Define kalka Kalpanas it's methods of preparation, dose & shelf life.

CO-4; Define Kwath Kalpanas it's methods of preparation, dose & shelf life.

CO-5; Define Hima Kalpanas it's methods of preparation, dose & shelf life.

CO-6; Define Phanta Kalpanas it's methods of preparation, dose & shelf life.

Upakalpana 6 hrs I Semester		<b>Mantha, Panaka-</b> method of preparation, Examples, dose & shelf life	
	<b>Upakalpana kwath kalpana</b> - Sadanga paniya , Ushnodaka, , laksha rasa, Pramathya, Kshira paka		
	<b>Upakalpana of Kalka kalpana</b> <b>Churna kalpana</b> Definitions and methods of preparation, dose & shelf life .		
	<b>Upakalpana of Hima kalpana</b> Tandulodaka		

Student should be able to-

CO-1: Define and describe Mantha & panak kalpana with example

CO-2:Describe ingredients ,method of preparation , indication and dose of Sadanga paniya

CO-3:Describe method of preparation , indication and dose of Ushnodaka, laksha rasa,  
Pramathya, Kshira paka

CO-4:Describe method of preparation , indication and dose of Tandulodaka

CO-5:Describe ingredients ,method of preparation , indication and dose of churna kalpana			
<b>Mishra Kalpanas</b> (20 hrs) I Semester	<b>Rasakriya / Ghanasara / Ghana</b> Definitions and Methods of preparation, siddhi lakshanas, Examples, dose & shelf life of Rasakriya / Ghanasara / Ghana	Sanshamani vati Rasanjan	
	<b>Satva Kalpana</b> – Definitions and Methods of preparation, siddhi lakshanas, Examples, dose & shelf life of satva kalpana	Guduchi satva	
	<b>Phanita, Avaleha and Prash Kalpana</b> Definitions and Methods of preparation, siddhi lakshanas, Examples, dose & shelf life of Phanita, Avaleha and Prash Kalpana Vasa avaleha ,Vyaghriharitaki avaleha		
	<b>Vati Kalpana</b> Synonyms, Definitions and Methods of preparation, siddhi lakshanas of vati ,Tablets preparation	pills, in modern pharmaceuticals.	
	<b>Varti Kalpana</b> Synonyms, Definitions and Methods of preparation, siddhi lakshanas of varti	Examples of varti	dose & shelf life, suppository
	<b>Masi Kalpana</b> Definitions and Methods of preparation, of Masi kalpana.		
	<b>Kshara Kalpana</b> Definitions , synonyms and Methods of		Modern techniques for preservation of Kshara sutra.

	preparation, types of kshara kalpana		
	<b>Guggulu Kalpana</b> Definitions, synonyms, method of preparations, indications of different guggulu formulations		
	<b>Arka kalpana</b> Definitions, synonyms, method of preparations, indications of <b>Arka kalpana</b>		

Student should be able to-

CO-1: Define Rasakriya and general methods of preparation, siddhi lakshanas, Examples, dose & it's shelf life

CO-2; Describe Sanshamani vati & .it's methods of preparation, siddhi lakshanas, dose & it's shelf life

CO-3: Define Satva kapana and general methods of preparation, Examples, dose & it's shelf life.

CO-4: Define Phanita and general methods of preparation, siddhi lakshanas, Examples, dose & it's shelf life

CO-5: Define Avaleha and general methods of preparation, siddhi lakshanas, Examples, dose & it's shelf life

CO-6; Describe Vasa avaleha & .it's methods of preparation, siddhi lakshanas, dose & it's shelf life

CO-7; Describe Vyaghriharitaki avaleha & .it's methods of preparation, siddhi lakshanas, dose & it's shelf life

CO8; Describe Chywanprasha avaleha & .it's methods of preparation, siddhi lakshanas, dose & it's shelf life

CO-9: Define Varti kalpana it's general methods of preparation, siddhi lakshanas, Examples

CO-10: Define Suppository it's types & methods of preparation.

CO-11: Define Mashi Kalpana it's method of preparation, Examples, dose & it's shelf life .

CO-12: Define Kshar Kalpana it's method of preparation as per different Acharyas , types, examples, dose & it's shelf life

CO-13: Define Arka Kalpana it's method of preparation, examples, dose & it's shelf life

CO-14: Define guggulu Kalpana it's method of preparation, types, examples, dose & it's shelf life

CO-15: Describe method of preparation, types, excipients added, advantages and disadvantages of tablets.

Aushadhi Yoga Gyanam (12hrs) I semester	Introduction preparation methods, doses, anupan and uses of Punarnavashtak, rasana saptak, Kharjuradi mantha, Bhaskar lavan churna, Lavangadi Vati, Lashunadi, Sitopaladi Churna, Hingwashtaka, Chitrakadi, Sanjeevanivati, Manibhadra Avaleham, Haridra Khanda, Soubhagyashunthi, Phalavarti, Chandraday Varti, Arka Lavan, Narikelalavan. YograjGuggul, Sinhanad Guggul, Triphala guggul		
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Student should be able to-

CO-1: Describe ingredients, method of preparation, indication and dose of Punarnavashtak kwath

CO-2: Describe ingredients, method of preparation, indication and dose of Rasana saptak kwath

CO-3: Describe ingredients, method of preparation, indication and dose of Kharjuradi mantha

CO-4: Describe ingredients, method of preparation, indication and dose of Bhaskar lavan churna.

CO-5: Describe Sitopaladi Churna, it's method of preparation, dose, anupan and uses

CO-6: Describe Hingwashtaka churna, it's method of preparation, dose, anupan and use

CO-7;Describe Soubhagyashunthi paka, it's method of preparation , dose, anupan and uses  
CO-8;Describe Chandraday Varti ,it's method of preparation , dose, anupan and uses  
CO-9;Describe Arka Lavan, it's method of preparation , dose, anupan and uses  
CO-10;Describe Narikela lavan,it's method of preparation , dose, anupan and uses  
CO-11;Describe Triphala guggulu,it's method of preparation , dose, anupan and uses  
CO-12;Describe sinhanad guggulu,it's method of preparation , dose, anupan and uses  
CO-13;Describe YograjGuggul,it's method of preparation , dose, anupan and uses  
CO-14;Describe Lavangadi Vati , it's method of preparation , dose, anupan and uses  
CO-15;Describe Lashunadi, it's method of preparation , dose, anupan and uses  
CO-16;Describe Chitrakadi Vati , it's method of preparation , dose, anupan and uses  
CO-17;Describe Sanjeevani vati,, it's method of preparation , dose, anupan and uses  
CO-18;Describe Manibhadra Avaleham,, it's method of preparation , dose, anupan and uses  
CO-19;Describe Haridra Khanda, it's method of preparation , dose, anupan and uses

### Second Term

Topic	Must Know	Desirable to know	Nice to Know
Sneha Kalpana 7 hrs II semester	Sneha yoni, Types of sneha, Sneha Murcchana, sneha paka vidhi		
	sneha paka prakara and their use .		
	Sneha paka kaala, sneha siddha lakshanas,dose, use of ghril & taila.		
	Preparation & uses of Jatyadi Grita, Bramhi ghrila,		
	Preparation & uses of Narayana taila, Panchaguna tail,	Apamarga kshar taila Bilwa taila	Shdabindu tail



	bhrungaraj taila ,		
<p>Student should be able to-</p> <p>Co- 1 :Define Sneha yoni and it's types.</p> <p>Co- 2 : Describe Sneha Murcchana , it's significance and sneha paka vidhi with it's types</p> <p>Co- 3 :Describe Sneha paka kaala, sneha siddha lakshanas,dose, use of ghrith &amp; taila in therapeutics .</p> <p>Co- 4 :Describe preparation &amp; uses of Jatyadi Grita, Bramhi ghritha</p> <p>Co- 5 :Describe preparation &amp; uses of Narayana taila, Panchaguna tail, bhrungaraj taila</p> <p>Co- 6 :Describe preparation &amp; uses of Apamarga kshar taila ,Bilwa taila</p> <p>Co- 7 :Describe preparation &amp; uses of Shadabindu tail</p>			
<p><b>Sandhana Kalpana.</b> 10 Hours II semester</p>	<p><b>Sandhana Kalpana</b> Definition, classification of sandhaana kalpana ,difference between sukta and Madya kalpana,</p>		
	<p>Sandhana Kalpana Asava and Arista, &amp; its types</p>		
	<p>Sandhana Kalpana the methods of preparation ,properties doses, uses and mode of administration</p>		
	<p>Siddha Sandhana Lakshana of Sandhana Kalpana</p>		
		<p>, Sandhana Kalpana Varuni, Sura Maireya,Surasava, Kanjika,Tushodaka,</p>	

		Shidhu, Souvira Kalpana,	
	Preparation, contents, doses and mode of administration of- Arjunarishta, Ashokarishta, Takararishta, Dashmularishta,		
Student should be able to-			
Co- 1 :Define sandhaana kalpana ,it's types and difference between sukta and Madya kalpana,			
Co- 2 : Describe Asava and Arista, & its types			
Co- 3 :Describe Varuni, Sura Maireya,Surasava, Kanjika,Tushodaka, Shidhu, Souvira Kalpana with their significance .			
Co- 4 :Describe the methods of preparation , Siddha Sandhana Lakshana , properties doses, uses and mode of administration of sandhan kalpas			
Co- 5 : :Describe preparation & uses of Ashokarishta			
Co- 6 :Describe preparation & uses of Arjunarishta			
Co- 7 :Describe preparation & uses of Takrarishta & Dashmoolarishta			
Pathya Kalpana (13hrs) II semester	Concept of Pathya& Apathya		Composition of Pathya Kalpana.
	Yavagu		
	Anna Bhakta Aodan		
	Yusha		
	Krushra		
	Mamsaras, Veshavar		
	Dadhi & Takra	Khada, Kambalika,	
		Raga, Shadav	

Student should be able to-

Co- 1 :Define Pathya& Apathya and it's significance in therapeutics

Co- 2 : Describe Yavagu , Anna Bhakta Aodan & its types

Co- 3 :Describe pathya kalpas prepared by shuka dhanya & shimbi dhanya

Co- 4 :Describe Mamsaras, Veshavar and their significance in therapeutics

Co- 5 : :Define Khada, Kambalika, raga shadav

Co- 6 :Define takra & dadhi kalpanas with their indications

<b>Lepa &amp; Malhara Kalpana</b> (4hrs) II semester	<b>Lepa Kalpana</b> Sikhta Taila, Sarjaras Malahara , Gandhaka malahara, Shatadhouta and Sahastradhout ghrita,		Upanaha – Atasi upanaha
		Brief introduction of Ointments, Creams, Gels, Lotion, Shampoo, Soaps, Liniments.	
<p>Student should be able to-</p> <p>Co- 1 : Define Lepa Kalpana</p> <p>Co- 2 : Describe method of preparation and indications of Sikhta Taila, Sarjaras Malahara , Gandhaka malahara, Shatadhouta and Sahastradhout ghrita</p> <p>Co- 3 :Describe upanah kalpana and atsi upanah nirman with it's use</p> <p>Co- 4 :Define ointments , Creams, Gels, Lotion, Shampoo, Soaps, Liniments and their method of preparation .</p>			
<b>Netra,Mukha, Nasys kalpana</b> (5hrs) II semester	<b>Netra Kalpana</b> Method of preparation and mode of applicationof Tarpana , Putapaka ,Seka , Aschotana ,	Medicaments for eyes as per modern pharmaceutics	preparation of eye drop.

	Anjan, Pindi, Vidalaka, Drava, Nisadi Netra Bindu.		
	<p><b>Mukha &amp; Nasa rog</b></p> <p><b>Kalpana</b> Method of preparation, properties and therapeutic uses of Kavalgraha, Gandusha, Manjana (Tooth powder), Pratisaran. Classification of nasya, Method of preparation, properties and therapeutic uses of Navana, Avapidana, Pradhama, Dhuma and Pratimarsha nasya</p>	Difference between Marsa and pratimarsa nasya	Preparation of nasal drops, mouth paints, mouth wash, tooth paste

<p>Student should be able to-</p> <p>Co- 1: Describe Method of preparation and mode of application of Tarpana , Putapaka ,Seka , Aschotana , Anjan, Pindi, Vidalaka,</p> <p>Co- 2 : Describe Nisadi Netra Bindu , it's method of preparaton and it's use .</p> <p>CO-3: Describe Method of preparation ,properties and therapeutic uses of Kavalgraha, Gandusha , Manjana (Tooth powder),Pratisaran</p> <p>CO-4: Describe Pratisaran.Classification of nasya, Method of preparation,properties and therapeutic uses of Navana, Avapidana, Pradhaman , Dhuma and Pratimarsha nasya</p> <p>CO-5: Differentiate between Marsa and pratimarsa nasya</p> <p>CO-6: Describe preparation of nasal drops, mouth paints, mouth wash, tooth paste</p>			
<p><b>Dhumapan Kalpana –</b> (1 hr) II semester</p>	<p>Definition, Classification, Method of preparation , properties,&amp; therapeutic uses of Dhumapana, Dhupan –Vrana,Yoni, Arsha &amp; Karna dhoopan</p>		<p>Fumigation in modern pharmaceuticals</p>
<p>Student should be able to-</p> <p>Co- 1: Define Dhumpan ,Classification, Method of preparation , properties,&amp; therapeutic uses</p> <p>Co- 2 : Define Dhupan ,Classification, Method of preparation , properties,&amp; therapeutic uses.</p>			
<p><b>Basti kalpana</b> (2hrs) II semester</p>	<p>Classification, Method of preparation of Basti yantra, Basti dravya, Types of Basti, Therapeutic properties &amp; uses of Basti kalpana</p>		
<p>Student should be able to-</p> <p>Co- 1: Describe Classification, Method of preparation of Basti yantra, Basti dravya, Types of Basti, Therapeutic properties &amp; uses of Basti kalpana</p>			
<p><b>Standardization</b></p>			<p>Standardization of</p>

<b>of Ayurvedic Formulations.</b> (5 hrs) II semester			Ayurvedic Formulations
			Standardization of kashtaushadhi & Rasaushadhi
	Drug & Cosmetic Act 1940 & Rules 1945	Drug & Cosmetic Act 1940 & Rules 1945	
Student should be able to- Co- 1: Describe Standardization of Ayurvedic Formulations Co- 2 : Describe Standardization of Standardization of kashtaushadhi & Rasaushadhi CO-3: Describe Drug & Cosmetic Act 1940 & Rules 1945			
<b>Pharmaceutical Packaging</b> (2hrs) II semester		Knowledge of different Packaging Techniques	
Student should be able to- Co- 1: Describe Pharmaceutical Packaging techniques , labeling as per GMP norms			
<b>Traditional Knowledge digital Library</b> (2hrs) II semester		Definition of TKDL& it's significance	IPR
Student should be able to CO-1:Define TKDL& it's significance CO-2: Define IPR			
<b>Preservatives for various dosage forms</b> 2hrs		<b>Preservatives</b> properties of standard preservatives  proportion of different	

II semester		preservatives in different dosage forms	
<p>Student should be able to</p> <p>CO-1:Enlist properties of standard preservatives</p> <p>CO-2: Describe proportion of different preservatives in different dosage forms</p>			
<p><b>Instruments and Equipments</b></p> <p>6 hrs</p> <p>II semester</p>	<p>Instruments &amp; equipments- Application &amp; identification of Disintegrator, Pulveriser, Micropulveriser, Ball mill, End runner, Edge runner, Sieve shaker, Polishing pan, Granulator, Mixer grinder, Tablet making machine,Strip packing machine, Pouch packing machine,Pill making machine,Pill cutter</p>		
<p>Student should be able to</p> <p>CO-1;Describe Application &amp; identification of Disintegrator, Pulveriser, Micropulveriser, Ball mill, End runner, Edge runner</p> <p>CO-2; Describe Application &amp; identification of Sieve shaker</p> <p>CO-3; Describe Application &amp; identification of Polishing pan, Granulator, Mixer grinder, Tablet making machine</p> <p>CO-4; Describe Application &amp; identification of Pouch packing machine,</p> <p>CO-5; ; Describe Application &amp; identification of Pill making machine,Pill cutter</p>			

