

DRAVYAGUNA VIJNAN

(PHARMACOLOGY & MATERIA MEDICA)

Lectures: 200 Hrs.

Practicals: 200 Hrs.

Total Marks -400

Theory Two Papers– 100 Marks Each

Practical/Viva voce – 200 Marks

Paper I

100 Marks

Part A

50 Marks

1- Dravyaguna Shastra Paribhasa- Lakshana of Sapta Padartha of Dravyaguna Vijnana viz Dravya-Rasa-Guna- Virya- Vipaka- Prabhava and Karma.

2- Dravya:

Etymological derivation, definition, panchbhoutikatwa.

Classification of Dravya according to Samhitas and Nighantus Taxonomical classification.

3- Guna:

Etymological derivation, definition and Classification of Guna. Detailed knowledge of Gurvadi Guna & Paradi gunas.

4- Rasa:

Etymological derivation, definition, Meaning of "Rasa" in various contexts. Shad Rasas

(Madhura, Amla, Lavana, Katu, Tikta, and Kashaya), Panchabhautik constitution of Rasas, Nirvrittivisheshakrama (manifestation in general and particular), Ritu and shad rasa Rasanurasayoh bheda (Difference between rasa and anurasa), Lakshana (characteristics),Guna and Karma of shad Rasas, Kopana and Shamana of Dosha and dushya by Shad rasas. Effects of excess usage of Rasa. Rasopalabdhhi, Rasaskandha.

5- Vipaka:

Etymological derivation and definition, difference between Avasthapaka and Vipaka, Types of Vipaka, (Dvidha-Trividha,Panchavidha) Guna and karma of Vipaka.

Grades of Vipaka (taratmya), Vipakopalabdhhi hetu (Factors to determineVipaka).

6- Veerya:

Etymological derivation, definition and Swarupa of Virya, Number of Virya. (Dvidha & Ashtavidha), Panchabhauthikatva

Virya karmani (Effects of Virya), General principles in determination of virya along with exceptions.

7- Prabhava:

Definition, Effects of Prabhava.

8- Interrelation of Rasa-Guna-Virya-Vipaka-Prabhava with respect to their strength (balabal nirupana).
Samanapratyayarabdha and Vichitrapratyayarabdha dravyas.

9- Karma:

Lakshana, swarupa and bheda of karma (Definition, nature and types of action).

Explanation of the following Karmas with examples:

1. Deepana	2. Pachana	3. Samshodhana
4. Samshamana	5. Anulomana	6. Sransana
7. Bhedana	8. Rechana	9. Chhedana
10. Lekhana	11. Grahi	12. Sthambhana
13. Madakari	14. Pramathi	15. Abhishyandi
16. Vyavayi	17. Vikashi	18. Rasayana
19. Vajeeekarana	20. Jeevaneeya	21. Balya
22. Brimhana	23. Langhana	24. Medhya

10. Brief information on Karmas of dashemani gana of Charak Samhita.

11- Mishraka Gana:

11a)- Audbhida Gana (Vegetable origin) Brihatpanchamoola, Laghupanchamoola, Vallipanchamoola, Kantakapanchamoola, Trinapanchamoola, Madhyamapanchamoola, Jeevaneeya panchamoola, Panchapallava, Panchavalakala, Triphala, Trikatu, Trimada, Chaturusana, Panchakola, Shadusana, Chaturbeeja, Jeevaniya gana, Ashtavarga, Trijataka, Chaturajataka, Katuchaturjataka Panchatikta, Amlapanchaka, Chaturbhadr, Trikarshika, Swalpatriphala, Madhuratriphala, Mahavisha, Upavisha, Agrya aushadh varga- Knowledge of Agrayaushadha Varga with example.

11 b)- Jangama Gana (Animal origin)- Ksheerashtaka, Mutrashtaka, Pitta panchaka.

11 c)- Parthiva Gana (Mineral origin) - Lavana Panchaka, Kshara dvaya, Kshara Ashtaka.

12- Basis of nomenclature:

Basis of nomenclature of dravya, Basis and Derivation of synonyms.

13. Bheashaja Pariksha vidhi (as described in Charaka samhita vimana sthana 8), Dravya Sangrahana (collection of dravya)- Ecology- Classification of desha (geographical area) and bhumi (soil), swarupa of sangrahaniya dravya of (Nature and quality of drug to be collected). Sangrahana vidhi (Method of collection) -Vegetable and Animal origin drugs according to part used. Period of collection according to virya, samrakshana vidhi (preservation of collected dravyas), bheshajagara (Storehouse), study on different prayojyanga (useful plant parts).

Part B**50 Marks****(I)****20 Marks**

14 a) Concept of dravya shodhan (purification of dravya). 14 b) Brief knowledge of Apamishran (adulterants)

14 c) Concept of Abhava pratinidhi dravya (substitutes)

15- Prashasta bhesaja (ideal drug), plant extracts. Concept of viruddha Dravya (incompatibility of the dravya).

16- Introduction to Nighantu Vigyan - Dhanwantari Nighantu, Bhavaprakashanighantu, Rajanighantu.

17- Brief knowledge of cultivation, conservation of medicinal plants and information about endangered species.

(II)**30 Marks**

18. - Introduction, Definition & scope of Pharmacology and Principles of general Pharmacology. Brief Knowledge about pharmacology of the following - Anaesthetics, CNS depressants, Sedatives, Hypnotics, Tranquilisers, Antipyretics, Analgesics, Antiepileptics, Antihypertensive, Antianginal, Antiplatelet, Hypolipidaemic, Haemopoetic, Coagulants, Bronchodilators, Aerosols/ Inhalants, Expectorants, Digestants, Carminatives, Antacids, Antiulcer, Laxatives, Antidiarrhoeals, Antiemetic, Hepatoprotective, Diuretic, Antidiuretic, Lithotriptic, Antiinflammatory, Hormonal therapy, Antiobesity, Antidiabetic, Antithyroid, Oxytocic. Galactagogues, Contraceptives, Styptics, Antihistamines, Antimicrobial, Antibiotics, Antimalarial, Amoebicidal, Antifilarial, Anthelmintic, Antifungal, Vitamins, Minerals, Water imbalance and IV fluids, Vaccines, antivenom, antirabbies serum, Local anti septics, drugs in ophthalmic practice, Anti cancer drugs and immunomodulators.

Paper II**100 Marks****Part A****70 marks****1-Detailed Knowledge of Following Dravya –**

- 1- Detailed knowledge of following drugs with respect to Basonym of drug, Main Synonyms, Regional Name, Botanical Name, Family, Classification of Dravya (Gana) as described in Charak and Sushrut, External morphology, Useful parts, Important phytoconstituents, Rasa panchaka, Action on Dosha, Dhatu, Mala, Prayogarha vyadhi (therapeutic indications), Amayikaprayoga and Matra (Therapeutic administration and Dose), Vishishta yoga (names of important formulations), Vishakta Lakshan (adverse effects), Chikitsopachara (remedial measures) and Shodhana (as required)
[Alphabetical order and Botanical names to all the drugs are to be added]

Agaru
Agnimantha
Agnimantha
Ahiphena
Amalaki
Apamarga
Aragvadha

Guggulu
Haridradvaya
Haritaki
Hingu
Jambu
Jatamansi
Jatiphal

Pashanabheda
Patala
Pippali-Pippalimula
Prishniparni
Punarnava
Pushkarmoola
Rasna

Aragvadha	Jeerakadvaya	Rasona
Ardraka-Sunti	Jyotishmati	Rohitaka
Arjuna	Kalamegha	Saireyaka
Arjuna	Kampillaka	Sarivadvaya
Arkadvaya	Kanchanara	Sarpagandha
Ashvagandha	Kantakari	Shalaparni
Asoka	Kapikacchu	Shallaki
Ativisha	Karkatakshringi	Shalmali
Bakuchi	Karpura	Shankhapushpi
Baladvayam.	Katuki	Shatavari
Bhallataka	Khadira	Shigru
Bharangi	Kiratatika	Shirisha
Bhrungaraj	Kumari	Shyonaka
Bibhitaka	Kumkum Kesara	Talisa Patra
Bijak/ Vijaysar	Kupilu	Tila
Bilva	Kushta	Trivrut
Brahmi	Kutaja	Tulasi
Bruhati	Lavanga	Tvak
Chandanadvaya,	Lodhra	Ushira
Chitraka	Madanaphala	Vacha
Dadima	Mandukaparni.	Varahi
Devadaru	Manjishtha	Varahi
Dhataki	Maricha	Varuna
Durva	Musta	Vasa
Eladvayam	Nagakeshara	Vatsanabha
Eranda	Nimba	Vidanga
Gambhari	Nirgundi	Vidari
Gokshura	Palasha	Yastimadhu
Guduchi	Parpata	Yavani

Part B-

30 marks

II- Brief Knowledge of following dravyas with Respect to Sanskrit Name, Botanical Name, Family, Habit (Samanya Swarupa), Parts Used and Indications.

Agastya	Jati	Palandu
Ajamoda	Jayapala	Parasika Yavani
Akarkarabh	Jeevanti	Parijata
Amlavetasa	Kadali,	Parisha
Amra	Kadamba	Parnabija

Amragandhiharidra	Kaidarya	Parnayavani
Ankola	Kakamachi	Parpataka
Aparajita	Kamala	Parushaka
Ashvagol	Kankola	Patalagarudi

Ashvattha	Karanja	Patha
Asthishrunkhala	Karavellaka	Patola
Atasi	Karavira	Patranga
Avartaki	Karira	Pilu
Avartani	Karpasa	Plaksha
Babbula	Kasamarda	Prasarani
Badara	Kasha	Priyala
Bakula	Kasni	Priyangu
Bhumyamalki	Kataka	Puga
Bijapoor	Katphala	Putiha
Bola	Kebuka	Putranjivaka
Chakramarda	Kharjura	Rajika/Sarshapa
Champaka	Kitmari	Rohitaka
Chandrashura	Kokilaksha	Saptachakra
Changeri	Koshataki	Saptaparna
Chavya	Kulatha	Saral
Chirbilva	Kumuda	Sarja
Chopachini	Kusha	Shala
Danti	Kusmanda	Shara
Darbha	Lajjalu	Sharapunkha
Dattura	Langali	Shatahwa
Dhanvayasa	Latakaranja	Shati
Dhanyaka	Latakasturi	Snuhi
Draksha	Madayantika	Sringataka
Dronapushpi	Mahanimba	Svarnakshiri
Gandhaprasarini	Mandukaparni	Tagara .
Garjara	Markandika	Tailaparni
Gojihva,	Masha	Talmuli
Gorakshaganja	Mashaparni	Taruni
Gunja	Matulunga	Tavakshira
Hinsapa	Mayaphala	Teja Patra
Hinstra	Meshashrungi	Tuvaraka
Hribera	Methika	Udumbara
Hrutpatri	Mudgaparni	Urana
Ikshu	Mulaka	Vamsha
Indravaruni	Murva	Vata
Ingudi	Nagabala	Vatada
Irimeda	Nala	Vrudhadaru
Ishvaku	Narikela	Vrukshamla
Isvari	Nili	
Japa	Padmaka	

III .-Introduction, Guna, Karma and Uses of following Jantava Dravya (Drugs of Animal Origin).

1. Kasturi

2. Gorochana

3. Mrigasringa

IV- Introductory Knowledge of Following Annapana Varga:

1.Jala Varga

2.Dugdha Varga

3. Madhu Varga

4.Taila Varga

5.Sukadhanya Varga

6.Shamidhanya Varga

7.Phala Varga

8.Shaka Varga

9. Mamsa Varga

10. Aharayogi

Term Wise Distribution of Theory Syllabus of Dravyaguna

Paper 1

1 st Term	2 nd Term
Syllabus Point No.	Syllabus Point No.
Part A- 1, 2, 3, 4, 5,6,7,8	Part A- 9, 10, 11, 12, 13
Part B- 14, 15 & Point 18(50%i.e. up to Anti inflammatory)	Part B- 16, 17 and Point 18(50% from Hormonal Therapy to immune-modulators)

Paper 2

1 st Term	2 nd Term
Syllabus Point No.	Syllabus Point No.
Part A- 1 to 54 (Detailed Knowledge of Dravyas)	Part A- 55 to 108 Dravyas(Detailed Knowledge of Dravyas)
Part B-1to74 (Brief Knowledge of Dravyas)	Part B-75 to 148 (Brief Knowledge of Dravyas) Part B- point no. III & IV.

PRACTICALS

1.A. Study of Macroscopic, Microscopic characters and Demonstration of organoleptic characteristics and grahya-agrahyatva of following plants and their useful parts.

i.Kanda (stem) - Guduchi or Ashtishrinkhala

ii.Patra (leaves) - Vasa or Kumari

iii.Pushpa (flower and Parts of flower)- Dhataki or Japa

iv.Phala (fruit) – Maricha or Madanaphala or Vidanga

v.Beeja (seeds) – Eranda or Kapikacchhu

- vi. Twak (bark) – Kutaja or Arjuna or Ashwattha
- vii. Moola (Root)- Punarnava or Chitraka
- viii. Nirryasa (exudate) – Guggulu or Mocharasa
- ix. Jangama dravya - Madhu or Ghrita.
- x. Bhaumik Kanda (Rhizome Dravya) – Adarak or Haridra

2. Records of Herbarium sheets of 50 medicinal plants Compulsory study tour other state/s for field knowledge and procurement of plant species.

Term Wise Distribution of Practical Syllabus of Dravyaguna

Practical Point No.	Name of Practical
1	
1 st Term	Kand, Patra, Pushpa, Beeja, Twak and Phala
2 nd Term	Moola, Nirryas, Jangamdravya and Bhaumik Kanda

Practical Point No. 2	Name of Practical
1 st Term	Identification of Dravyas – Local flora , Herbarium Collection
	Study Tour in State
2 nd Term	Identification of Dravyas – out of state flora, Herbarium Collection
	Study Tour out of State
	Completion of Journals and Herbarium Record

Exam Pattern

Internal Assessment and University Theory Paper Pattern

Question Number	Specification Of Question	Total Number of Questions	Number of Questions to be compulsory	Marks For each question	Total marks
01	Short Answer Question	06	05	3	15
02	Short Answer Question	07	06	5	30
03	Long Answer Question	4	3	15	45
					90 marks

Practical Exam Pattern For University Exam (180 Marks)

Spotting-Raw/ Crude Drugs	Spotting-Fresh Drugs	Practical	Viva	Practical Record	Herbarium	Total marks
30 marks	30 Marks	20 Marks	60 Marks	20 Marks	20	180 Marks
15 spot for 2 marks Each	15 spot for 2 marks Each	One Practical	Includes Internal and External Marks Combined As Both examiner has to take exam together	20 marks for Practical Journal	Fifty Herbarium Shits	--

Practical Exam Pattern for Internal Assessment (90 marks)

Spotting- Raw/ Crude Drugs	Spotting- Fresh Drugs	Practical	Viva	Total marks
20marks	20 Marks	10 Marks	40 Marks	90 Marks
10 spot for 2 marks Each	10 spot for 2marks Each	One Practical	Includes Internal and External Marks Combined As Both examiner has to take exam together	--

(प्रात्यक्षिक - द्रव्यपरिचय)
अनुक्रमणिका

अ.क्र.	प्रयोगाचे नाव	दिनांक	अध्यापक स्वाक्षरी
०१.	काण्डे गुडूची किंवा अस्थीशृंखला		
०२.	पत्रे घृतकुमारी किंवा वासा		
०३.	पुष्पे धातकी किंवा जपा		
०४.	फले मरीच किंवा मदनफलम् किंवा विडंग		
०५.	बीजे विडंगम किंवा कपिकच्छु		
०६.	त्वचि अर्जुन किंवा कुटज किंवा अश्वत्थ		
०७.	मूलाः पुनर्नवा किंवा चित्रक		
०८.	निर्यासे गुग्गुलः किंवा मोचरस		
०९.	जांगमद्रव्य मधु किंवा घृत		
१०.	भौमिक काण्ड आर्द्रक किंवा हरिद्रा		

Practical Record Book

महाराष्ट्र आरोग्य विज्ञान विद्यापीठ, नाशिक

..... महाविद्यालय

द्रव्यगुण विज्ञान – वनस्पती परिचय

दिनांक:

द्रव्यगुणविषये प्रायोगिकपत्रकम्

द्रव्यनाम:-

Family:

गण:

पर्यायी नाम:-

संस्कृत –

मराठी –

हिंदी –

English –

परीक्ष्य द्रव्यस्य विशेषविभागः। (Part used)

(मूल-पत्र-त्वक्-निर्यास काण्ड आदि)

अ) द्रव्यं यथादृष्टं साविस्तरं वर्णनीयम् – (Macroscopy)

आकृती विवरण

बाह्यस्वरूप (Macroscopy of part used)

अखंड द्रव्यस्य चित्रम्

आभ्यंतर स्वरूप

व्यतस्थ छेद (आडवा छेद) (Microscopy of part used T.S.)

सूक्ष्मदर्शकसहाय्येन यथा दृष्टं तदनुसार वर्णनम् ।

आकृती (Diagram of T.S.)

ब) द्रव्यस्य अनुलम्ब व्यतस्य छेदयो : (Microscopy of Part used L.S.)

सूक्ष्मदर्शकसहाय्येन यथा दृष्टं तदनुसार वर्णनम् ।

आकृती – (Diagram of T.S./ L.S.)

7) रासायनिक संघटन – (Chemical constitution)

८) पांचभौतिक परीक्षा – (Organoleptic characters)

२. स्पर्श परीक्षण

	गुरु	लघु	मृदु	कठीण	स्निग्ध	रुक्ष	रोम	कंटक	रेखा
शुष्क									
आर्द्र									

३) रूप परीक्षण

अ) बाह्य – रचना वर्णन

१. वर्ण
२. आकार
३. प्रकार
४. अवस्था
५. विशेषता

ब) आभ्यन्तर रचना वर्णन

१. प्रयोज्य अंग
२. चूर्ण (संघटन)

४) रसपरीक्षण

द्रव्य		मधुर	अम्ल	लवण	कटू	तिक्त	कषाय
शुष्क	प्रधानरस						
	अनुरस						
आर्द्र	प्रधानरस						
	अनुरस						

५) गंधपरीक्षण

	सुगंध	दूर्गंध	उग्र	मंद्	साधारण	विशेष	धूपन पश्चात्
शुष्क							
आर्द्र							

६) अपमिश्रण:-

७) ग्राह्याग्राह्यत्व:-

८) प्रयोग द्रव्यस्य स्वरूप परीक्षणः

क्रिया	वर्ण	विलयता	विशेषता
		घुलन/अघुलनशीलता अल्पांश / सर्वांश	
१. जले			
२. तैले			
३. घृते			
४. सुरायां			

८) भौतिक गुण परीक्षण :

द्रव्य	गुरु	लघु	मृदु	कठीण	श्लक्ष्ण	पिच्छिल	विशद	रुक्ष	तीक्ष्ण	द्रव	सान्द्र
मूल											
काण्ड											
त्वक्											
पत्र											
पुष्प											
फल											
बीज											
निर्यास											
जांगम											

द्रव्यस्य भौतिकता निर्णय
(रसानुसारेण)

अध्यापक स्वाक्षरी

Herbarium Sheet Format

द्रव्य नाम:-

वनस्पती परीचय:- क्षुप/गुल्म/वृक्ष/लता

प्रयोज्य अंग :-

पर्याय:- १. संस्कृत _____ २. हिंदी _____ ३. मराठी _____ ४. S.N.(शास्त्रीय नाव) _____ ५. English _____ Family _____ कुल _____ द्रव्यसंग्रह काळ _____ द्रव्यसंग्रह स्थळ _____	कर्म :- दोष: _____ धातू _____ _____ मल _____ _____ रासायनिक संघटन _____ _____ प्रधान कल्प _____ _____ मात्रा _____ _____	रस: _____ वीर्य : _____ विपाक _____ प्रभाव _____ गुण _____ प्रमुख कर्म _____ _____ रोगघ्नता _____ _____
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विद्यार्थ्यांचे नांव :-

द्रव्य क्रमांक :-

अध्यापक हस्ताक्षर

Reference Books

1. Abhinav Buti Darpan (Vol.1-2) -Vd. Roop Lal Vaishya
2. Aushadna Vigyna Shastra -Acharya Pt. Vishvanatha Dwidevi
3. Ayurvediya Aushadnkarma vigyana -Acharya V.J. Thakur

4. Bedi Vanaspati Kosha -Prof. Ramesh Bedi
5. Bhaishajyaguna Vigyana -Dr. Alakhnarayan Singh
6. Bhav Prakash Nigantu (English) -Shreekanthamurti
7. Bhav Prakash Nighantu -With Vd. Krishna Chandra Chunekar commentary

8. Bhrinad dravyagunadarsha -Mahendra Kumar Shastri
9. Classical Uses of Medicinal Plants -Acharya Priyavrata Sharma

10. Controversial Medicinal Plants -Vd. G. Bapa Lal
11. Dalhana Ka Dravyaguna Shastra Ke Kshetra Me Yogadana -Vd. Shiv Kumar Vyas

12. Dravyaguna Kosha -Acharya Priyavrata Sharma
13. Dravyaguna Sutram -Acharya Priyavrata Sharma
14. Dravyaguna Vigyana -Dr. Gyanendra Pandey
15. Dravyaguna Vigyana(Vol. 1-2) -Acharya Yadavji Tikram Ji
16. Dravyaguna Vijyana -Dr. V.M. Gogate
17. Dravyaguna Vigyana (Vol. 1-5) -Acharya Priyavrata Sharma
18. Dravyaguna Shastrum -Vaidya G.A. Phadake
19. Dravyaguna Vijyana -Dr. A.P. Deshpande
20. Dravyagunavijnana basic Principles -Prof.D.S.Lucas

21. Forgotten Healers (Indian Medicinal Plants) -Dr. Prakash Pranjape

22. Glossry of Vegetable Drugs in Bhritrays -Thakur Balwant Singh & Vd. Krishna Chandra Chunekar
23. Introduction to Dravyaguna -Acharya Priyavrata Sharma
24. Kriyatamka Aushadi Parichaya -Acharya Pt. Vishvanath Dwidevi
25. Materia Medica -Acharya Ghosh
26. Nighantu Adarsh (Vol. 1-2) -Vd. Bapa Lal
27. Pharmacological basis of Medical Practice -Goodman & Gillman

28. Pharmacology and Pharmacotherapeutics -Satoskar Bhandarkar & Ainapure

29. Prayogatamaka Dravyaguna Vigyana -Dr. Maya Ram Uniyal
30. Priya nighantu -Acharya Priyavrata Sharma
31. Raspanchaka/Dravyaguna Siddhanta -Prof. Shivcharan Dhyani
32. System of Plant Nomenclature in Ayurveda -Dr. Gyanendra Panday

33. Text Book of Pharmacognosy -Trees & Valis
34. Textbook of Dravyaguna -Dr.K.Nishteswar
35. Unani Dravyaguna Vigyana -Hakim Daljeet Singh

36. Useful parts of Charaka, Sushrut,
and Vagbhata. -
37. Uttarakand Ki Vanaspatiya -Dr. Gyanendra Pandey
38. Vanoaushadi Darshika -Thakur Balwant Singh
39. Vanoaushadi Nidarshika -Dr. Ram Sushil Singh
40. Vedic Vanaspatiyān -Dr. Dinesh Chandra Sharma