

જીયાનું નામ: (૧) લેકચરર સિલેક્શન સ્કેલ(પ્રોફેસર),વર્ગ-૧ (જાહેરાત ક્રમાંક.૦૬/૧૭-૧૮) અને

(૨) લેકચરર સિનિયર સ્કેલ (રીડર), વર્ગ-૧ (જાહેરાતક્રમાંક.૨૨/૧૭-૧૮)

વિષય: “રસશાસ્ત્ર અને ભૈષજ્ય કલ્પના”

કુલ પ્રશ્નો:૩૦૦	પ્રાથમિક કસોટીનો અભ્યાસક્રમ	કુલ ગુણ -૩૦૦
માધ્યમ: ગુજરાતી	Part-I સામાન્ય અભ્યાસ	ગુણ -૧૦૦
૧	ભારતની ભૂગોળ- ભૌગોલિક, આર્થિક, સામાજિક, કુદરતી સંસાધન અને વસ્તી અંગેની બાબતો- ગુજરાતના ખાસ સંદર્ભ સાથે	
૨	ભારતનો સાંસ્કૃતિક વારસો- સાહિત્ય, કલા, ધર્મ અને સ્થાપત્યો- ગુજરાતના ખાસ સંદર્ભ સાથે	
૩	ભારતનો ઇતિહાસ - ગુજરાતના ખાસ સંદર્ભ સાથે	
૪	ભારતની અર્થવ્યવસ્થા અને આયોજન	
૫	<u>ભારતીય રાજનીતિ અને ભારતનું બંધારણ:</u> (૧) આમુખ (૨) મૂળભૂત અધિકારો અને ફરજો (૩) રાજ્યનીતિના માર્ગદર્શક સિદ્ધાંતો (૪) સંસદની રચના (૫) રાષ્ટ્રપતિની સત્તા (૬) રાજ્યપાલની સત્તા (૭) ન્યાયતંત્ર (૮) અનુસૂચિત જાતિ, અનુસૂચિત જનજાતિ અને સમાજના પછાત વર્ગો માટેની જોગવાઈઓ (૯) એટર્ની જનરલ (૧૦) નીતિ આયોગ (૧૧) પંચાયતી રાજ (૧૨) નાણા પંચ (૧૩) બંધારણીય તથા વૈધનિક સંસ્થાઓ- ભારતનું ચૂંટણી પંચ, સંઘ લોક સેવા આયોગ, રાજ્ય લોક સેવા આયોગ, કોમ્પ્ટ્રોલર એન્ડ ઓડિટર જનરલ; કેન્દ્રીય સતર્કતા આયોગ, લોકપાલ તથા લોકાયુક્ત અને કેન્દ્રીય માહિતી આયોગ	
૬	સામાન્ય બૌદ્ધિક ક્ષમતા કસોટી	
૭	સામાન્ય વિજ્ઞાન, પર્યાવરણ અને ઈન્ફર્મેશન એન્ડ કોમ્યુનિકેશન ટેકનોલોજી	
૮	ખેલ જગત સહિત રોજબરોજના પ્રાદેશિક, રાષ્ટ્રીય અને આંતરરાષ્ટ્રીય મહત્વના બનાવો	

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**Syllabus of Preliminary Test for the recruitment of Lecturer Selection Scale (Professor), Class-I (advt.No.06/17-18) and Lecturer Senior Scale (Reader), Class-I, (Ayurveda) (advt.No.22/17-18)**

**(Rasa Shastra and Bhaishajya Kalpana)**

Total Questions:300 Syllabus of Preliminary Test Total Marks-300

**Part-I**

Medium: Gujarati General Study Marks- 100

1	Geography of India- Physical, Economic, Social, Natural Resources and population related topics- with special reference to Gujarat
2	Cultural heritage of India- Literature, Art, Religion and Architecture- with special reference to Gujarat
3	History of India with special reference to Gujarat
4	Indian Economy and Planning
5	<u>Indian Polity and the Constitution of India:</u> (1) Preamble (2) Fundamental Rights and Fundamental Duties (3) Directive Principles of State Policy (4) Composition of Parliament (5) Powers of the President of India (6) Powers of Governor (7) Judiciary (8) Provisions for Scheduled Castes, Scheduled Tribes and backward classes of the society (9) Attorney General (10) NITI Aayog (11) Panchayati Raj Institutions (12) Finance Commission (13) Constitutional and Statutory Bodies: Election Commission of India, Union Public Service Commission, State Public Service Commission, Comptroller and Auditor General; Central Vigilance Commission, Lokpal and Lokayukta, Central Information Commission
6	General Mental Ability
7	General Science, Environment and Information & Communication Technology
8	Daily events of Regional, National and International Importance including Sports

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**Part-II Syllabus Of Concerned Subject**

**(Rasa Shastra and Bhaishajya Kalpana)**

**Medium: English**

**Questions:200**

**Marks : 200**

1. Definition and etymology of Rasa, History and Chronological evolution of Rasashastra and Bhaishajya Kalpana, Fundamental Principles of Rasashastra and Bhaishajya Kalpana. Importance of Rasaushadhi. Concept of Rasa-Rasayana, Rasashala, Rasamandap Raseshwara darshan, Bheshaja and Aushadh. Brief Description and Application of Technical terminologies (Paribhasha) used in Rasashastra and Bhaishajya Kalpana.
2. **Dravya Varga:** Amlavarga, Panchamrittika, Panchagavya, Panchamrita, Ksharashtaka, Dravakagana, Mitra panchaka, Rakta varga, Lavanapanchaka.
3. Detailed knowledge of ancient and contemporary Yantropakarana and their accessories used in aushadhikaran and their contemporary modification such as yantras, mushas, putas, Chullika, Koshtis, bhrashtris, muffle furnaces and other heating appliances, ovens, driers etc. used in manufacturing of Rasaushadhis in small scale and large scale along with their applications.
4. Occurrence, Synonyms, Minerological identification, Sources, Types, Grahya and Agrahyata, Shodhana, Marana and other processing techniques. Properties, dose, anupan and therapeutic uses, pathya – apathya and ashuddha, apakwa and avidhee sevanjanya dosha and its management, important formulations of the

following: Maharasa, Uparasa, Sadharana Rasa, Dhatu, Ratna, Uparatna, Sudha varga, Sikata varga, Kshara varga, Miscellaneous - Mandura, Bola, Dam-ul Akhawayan (Raktabandhini), Kasturi, Bhoonag, Mayurpiccha, Sarjarasa, Madhoochishta.

Visha and Upavisha - Introduction, collection and storage, classification, synonyms, shodhana, antidote, therapeutic and toxic doses, anupan, therapeutic uses, and formulations of following Visha and Upavisha - Vatsanabha, Kuchala, Jayapala, Dhatura, Bhanga, Bhallataka, Gunja, Arka, Snuhi. Langali, Karaveera, Ahiphena and Chitrakmool.

Aushadhi Yoga Gyanam - ingredients, manufacturing process, and bshhajprayogvidhi. Arogya Vardhini Gutika, Kasturibhairava Rasa, Kumara Kalyana Rasa, Garbhapala Rasa, Chandraprabha Vati, Chandramrita Rasa, Pratapalankeshwara Rasa, Pravalapanchamrita Rasa, Anandbhairava Rasa, Yogendra Rasa, Laxmivilas Rasa, Vasantakusumakara, Vasantamalati Rasa, Brihat Vata Chintamani Rasa, Shankha vati, Shwaskuthara Rasa, Hinguleswara Rasa, Hemagarbhapottali, Hridyarnava Rasa, Swarnavanga, Makaradhwaja, Putapakwavaisham Jwarantaka Loha, Vatvidhvamsan Rasa, Kamadugha Rasa, Laghusutshekhar Rasa, Navayasa Loha, Saptamrita Loha, Tamra Parpati, Panchamrita Parpati, Sveta Parpati.

5. Study of Samskara, Role of agni (Heat), jala and other dravas (water and other processing liquids), kala (Time span), paatra (container) etc. and their significance in aushadhikarana. Concept of Bhavana, study of Mardana and its significance and knowledge of ancient and contemporary grinding techniques.
6. Detailed Knowledge of different procedures of Shodhana, Jarana Murchana and Marana, concept of Puta, definition, types and specifications of different Putas. Significance of different Putas in

relation to Bhasmikarana and therapeutic efficacy of dravya under process. Bhasma pariksha vidhi and its significance in relation to contemporary testing procedures. Amritikaran and Lohitikarana.

7. Detailed knowledge of Satva and Druti, Satva shodhan, mrudukaran and Maran of Satva, its significance, in relation to therapeutic efficacy of dravya under process. Concept of Pratinidhi dravya and discussion on controversial drugs.
8. Detailed ancient and contemporary knowledge of Parada and its compounds with reference to source, occurrence, physico-chemical characterization, graahya agraahyatva, Parada dosha, Parada gati, Parada shodhan, Study of Ashta sanskara, ashtadasha sanskara etc., Hingulottha Parada. Concept of Parada jaran, moorcchana, bandhan, pakshaccheda and marana etc. Therapeutic properties and uses of Parada.
9. Detailed ancient & contemporary knowledge with Geochemical / mineralogical / biological identification, source, occurrence, physico-chemical characterization, graahya-agraahyatva, Shodhan Maranadi vidhi and therapeutic properties and uses of dravyas etc. included in Maharasa, Uparasa, Sadharana rasa, Dhatu, Upadhatu, Ratna, Uparatna, Visha, Upavisha, Sudha varga, Lavana varga, Kshara varga, Sikata varga and other miscellaneous drugs used in Rasashastra.
10. Detailed knowledge of manufacturing, pharmacopeial standards, storage, shelf life, therapeutic efficacy, dose, anupana, vikarashanti upaya and development of technology with Standard Operating Procedures of processing, standardization, quality control of Bhasmas and Pishtis, Kharaliya rasa, Parpati, Kupipakva rasa and Pottali rasa.

11. Classical and Contemporary concepts of Collection, storage, Saviryata Avadhi and preservation methods of different fresh and dry Aushadhi dravyas and their graahya agraahyatva.
12. Detailed knowledge of routes of drug administration, Aushadha matra, Anupana, Sahapana, Aushadha Sevana Kala, Kala Avadhi, Pathya, Apathya (Posology).
13. Detailed knowledge of manufacturing, standardization, quality control, pharmacopeial standards, storage, shelf life and development of innovative technology with Standard manufacturing Operating Procedures of following dosage forms : Panchavidha Kashaya, Churna, Rasakriya, Ghana, Avaleha, Pramathya, Mantha, Panaka, Sarkara, Kshirapaka, Ushnodaka, Aushadha Siddha Udaka, Sadangodaka, Tandulodaka, Laksharasa, Arka, Satva, Kshara, Lavana, Masi, Gutika, Vatika, Modaka, Guggulu and Varti etc., Sneha Kalpana, Kritanna and Bheshaja Siddha Anna Kalpana, Aharopayogi varga, concept of medicinal and functional food, dietary supplements and nutraceuticals etc., Sandhana kalpana, Bahya Prayogartho Kalpana, Mukha, Karna, Nasa, Netropacharartha Kalpana, Basti Kalpana.
14. Procedures in relevance to Ayurvedic Bhaishajya Kalpas: Methods of Expression and Extraction: Maceration, percolation, distillation, infusion and decoction. **Liquids:** Clarified liquid, syrup, elixir, filtration techniques. **Solid dosage Forms: Powders:** Size reduction, separation techniques, particle size determination, principles of mixing. **Tablets:** Methods of tableting, suppositories, pessaries and capsules, sustained release dosage forms. **Semisolid dosage forms,** emulsions, suspensions, creams and ointments, sterilization of ophthalmic preparations. An introduction to various

cosmetic preparations. Drying, open and closed air drying, freeze drying, vacuum drying and other drying methods pharmaceutical excipients.

#### **15. Rasa Chikitsa & Aushadha Yoga Vigyana**

Rasachikitsa, Kshetrikaran, Rasajirna, Lohajirna, Aushadhi Sevana Vikarashanti Upaya. Ashuddha, Apakva, Avidhi Rasadravya Sevanajanya Vikara evam Vikara shanti upaya.

Detailed knowledge of Aushadhi patha Nischiti and sanyojan (formulation composition), dose, anupana and method of administration, therapeutic efficacy and uses (indications and contra-indications), probable mode of action etc. of the following Aushadhi yogas : Kharaliya Rasa, Kupipakva Rasa, Parpati Rasa, Pottali Rasa, Loha evam Mandura Kalpa, Panchavidha Kashayas and their Upakalpa:, Kritanna and Bheshaja Siddha Ahara Kalpana, Churna, Gutika, Guggulu, Sneha Kalpa, Sneha Moorchhana, Siddha Ghrita, Siddha Taila, Rasakriya, Avaleha, Khanda etc., Sandhana Kalpa, Anya Kalpa etc.

#### **16. Pharmacology and Pharmacy Management**

General Pharmacology: Principles of Pharmacology, Pharmacodynamics & Pharmacokinetics. Routes of drug administration. Factors modifying drug effect, Bioavailability and Bioequivalence, drug interactions, adverse drug reaction and drug toxicity. Preclinical evaluation: experimental pharmacology [bioassay, in vitro, in vivo, cell line studies] animal ethics.

Clinical pharmacology: Evaluation of New Chemical Entity – phases and methods of clinical research. Ethics involved in human research.

Elemental constituents of human body and its physiological importance. Deficiencies and excess of various elements (micro-nutrients). Toxicity of heavy metals and chelation therapy.

Knowledge of toxicity and pharmacological activities of herbo-mineral compounds.

Detailed Knowledge of Pharmacovigilance – National and International Scenario. Pharmacovigilance of Ayurvedic Drugs.

Scope and evolution of pharmacy. Information resources in pharmacy and pharmaceutical Science. Pharmaceutical dosage form design (Pre-formulation). Packaging materials and Labeling. Management of pharmacy, store and inventory management, personnel management, Good Manufacturing Practices related to Ayurvedic drug industry. Pharmaceutical Marketing, product release and withdrawals. Hospital, Dispensing and Community pharmacy. Patenting and Intellectual Property Rights.

17. Study of classical texts with special emphasis on Chakradatta, Sharangadhara Samhita, Bhaishajya Ratnavali, Bhava Prakasha, Yogaratnakara, relevant portions of Brihatrayi, Ayurvedic Pharmacopeia of India, Ayurvedic Formulary of India. Regulatory Affairs related to International Trade and Practices of Ayurvedic Drugs. Introduction to Traditional Knowledge Digital Library
18. Study of classical texts with respective commentaries and special emphasis on Rasarnava, Rasahridaya tantra, Rasa Ratna Samucchaya, Rasendra Chintamani, Rasendra Chudamani, Rasa Ratnakara, Rasadhyaya, Rasa Kamdhenu, Anandkanda, Siddha Bhashaja Manimala, Ayurveda Prakash, Rasatarangini, Bhaishajya Ratnavali, Rasamritam etc. Relevant portions of Brihatrayi.
19. Laws Governing Ayurvedic drugs: Relevant regulatory provisions of Ayurvedic drugs in Drug and Cosmetics Act - 1940 and Rules – 1945, Laws pertaining to Drugs and Magic remedies (Objectionable Advertisement) Act - 1954. Prevention of Food Adulteration (PFA) act. Food Standards and Safety Act – 2006. Laws pertaining to



Narcotics. Factory and Pharmacy Acts. Consumer Protection Act - 1986.

- 20. Research Methodology:** Brief historical background of research in Ayurved and contemporary medical science. Research in Ayurved - Scope, need, importance, utility. Types of Research, Research design: observational and interventional, descriptive and analytical, preclinical and clinical, qualitative and quantitative. Research process, Research tools. The concept and importance of ethics in research, Ethical aspects related to human and animal experimentation. Information about Institutional Ethics Committee (IEC) and Animal Ethics Committee (AEC) and their functions. Classical Methods of Research. Comparison between methods of research in Ayurveda (Pratigya, Hetu, Udaharana, Upanaya, Nigaman) and contemporary methods in health sciences. Concept of Evidence Based Medicine and Scientific Writing, Importance of IT in data mining and important research data portals concerned with Ayurved and contemporary medical science (DHARA, PubMed, Ayush Research Portal, Bioinformatics Center, Research Management Informatic System etc.), Medical-Statistics.
- 21. Current Trends and Recent Advancements in Ayurveda.**