

જીયાનું નામ: (૧) લેકચરર સિલેક્શન સ્કેલ(પ્રોફેસર),વર્ગ-૧ (જાહેરાત ક્રમાંક.૦૩/૧૭-૧૮) અને

(૨) લેકચરર સિનિયર સ્કેલ (રીડર), વર્ગ-૧ (જાહેરાત ક્રમાંક.૧૯/૧૭-૧૮)

વિષય: “ક્રિયા શારીર”

કુલ પ્રશ્નો:૩૦૦	પ્રાથમિક કસોટીનો અભ્યાસક્રમ	કુલ ગુણ -૩૦૦
Part-I		
માધ્યમ: ગુજરાતી	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	ભારતીય રાજનીતિ અને ભારતનું બંધારણ: (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	

Syllabus of Preliminary Test for the recruitment of Lecturer Selection Scale (Professor), Class-I (advt.No.03/17-18) and Lecturer Senior Scale (Reader), Class-I, (Ayurveda) (advt.No.19/17-18)

(Kriya Sharir)

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

Part-II Syllabus Of Concerned Subject

(Kriya Sharir)

Medium: English

Questions:200

Marks : 200

1. **Conceptual study of fundamental principles of Ayurvediya Kriya Sharir.** Definition and synonyms of the term Sharir and Kriya, description of Sharir Dosha and Manasa Dosha. Difference between Shaarir and Sharir. Description of the components of Purusha and classification of Purusha, role of Shatdhatupurusha in Kriya Sharira and Chikitsa.
2. **Dosa-Dhātu-Mala Vijñāna: Contribution of different Ayurveda Samhita in Kriya Sharir**
 - Theory of Pancamahābhūta.
 - Principle of Loka-Purusa Sāmya
 - Importance of Sāmānya - Viśesa principle.
 - Different views on the composition of Purusa and the importance of Cikitsya Purusa.
 - Importance of Gurvādi Guna in Ayurveda.
 - Mutual relationship between Triguna-Tridosa-Pancamahābhūta-Indriya.
 - Mutual relationship between Rtu-Dosa-Rasa-Guna.
 - General description of Tridosa theory. Biological rhythms of Tridosa on the basis of Day-Night-Age-Season and Food intake.
 - Role of Dosa in the formation of Prakrti of an individual and in maintaining health.
 - *Vāta Dosa*, *Pitta Dosa* and *Kapha Dosa*: General locations (*Sthāna*), general attributes (*Guna*) and general functions (*Sāmānya Karma*).

Five subdivisions of *Vāta*, Pitta and Kapha with their specific locations, specific properties, and specific functions. Applied physiology of Tridosha principle: Kriyākāla, Dosa Vrddhi-Dosa Ksaya.

- **Dhātu Posana:** Process of nourishment of Dhātu. Description of various theories of Dhātu Posana (Ksīra-Dadhi, Kedārī-Kulya, Khale Kapota etc).
- **Dhātu:** General introduction and definition of Dhātu. Formation, Definition (Nirukti), Distribution, Attributes, quantity, classification, Pāñcabhautika composition and Functions of all seven Dhātus in detail: Rasa, Rakta, Māmsa, Meda, Asthi, Majjā, Śukra.
- Applied physiology of Dhātu: Manifestations of Ksaya and Vriddhi of each Dhātu. Description of Dhātu Pradosaja Vikāra.
- Description of Āśraya and Āśrayī kind of relationship between Dosa and Dhātu.
- Description of the characteristic features of Astavidha Sāra. Description of Rasavaha, Raktavaha, Māmsavaha, Medovaha, Asthivaha, Majjāvaha and Śukravaha Srotāmsi.
- **Ojas:** Definition, locations, synonyms, Formation, Distribution, Properties, Quantity, Classification and Functions of Ojas. Description of Vyādhiksamitva. Bala Vrddhikara Bhāva. Classification of Bala. Relation between Ślesmā, Bala and Ojas.
- Applied physiology of Ojas: Etiological factors and manifestations of Ojaksaya, Visramsa and Vyāpat. Physiological and clinical significance of Ojas.
- **Upadhātu:** General introduction and Definition of the term 'Upadhātu'. Formation, Nourishment, Quantity, Properties, Distribution and functions of each Upadhātu.
- **Stanya:** Characteristic features and methods of assessing Śuddha and Dūsita Stanya, Manifestations of Vrddhi and Ksaya of Stanya.

- **Ārtava:** Characteristic features of Śuddha and Dūsita Ārtava. Differences between Raja and Ārtava, physiology of Ārtavavaha Srotāmsi.
- Study of Tvak
- **Physiology of Mala** - Definition of the term 'Mala'. Definition, Formation, Properties, Quantity and Functions of Purīsa, Mutra. Manifestations of Vrddhi and Kshaya of Purīsa and Mūtra.
- **Sveda** – Definition, Formation, Properties, Quantity and Functions of Svedavaha Srotāmsi. Formation of Sveda. Manifestations of Vrddhi and Kshaya of Sveda.
- **Dhātumala** – Definition, Formation, properties, Quantity, Classification and Functions of each Dhātumala.

3. Prakrti- Sattva Vijñāna

- **Deha-Prakrti:** Various definitions and synonyms for the term 'Prakrti'. Factors influencing the Prakrti. Classification of Deha-Prakrti. Characteristic features of the individuals belonging to each kind of Deha-Prakrti. Recent advances in understanding the Prakrti.
- **Pancajnanendriya:** Physiological description of Pancajnanendriya and physiology of perception of Śabda, Sparśa, Rūpa, Rasa, Gandha. Indriya-panca-pancaka; Physiological description of Karmendriya.
- **Manas** – Definition, location (sthana), Properties, Functions and Objects of Manas.
- **Ātmā** – Definition, Properties of Ātmā. Difference between Paramātmā and Jīvātmā; Characteristic features of Ātmā.
- **Buddhi** – Location, Types, Functions of Buddhi; Physiology of Dhī, Dhrti and Smrti.
- **Nidrā** – Definition of Nidrā, Classification of Nidrā. Tandra, physiological and clinical significance of Nidra; Svapnotpatti and Svapnabheda.

- Physiology of special senses. Intelligence, Memory, Learning and Motivation, sleep, speech and articulation, Pain and temperature.

4. **Kosthanga Kriya Vijñāna**

- **Āhāra:** Definition and significance of Āhāra. Classification of Āhāra. Āhāra-vidhi-vidhāna. Asta āhāra-vidhi viśesāyatana, Āhāraparināmakara bhāva.
- **Āhārpāchana:** Āhāra Pāka Prakriyā, Description of Annavaha Srotās. Description of Avasthāpāka and Nishthapaka. Role of dosha in Āhārapāka. Sāra and Kitta Vibhajana. Absorption of Sāra. Utpatti and Udiceran of Vāta-Pitta-Kapha.
- Definition of the term Kostha. Physiological classification of Kostha and the characteristics of each kind of Kostha.
- **Agni:** Description of the importance of Agni. Classification of Agni. Locations, properties and functions of Jātharāgni, Bhūtāgni, and Dhātvaṅni.
- Applied physiology of Agni in Kriyā Śārīra and Cikitsā.
- Description of the aetiology and features of Annavaha Srotodusti. Applied physiology of Annavaha Srotās: Arocaka, Ajīrna, Atīsāra, Grahanī, Chardi, Parināma Śūla Agnimāndya.
- Description of the process of digestion and absorption of fats, carbohydrates and proteins in human gastrointestinal tract.
- Movements of the gut (deglutition, peristalsis, defecation etc.) and their control. Role of neuro-endocrine mechanisms in the process of digestion and absorption. Enteric nervous system.
- Applied physiology of gastrointestinal tract: Vomiting, Diarrhoea, Malabsorption etc.
- Recent understandings related to the gut microbiota and their role in health and disease.

- Introduction to biochemical structure, properties and classification of proteins, fats and carbohydrates. Description of the processes involved in the metabolism of proteins, fats and carbohydrates.
- Vitamins: sources, daily requirement and functions. Physiological basis of signs and symptoms of hypo and hyper-vitaminosis.

5. Modern Physiology and its applied aspect Physiology of Neuro-Immune-Endocrine Mechanisms:

- Physiology of Nervous System. General introduction to nervous system: neurons, mechanism of propagation of nerve impulse. Study of CNS, PNS and ANS. Sensory and motor functions of nervous system. Functions of different parts of brain and spinal cord, Hypothalamus and limbic system.
- Physiology of Endocrine system. Classification and characteristics of different hormones. Description of hormones secreted by Hypothalamus, Pituitary gland, Thyroid gland, Parathyroid glands, Pancreas, Adrenal glands and their physiological effects. Effects of hypo and hyper-secretion of various hormones.
- Male and female reproductive physiology. Spermatogenesis and oogenesis. Hormonal regulation of uterine and ovarian cycles. Physiology of pregnancy and lactation. Parturition.
- Adipose tissue and its Function. Circulating lipids. Description of lipoproteins like VLDL, LDL and HDL and their composition.
- Physiology of immune system. Definition and classification of immunity: Innate, acquired and artificial. Mechanisms involved in humoral and cell mediated immunity.

6. Cardiovascular physiology, Respiratory physiology and Blood:

- Physiology of Cardio-Vascular system: Functional anatomy of cardiovascular system. Cardiac cycle. Heart sounds. Regulation of cardiac output and venous return. Physiological basis of ECG. Heart-rate and its regulation. Arterial pulse. Systemic arterial

blood pressure and its control. Regional circulations. Physiology of lymphatic circulation.

- Physiology of Respiratory system: Functional anatomy of respiratory system. Ventilation. Mechanism of respiration. Exchange and transportation of gases. Neural and chemical control of respiration. Spirometry and lung function tests. Artificial respiration.
- Functions of Haemopoetic system: Composition and functions of blood and blood cells. Haemopoiesis- (stages and development of RBCs, WBCs and platelets); Introduction to bone marrow: composition and functions of bone marrow. Structure and functions of haemoglobin, mechanism of blood clotting, study of platelets. physiological basis of blood groups. Principles of blood transfusion, plasma proteins- synthesis and functions. Applied physiology: Anaemia, Jaundice.

7. **Musculoskeletal Physiology:** Physiology of muscles. Classification of muscles. Electrical and mechanical properties of Cardiac, skeletal and smooth muscles.
8. **Physiology of Excretion:** Physiology of excretion. Functional anatomy of urinary tract. Functions of kidneys. Mechanism of formation of urine. Control of micturition. Renal function tests. Structure and functions of skin, sweat glands and sebaceous glands.
9. Knowledge of Physiograph, Computerised spirometry, Biochemical Analyzer, Pulse oxymeter, Elisa Reader, Hematology Analyzer, Tread mill etc. instruments.
10. Recent studies in biorhythms, Recent advances in Neuro-Immune-Endocrine physiology and in stem cell research.

11. 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.

12. Current Trends and Recent Advancements in Ayurveda.