

જીયાનું નામ: ટ્યુટર ફીજીયોલોજી ,વર્ગ-૨ (જાહેરાત ક્રમાંક.૧૧૮/૧૮-૧૯)

	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		

Post: Tutor Physiology , Class –II (Advt.No.118/18-19)

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

(Physiology)

Medium: English

Questions: 200

Marks: 200

1. ANATOMY

Introduction to Anatomy, nomenclature, anatomical position, planes, tissues and movements, Osteology, Muscular System, Arthrology, Cardio Vascular System, Respiratory System, Digestive System, Genito-Urinary System, Endocrine System and Individual Endocrine Glands, Nervous System and its components, Special sensory Organs, Lymphatic System, Surface Anatomy, Cross Sectional Anatomy, Microanatomy: Microscope and basic principles of microscopy, commonly used stains, basophilic and acidophilic staining reactions and their significance, Commonly encountered artifacts, Brief principle of electron microscopy and interpretation of ultrastructural features.

2. GENERAL PHYSIOLOGY

Mutual introduction of dramatis personae in the teaching learning process, Know thy institute, Physiology: what and why? Homeostasis: an evolutionary point of view, Characteristics of control systems, looking back & forth, Reading efficiently.

NERVE–MUSCLE: Physicochemical properties of cell membrane, Cell membrane: permeability & transport, Principles of bioelectricity, Genesis of resting membrane potential, Action potential, Properties of nerve-fibres, Functional anatomy of neuromuscular junction, Neuromuscular transmission, Muscle proteins – (Biochemistry), Excitation – contraction coupling, Contraction kinetics of skeletal muscles, Smooth muscle, Injury & repair of nerves and muscles, Energetics of nerve & muscle, Work Physiology.

BLOOD: Functions of plasma proteins, Principles of hemopoiesis, Regulation of erythropoiesis, Destruction of red cells: Jaundice, Anemia, Regulation of

WBC production, Functions of WBC, Functions of platelets, Hemostasis, Blood groups, Physiological basis of transfusion medicine.

RESPIRATORY SYSTEM: Introduction to respiratory system, Lung volumes and capacities, Mechanics of respiration, Composition of respired air: pulmonary ventilation, Exchange of gases in the lungs, Ventilation – perfusion ratio, O₂ carriage, O₂–dissociation curve, CO₂ carriage, CO₂–dissociation curve, Neural regulation of respiration, Chemical regulation of respiration, Hypoxia, cyanosis and dyspnea, Special features of pulmonary circulation, Artificial respiration
Artificial respiration, Therapeutic use of oxygen.

CARDIOVASCULAR SYSTEM: Introduction to CVS, Properties of cardiac muscle, Action potential and spread of impulse in the heart, E-C coupling in the myocardium, ECG, Pressure changes in the heart. Cardiac cycle, Functional basis of heart sounds and murmurs, neural regulation of cardiac activity, Regulation of heart rate, intrinsic regulation of heart's action. Cardiac output, Cardiac output: measurement and regulation, Nutrition and metabolism of heart, Exercise physiology, General principles of hemodynamics, Cardiovascular reflexes, Neural control of circulation, Special features of cerebral circulation, Special features of circulation in skeletal muscles and skin.

GASTROINTESTINAL SYSTEM: Introduction to Gastrointestinal Physiology, general organization of G.I. tract, Mastication and deglutition, Gastric secretion, Regulation of gastric secretion, Pathophysiology of peptic ulcer, Biliary and pancreatic secretions, Physiology of colon, Pathophysiology of peptic ulcer.

NUTRITION: Introduction to environmental physiology, Body temperature regulation, Man in cold environment, Man in hot environment, Hypothermia and its clinical applications, Physiological responses to high altitude, Physiological response to high atmospheric response.

REPRODUCTION: Introduction to reproductive system, Male reproductive physiology, Female reproductive physiology, Hypothalamic-Pituitary-gonadal axis, Puberty, Pregnancy, Parturition and lactation, Reproductive ageing.

KIDNEY: Renal hemodynamics and glomerular filtration, Renal tubular function, Regulation of renal function, Physiological basis of renal function tests, Micturition.

3. NEUROPHYSIOLOGY

Introduction to neurophysiology, CSF, Neuroglial cells, Synaptic transmission, Properties of synaptic transmission, Neurotransmitters, Sensory system, Coding of sensory information, Functional organization of ascending sensory pathways, Thalamus, Sensory cortex, Perception of sensory stimuli, Physiology of pain, motor system, Characteristics and properties of reflexes, Functional organization of motor system, Brain stem reflexes, stretch reflexes and tendon reflexes, Basal ganglia, Cerebellum, Vestibular neck reflexes, Localizing the level of lesion in neurological disease, visceral and motivational system, Autonomic nervous system, Hypothalamus, Limbic system and emotions, Electroencephalography, Sleep and wakefulness, Learning and memory, Speech.

4. SPECIAL SENSES

Functional anatomy of eye, Functions of retina: photoreception, color vision and electroretinography, Central mechanisms of vision and visual perception, Functional anatomy of ear: impedance matching, Organ of Corti: peripheral auditory mechanism, Auditory pathway, Central auditory mechanism and auditory perception, Olfaction, Physiology of taste.

5. YOGA

Introduction to yoga, the yogic practices, Meditation: principles and practice, Physiological effects of yoga, Yoga in health and disease.

6. Current Trends and Recent Advancements in the field of Human Physiology.