



वर्षा वन अनुसंधान संस्थान
भारतीय वानिकी अनुसंधान एवं शिक्षा परिषद्
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार के अधीन एक स्वायत्त परिषद्)
पोस्ट बॉक्स नं. 136, जोरहाट - 785001, असम।

RAIN FOREST RESEARCH INSTITUTE

Indian Council of Forestry Research & Education

(An Autonomous body of Ministry of Environment, Forests & Climate Change, Govt. of India)

Post Box No. 136, Jorhat- 785001, Assam

No. 3/213/2015-Estt. Vol. VIII/३७७

Dated: the 30th June, 2020

NOTICE

In continuation to this office Recruitment Notice No. 3/213/2015-Estt. Vol. VIII dated 16th June, 2020 for list of 'Screened In' and 'Screened Out' candidates for the post of Technical Assistant (Zoology), the syllabus and scheme of Written Examination are mentioned below:

➤ There will be an objective type of question paper comprising 100 MCQ in total from different subjects. Questions of relevant subject will be according to graduation level. Duration of exam will be 03 hours. The details of each subject and MCQ are as follows:

1. General awareness & Reasoning : 20 marks

a) General Awareness:

Questions in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Questions will also be designed to test knowledge of current events and of such matters of everyday observation and experience in their scientific aspects as may be expected from an educated person. The test will also include questions relating to India and its neighbouring countries especially pertaining to history, culture, geography, economic scene, general policy and scientific research etc. These questions will be such that they do not require a special study of any discipline.

b) Reasoning:

Questions of reasoning would include questions of both verbal and non-verbal type. This component will include questions of analogies, similarities and differences, spatial visualization, spatial orientation, problem solving, analysis, judgement, decision making, visual memory, discrimination, observation, relationship concepts, arithmetic reasoning, verbal and figure classification, arithmetic number series, non-verbal series, coding and decoding statement, conclusion, syllogistic reasoning etc.

2. General English & General Science : 20 marks

a) General English:

Questions in this component will be designed to test the candidate's understanding and knowledge of English language and will be based on spot the error, fill in the blanks, synonyms, antonyms, spelling/detecting misspelled words, idioms & phrases, one word substitution, improvement of sentences, Active/Passive Voice of Verbs, conversion into direct/indirect narration, comprehension Passage etc.

b) General Science:

Basic understanding of science expected of a high school student

3. Arithmetic : 20 marks

The questions will be designed to test the ability of appropriate use of numbers and number sense of the candidate. The part will include questions on problems relating to number system, computation of whole numbers, decimals and fractions, relationships between numbers, fundamental arithmetical operations, percentage, ratio and proportion, average, interest, profit and loss, discount, use of tables and graphs, mensuration, time and distance ratio and time etc.

4. Relevant Subject -Zoology : 40 marks

a) Animal Diversity:

Kingdom Protista, Phylum Porifera, Phylum Cnidaria, Phylum Platyhelminthes, Phylum Nemathelminthes, Phylum Annelida, Phylum Arthropoda, Phylum Mollusca, Phylum Echinodermata, Protochordates, Agnatha, Pisces, Amphibia, Reptiles, Aves, Mammals.

b) Comparative Anatomy and Developmental Biology of Vertebrates:

Integumentary System (derivatives of integument w.r.t. glands and digital tips), Skeletal System (evolution of visceral arches), Digestive System (brief account of alimentary canal and digestive glands), Respiratory System (gills, lungs, air sacs and swim bladder), Circulatory System (evolution of heart and aortic arches), Urinogenital System (succession of kidney, evolution of urino-genital ducts), Nervous System (comparative account of brain), Sense Organs (types of receptors), Early Embryonic Development (gametogenesis, fertilization etc.), Late Embryonic Development (implantation of embryo in humans, formation of human placenta and functions etc.), Control of Development (fundamental processes in development gene activation, determination etc.)

c) Physiology and Biochemistry:

Nerve and muscle, Digestion, Respiration Excretion, Cardiovascular system, Reproduction and Endocrine Glands, Carbohydrate Metabolism, Lipid Metabolism, Protein Metabolism, enzymes.

d) Genetics and Evolutionary Biology:

Introduction to genetics, Mendelian genetics and its extension, Linkage, Crossing over and Chromosomal Mapping, Mutations, Sex Determination, History of Life, introduction to Evolutionary Theories, Direct Evidences of Evolution, Processes of Evolutionary Change, Species concept, Macro evolution, Extinction.

e) Animal Biotechnology:

Introduction (concept and scope of biotechnology), Molecular Techniques in Gene manipulation (cloning vectors, restriction enzymes, transformation techniques etc.), Genetically Modified Organisms (production of cloned and transgenic animals, applications of transgenic animals, production of transgenic plants, applications of transgenic plants), Culture Techniques and Applications.

f) Applied Zoology:

Introduction to Host-Parasite Relationship, Epidemiology of Diseases, Rickettsiae and Spirochaetes, Parasitic Protozoa, Parasitic Helminthes, Insects of Economic Importance, Insects of Medical Importance, Animal Husbandry, Poultry Farming, Fish Technology.

g) Aquatic Biology:

Aquatic Biomes (brief introduction of the aquatic biomes etc.), Freshwater Biology (Lakes: origin and classification etc., Streams: different stages of stream development etc.), Marine Biology (salinity and density of sea water etc.), management of Aquatic Resources (causes of pollution, Water quality assessment-BOD and COD etc.)

h) Immunology:

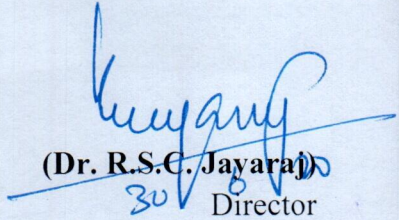
Overview of the Immune System, Cells and Organs of the Immune System, Antigens, Antibodies, Working in the Immune System, Immune System in health and disease, vaccines.

i) Reproductive Biology:

Reproductive endocrinology (gonadal hormones and mechanism of hormone action, steroids etc.), Functional anatomy of male reproduction (outline and histological of male reproductive system in rat and human, testis, germcell etc.), Functional anatomy of female reproduction (outline and histological of female reproductive system in rat and human, ovary, ovulation etc.), Reproductive Health (infertility in male and female, assisted reproductive technology etc.)

j) Insect, Vectors and Diseases:

Introduction to Insects, concept of vectors, insects as vectors, dipteran as disease vectors, siphonaptera as disease vectors, siphuculata as disease vectors, hemiptera as disease vectors.


(Dr. R.S.C. Jayaraj)
30/8/20

Director

Rain Forest Research Institute, Jorhat
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