

INDIAN INSTITUTE OF TECHNOLOGY MADRAS, CHENNAI– 600036

Advertisement No. IITM/R/4/2021 dated 21.07.2021

RECRUITMENT FOR THE POST OF JUNIOR TECHNICIAN (BIOLOGY/LIFE SCIENCE)

Syllabus for 2 Levels of selection process

Level-1 Test: Syllabus for Multiple Choice Questions (MCQ) Test:

1.General Aptitude: English Language & Grammar, Verbal and Non-Verbal Reasoning, Aptitude, General Knowledge and General Awareness & General Science.

2.Bio Chemistry: Water and Polarity; Hydrogen bonds, Acids, bases and pH; Buffers; Biomolecules ; Carbohydrates, lipids, proteins, nucleic acids, Enzyme Kinetics; Metabolism, Glycolysis, Kerb's cycle; Electron transport and oxidative phosphorylation

3.Cell Biology: Prokaryotic cells; Eukaryotic cells; Cell Wall. Cell membrane, cytoskeleton, nucleus, chloroplast, mitochondria, endoplasmic reticulum, Golgi bodies, ribosomes, lysosomes, vacuoles, Cell cycle and division; mitosis and meiosis

4.Molecular Biology: Genetic material; DNA and RNA; Biosynthesis; replication, transcription, translation, splicing, Polymerase chain reaction; Plasmid vectors; cloning and expression of proteins in prokaryotic and eukaryotic systems, promoters and enhancers

5.Microbiology: Bacteria; Archaea; Microbial eukarya; Bacterial Classification – Five kingdom concepts, The Bergey's Manual of bacterial classification, modern concepts of 16 RNA based classification; Bacterial genetics – outlines of transduction, transformation, conjugation, gene regulation and cloning; Bacterial growth – cell division, population growth, effect of temperature and pH; Classification and importance of other microbial groups – viruses, protozoa, fungi, algae, nematodes

6.Genetics: Mendelian laws of segregation and independent assortment, heredity and environment, Modified Mendelian ratios; Gene mapping; Chromosomal aberrations and gene mutations, Sex determination.

Results of Level-1 test will be published in the Institute recruitment portal <https://recruit.iitm.ac.in>

Level – 2 Test: Syllabus for Trade Test

- Syllabus as above (Except SI.No.1).