

Notice

**(Addendum to notice for recruitments tests for the post of Technical Officer)
Detailed Syllabus for Written Test**

In continuation of the notice dated 24.08.2021 regarding recruitment tests for the post of Technical Officer, the candidates shortlisted for the post of Technical Officer are hereby further informed that the detailed syllabus for the Written Test (80 marks) for the post of Technical Officer shall be as under:

For Technical Officer (Cell Culture Lab):

Cell Basics, Membrane Structure and Function, Structural Organization and Function of Intracellular Organelles, The Cytoskeleton, Cell Communication, Overview of the cell cycle control system, Cell Chemistry and Biosynthesis, components of the cell cycle, cell cycle progression, Intracellular control of the cell cycle events, Extracellular control of cell division, Cell growth, and apoptosis, General principles of cell communication, The Culture Environment , Cell Growth Curves, Cellular Differentiation ; Primary Cells: Isolation and Culture, Refeed & observe cells, Overview about genes involved in cell-cell interaction, Overview about genes involved in cell cycle regulation. Cell cycle synchronization. Principles and techniques of nucleic acid hybridization, Southern, Northern and Western hybridization/blotting, DNA microarray-fabrications, Details of Polymerase chain reaction, Microscopic techniques: Principles and application of light, phase contrast, fluorescence, confocal, scanning and transmission electron microscopy, cytophotometry and flow cytometry.

For Technical Officer (HRTEM , XRD etc.):

Sl. No.	Topic	Sub Topics
1	Electron Microscopy	Basics of Microscopy and optical microscopy.
		Types of Electron microscopes, Instrumentation of Electron Microscopes. Working Principle, Applications of SEM and TEM.
		Elemental analysis with Electron microscope. EDX, WDX: Working Principle, Applications.
2	X-ray Techniques	Basics of X-Ray analysis. Various X-ray sources and X-ray nomenclature.
		Working principle, Instrumentation, Applications of powder XRD, XRF and XPS.
3	Thermo-analytical methods	Basics of Thermo-analytical analysis.
		Working principle, Instrumentation, Applications of DSC, TGA and DTA.
4	Spectroscopic methods	Basics of Spectroscopic techniques.
		Working principle, Instrumentation, Application of UV-Visible spectroscopy, FTIR spectroscopy and Raman spectroscopy.

Registrar

Webmaster – for uploading on the website of the Institute.