

National Centre for Nanoscience and Nanotechnology (NCNSNT)

University of Madras

Syllabus and model question pattern for M.Sc. Nanoscience and Nanotechnology (Regular & Self Supportive) Entrance Examination

Syllabus: M.Sc. Nanoscience and Nanotechnology is an inter-disciplinary course; hence the entrance examination questions will be asked from the following subjects in basic level.

Physics: Solid State Physics - Electrostatics - Electromagnetic Waves and Optics - Atomic physics - Nuclear Physics - Semiconductor devices and applications .

Chemistry: Inorganic, Organic and Physical Chemistry.

Biology: General biology and Biotechnology.

Nanoscience: Basics and general applications

Model Question Pattern

Total Marks = 100

BIOLOGY (30 X 1 = 30 marks)

1. What is the full form of GFP?
a) Green Fish Protein b) Green Fluorescent Protein []
c) Go for Protein d) Glass of Protein
2. Which enzyme can be used for bioluminescence?
a) Luciferase b) Amylase c) Protease d) Lipase []

CHEMISTRY (30 X 1 = 30 marks)

1. The bond order of oxygen molecule is
a) 2.5 b) 1 c) 3 d) 2 []
2. The migration of colloidal particles under the influence of an electric field is known as
a) Electroosmosis b) Cataphoresis []
c) Electrodialysis d) Electrophoresis

NANOSCIENCE AND NANOTECHNOLOGY (10 X 1 = 10 marks)

1. Which ratio decides the efficiency of nanosubstances?
a) Weight/volume b) Surface area/volume []
c) Volume/weight d) Pressure/volume
2. The size of a virus is _____ nm.
a) 2 b) 50 c) 20 d) 2000 []

PHYSICS (30 X 1 = 30 marks)

1. The resistivity of a wire depends on
a) Length b) Material c) Cross section area d) None of the above []
2. Production of heat due to current is related by which law
a) Ohm's law b) Joule's law c) Kelvin's law d) Maxwell's law []