Roll No.												

PRESIDENCY UNIVERSITY
BENGALURU

Department of Research & Development
Mid - Term Examinations - SEPTEMBER 2024

Odd Semester: Ph.D. Course Work	**Date**: 27 /09/2024
Course Code: PHY806	**Time**: 2:00pm – 3:30pm
Course Name: Nanoscience and nanotechnology	**Max Marks**: 50
Department: Physics	**Weightage**: 25%

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 5 marks.		**4Qx5M=20M**
1	Differentiate quantum wires and quantum wells	**5 Marks**
2	What are the key applications of semiconducting nanoparticles in electronics?	**5 Marks**
3	What are common types of defects observed in nanocrystalline materials	**5 Marks**
4	Why are nanomaterials of interest in scientific and technological applications?	**5 Marks**

Part B

Answer ALL Questions. Each question carries 15 marks.		**2QX15M=30M**
5	(i) Explain in detail, the effects of nano-dimension on material behavior (ii) Explain in detail about Chemical Vapor Deposition (CVD)	**15 Marks**
6	What is Physical Vapor Deposition (PVD), and how is it used in the fabrication of nanomaterials? Explain the possible parameters with suitable diagrams.	**15 Marks**