

M.Sc Physics - 4th Semester**(2721)****Paper: Phy-566 Nano Technology****Time Allowed: 2 hrs.****Max. Marks: 100**

Note: There are EIGHT questions of equal marks. Candidates are required to attempt any FOUR questions.

Section A

1. Give idea of
 - a) Inert gas condensation
 - b) Arc discharge
 - c) RF plasma
 - d) Chemical vapour deposition

2. Explain in brief the nanolithography on the basis of
 - a) AFM
 - b) SEM
 - c) XRD

Section B

3. Give brief information about
 - a) optical microscopy
 - b) FTIR microscopy
 - c) Raman microscopy

4. Explain the basic principle, construction and working of the transmission electron microscope.

Section C

5. Describe in brief the CVD and other methods for the preparation of Carbon nano tubes .

6. Write down the method of preparation of Fullerence. What are the different characterization that can be perform on fullerence. Also explain its properties.

Section D

7. What are the MEMS and NEMS ? Also explain the packaging and characterization of sensors.

8. Give the detail information about the LED, solar cell and electroluminescence.

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