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**PRESIDENCY
UNIVERSITY
BENGALURU**

School of Engineering

Mid - Term Examinations - November 2024

Semester: III

Date: 07-11-2024

Course Code: MEC3009

Time: 09:30am – 11:00 am

Course Name: Nano Technology

Max Marks: 50

Program: B. Tech

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 2 marks.

5Qx2M=10M

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|---|---|---------|----|-----|
| 1 | List few man made nanomaterials | 2 Marks | L1 | C01 |
| 2 | List any two applications of quantum dots in the field of engineering | 2 Marks | L1 | C02 |
| 3 | Outline any 2 advantages of using metallic nanomaterials | 2 Marks | L1 | C02 |
| 4 | What are the applications of nanotechnology in various fields of engineering? | 2 Marks | L1 | C01 |
| 5 | List any two limitations of using carbon nanotubes | 2 Marks | L2 | C02 |

Part B

Answer ALL Questions. Each question carries 10 marks.

4QX10M=40M

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|-----------|--|----------|----|-----|
| 6 | Explain the advantages of using carbon nanotubes in various engineering fields | 10 Marks | L2 | C02 |
| or | | | | |
| 7 | Summarize some of the properties of graphene | 10 Marks | L2 | C02 |
| 8 | Outline the applications of graphene in the field of mechanical engineering | 10 Marks | L3 | C03 |
| or | | | | |
| 9 | Explain the Lithography method of manufacturing nanomaterials | 10 Marks | L2 | C03 |
| 10 | Explain about the surface to volume ratio of different nano structures | 10 Marks | L2 | C03 |

or

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|-----------|---|----------|----|-----|
| 11 | Outline the advantages of using the top down approach of manufacturing nano materials | 10 Marks | L2 | C03 |
| 12 | Demonstrate with the help of a diagram the working of CVD process for manufacturing nanomaterials | 10 Marks | L3 | C02 |
| or | | | | |
| 13 | Explain briefly about some of the properties of fullerene | 10 Marks | L2 | C02 |