

Total No. of Questions : 4]

**PA-10203**

SEAT No. :

[Total No. of Pages : 1

**[6010]-76**

**B.E. (E & TC) (Insem)**

**NANO ELECTRONICS**

**(2019 Pattern) (Semester - VIII) (Elective - VI) (404192 B)**

*Time : 1 Hour]*

*[Max. Marks : 30*

*Instructions to the candidates:*

- 1) *Solve Q.1 or Q.2, Q.3 or Q.4.*
- 2) *Figures to the right indicate full marks.*
- 3) *Assume suitable data, if necessary.*

- Q1)** a) Explain Electrical conduction and Ohm's Law in relation with nanotechnology. [8]
- b) What are the limitation of silicon material. [7]

OR

- Q2)** a) Explain what is the role of Molecular recognition in nanotechnology. [7]
- b) What is polymerization? Explain the process of DNA hybridization with schematic. [8]
- Q3)** a) Explain nanoscale lithography. [5]
- b) With neat diagram explain Nano-CMOS devices. [5]
- c) Explain principle of operation of AFM techniques. [5]

OR

- Q4)** a) Describe the use of nanoelectronics with suitable example. [5]
- b) Explain dielectric material for future transistor. [5]
- c) Discuss nanocrystal non-volatile memories. [5]

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