Total No. of Questions : 8]

SEAT No. :

**P2864**

[Total No. of Pages : 2

# [6004]-562
# B.E. (E & TC)
# NANO ELECTRONICS
## (2019 Pattern) (Semester - VIII) (Elective - VI) (404192 B)

*Time : 2½ Hours]* *[Max. Marks : 70*

***Instructions to the candidates:***

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***
2) ***Neat diagram must be drawn wherever necessary.***
3) ***Figures to right indicate full marks.***
4) ***Assume suitable data if necessary.***

***Q1)*** a) Explain Metal nano particles? Classified Nano particles. Properties. **[8]**

b) Explain Properties of CNT & give its Applications. **[8]**

OR

***Q2)*** a) What is Cluster? Explain Carbon nano tubes. **[8]**

b) Explain Nano material & Its Types. **[8]**

***Q3)*** a) Explain Photolithography process in detail. **[9]**

b) Explain Electron Beam Lithography with neat Diagram. **[9]**

OR

***Q4)*** a) Explain Nano electronics for communication. **[9]**

b) Explain Atomic Lithography with neat Diagram. **[9]**

***Q5)*** a) What are molecular switch? Explain Ph switch. **[9]**

b) Explain MEMS. **[9]**

OR

***P.T.O.***

***Q6)*** a) Explain NEMS. **[9]**

b) Explain types of Super molecular Switches. **[9]**

***Q7)*** a) What are Nano sensor? Explain Optical Sensor. **[9]**

b) Which are types of Nano Sensor? Explain Nano biosensor. **[9]**

OR

***Q8)*** a) What is Energy Capture? Explain Solar Cell. **[9]**

b) Explain Transformation. **[9]**