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SEAT No. :

**P46**

[Total No. of Pages : 1

**APR - 17/BE/Insem. - 53**  
**B.E. E & TC (Semester - II)**  
**NANO ELECTRONICS & MEMS**  
**(2012 Pattern)**

*Time : 1 Hours]*

*[Maximum Marks : 30*

*Instructions to the candidates:*

- 1) Answer Q. 1 or Q.2, Q.3 or Q.4, Q.5 or Q.6*
- 2) Neat diagrams must be drawn wherever necessary.*
- 3) Assume suitable data if necessary.*

**Q1)** a) Explain different types of cubic structures. [6]

b) Explain in brief point defects. [4]

OR

**Q2)** Explain different steps involved in fabrication of MOSFET [10]

**Q3)** Explain Chemical vapor Deposition method in detail. [10]

OR

**Q4)** Explain different types of Etching methods in detail. [10]

**Q5)** Explain the concept of [10]

- a) Single electron devices & Transistor (SET)
- b) Quantum dot
- c) Quantum wire
- d) Nano wires

OR

**Q6)** a) Explain quantum particles with applications. [5]

b) Draw and explain construction of FinFET. [5]

