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SEAT No. :

P42

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**Oct.-16/T.E./Insem.-42**

**T.E. (Computer Engineering)**

**DATA COMMUNICATION AND WIRELESS SENSOR NETWORKS**

**(2012 Pattern) (Semester - I)**

*Time : 1 Hour]*

*[Max. Marks : 30*

*Instructions to the candidates:*

- 1) *Solve Que. 1 or 2, Que. 3 or 4, Que. 5 or 6.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Assume suitable data if necessary.*
- 4) *Figures to the right indicate full marks.*

**Q1) a)** Represent 0011010111001 using following line coding schemes [6]

- i) AMI
- ii) Differential Manchester
- iii) Polar NRZ

b) Write a note on Bluetooth frame format. [4]

OR

**Q2) a)** Define Sampling. Explain different sampling techniques with diagram. [6]

b) Describe the working of Virtual LAN. [4]

**Q3) a)** Explain Direct Sequence Spread Spectrum with an example. [5]

b) Compare Message switching and packet switching techniques. [5]

OR

*P.T.O.*

- Q4)** a) The size of the sender and receiver window must be at most one-half of  $2^m$  in Selective Repeat ARQ protocol - Justify with flow diagram. [5]  
b) Explain working of CSMA/CA and detail the flow diagram. [5]

- Q5)** a) Draw and explain the architecture of Wireless sensor network. [6]  
b) Explain WSN Military application. [4]

OR

- Q6)** a) What is RFID technology? Explain active and passive tags. [6]  
b) Explain category 1 and category 2 sensor networks. [4]

