Total No. of Questions : 6] SEAT No. :

P5040

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T.E./Insem. - 538

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 right indicate full marks.***

Q1) a) Encode binary data stream 11001110 using following line coding schemes : **[6]**

i) Manchester code

ii) Differential Manchester

iii) Polar (RZ, NRZ)

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

OR

Q2) a) Explain different sampling techniques with diagram & example. **[6]**

b) What is sampling Frequency, Nyquist frequency, Sampling rate & Nyquist Rate? **[4]**

Q3) a) Explain sliding window protocol with an example. **[6]**

b) Explain Circuit switching with suitable diagram. **[4]**

OR

P.T.O.

Q4) a) Compare circuit switching & packet switching techniques. **[4]**

b) Write in detail the working of CSMA/CA and detail the flow diagram. **[6]**

Q5) a) Draw and explain the architecture of wireless sensor network. **[6]**

b) What is RFID? List out the differences between RFID and Barcode. **[4]**

OR

Q6) a) Explain the use of WSN in Military application & Robots. **[4]**

b) Explain category 1 and category 2 sensor networks with features. **[6]**