Total No. of Questions : 10]

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SEAT No. :

[Total No. of Pages : 3

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T.E. (Computer Engineering) (Semester - I)
DATA COMMUNICATION & WIRELESS SENSOR NETWORKS
(2012 Pattern)

Time : 2.30Hours]
[Max. Marks : 70

Instructions to the candidates:

1) Attempt Q1 OR Q2, Q3 OR Q4 10 Marks each.
2) Attempt Q5 OR Q6 16 Marks each.
3) Attempt Q7 OR Q8 18 Marks each.
4) Attempt Q9 OR Q10 16 Marks each.
5) Neat diagrams must be drawn wherever necessary.
6) Assume Suitable data if necessary.
7) Figures to the right indicate full marks.

Q1) a) "In Adaptive delta modulation,quantization error increases as slope error reduces" State true or false with proper justification. [6]

b) How does Virtual Private Network work? Write applications of VPN.[4]

OR

Q2) a) Draw and Explain B8ZS,AMI line coding techniques in detail. [6]

b) Explain necessity of flow and error control protocols in Wireless Sensor Network. [4]

Q3) a) Three thousand six hundred reservation stations are available for use of single slotted ALOHA channel. The average station have 10 reservation request per hour. A slot has 125 µs. What is approximate channel load?[6]

b) "CSMA CD minimizes the recovery time post collision while CSMA CA reduces possibility of a collision" State true or false with justification.[4]

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Q4) a) Identify the difference between Ad hoc and cellular network. [6]

b) Write in detail applications of Wireless body Sensor Network in health domain. [4]

OR

Q5) a) Design suitable criteria that decides selection of schedule or contention based protocols in MAC layer. [8]

b) Explain with neat diagram Sensor Medium Access Control Protocol in Wireless Sensor Network. [8]

OR

Q6) a) Discuss in detail design issues related to address and name management in Wireless Sensor Network [8]

b) Describe the necessity of low duty cycle protocols and wakeup concept in Wireless Sensor Network [8]

Q7) a) Explain the concept of "Information via Negotiation" in SPIN. [8]

b) Explain in detail data centric or attribute based routing protocol with example. [5]

c) Describe role of network layer in data dissemination and gathering. [5]

OR

Q8) a) "Low Energy Adaptive Clustering Hierarchy protocol improves lifetime of the Wireless Sensor Network" State True or False with Justification.[8]

b) With neat diagram explain working of Power Efficient Gathering in Sensor Information System protocol in Wireless Sensor Network. [5]

c) Compare proactive and reactive routing protocol design issues in Wireless Sensor Network [5]

Q9) a) "Tiny OS is application specific operating system for Wireless Sensor Network" Justify the statement with respective to architecture, design, issues, functions. [8]

b) Design role of Wireless Sensor Network in Internet of Things. [8]

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