Registration No :

Total Number of Pages : 01

M.Tech.
P2CTCC12

2nd Semester Regular / Back Examination 2017-18
WIRELESS SENSOR NETWORK
BRANCH : COMMUNICATION ENGG,
COMMUNICATION SYSTEMS, ELECTRO & COMM. ENGG,
ELECTRO AND TELECOMMUNICATION ENGG
Time : 3 Hours
Max Marks : 100
Q.CODE : C840
Answer Question No.1 which is compulsory and any FOUR from the rest.
The figures in the right hand margin indicate marks.
Answer all parts of a question at a place.

Q1   **Answer the following questions:** *Short answer type:*   **(2 x 10)**
   a)   Distinguish between shadowing and reflection of signal propagation.
   b)   What is fading? List the different types of fading.
   c)   Define Mobile Ad Hoc networks. Give an example.
   d)   What is meant by dynamic modulation scaling?
   e)   What are the mechanisms used in the MAC layer?
   f)   Write the frame format of 802.11a
   g)   What is the need for power management in Adhoc network?
   h)   What is call rerouting?
   i)   Distinguish between single-hop and multihop networks?
   j)   What is the benefit of using multipath routing in WSN?

Q2 **a)** Why clustered architecture is specially useful for sensor network?   **(10)**
   b) Discuss the design principles for Wireless Sensor Networks.   **(10)**

Q3 **a)** Explain different congestion type in WSN.   **(10)**
   b) Compare MANET and WSN. Discuss the potential applications of WSN.   **(10)**

Q4 **a)** Explain the design approaches and performance of S-MAC protocol.   **(10)**
   b) Describe the Low Energy Adaptive Clustering Hierarchy.   **(10)**

Q5 **a)** Discuss about importance of time synchronization in WSN. Explain the   **(10)**
        differentlatency in the channel. Also estimate the clock phase difference using
        threemessage exchange.
   b) Write detailed notes on any one node-level software platforms.   **(10)**

Q6 **a)** Explain 802.11g IEEE standard in detail.   **(10)**
   b) List the important goals of designing a MAC protocol for ad hoc wireless   **(10)**
        networks.

Q7 **a)** Explain multicast routing algorithms in detail.   **(10)**
   b) Explain in detail about the energy consumption of sensor nodes.   **(10)**