Reg. No. : | | | | | | | | | | |

Question Paper Code: 52242

M.E. DEGREE EXAMINATION, JUNE 2016

Second Semester

Computer Science and Engineering (With Specialization in Networks)

15PNE202 – SENSOR AND AD-HOC NETWORKS

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. In wireless ad-hoc network

   (a) access point is not required (b) access point is must
   (c) nodes are not required (d) none of these

2. In what type of network, network topology changes from time to time?

   (a) Wi-Fi (b) Cell Network (c) LAN (d) MANET

3. MEMS stands for

   (a) Micro Electro Mechanical Sensor
   (b) Modular Emergency Medical System
   (c) Military Emergency Management Specialist
   (d) Maine Emergency Medical Services

4. Transport layer protocols deals with

   (a) Application to application communication
   (b) Process to process communication
   (c) Node to node communication
   (d) None of these

5. In mesh topology, every device has a dedicated topology of

(a) Multipoint linking (b) Point to point linking
(c) Both (a) and (b) (d) None of these

PART B - (5 x 3 = 15 Marks)

6. Why conventional multicast routing protocols cannot be used in ad hoc networks?

7. Define single hop and multiple hop in networks, which is suitable for ad hoc network, why?

8. How is a sensor node different from an ad hoc node?

9. Shortlist any three primary objectives of AODV protocol.

10. Define the terms self-healing and self-configuring in mesh networks.

PART C - (5 x 16 = 80 Marks)

11. (a) What are the main issues that need to be addressed while designing a MAC protocol for ad hoc wireless networks? (16)

Or

(b) (i) Write short notes on hidden and exposed terminal problems in ad hoc network. (8)

(ii) Categories the different types of MAC protocol in ad hoc network. (8)

12. (a) (i) Explain why traditional TCP cannot be used in wireless ad hoc networks. (8)

(ii) Discuss the importance of Split TCP and ad hoc TCP in ad hoc network. (8)

Or

(b) (i) Give a detailed classification of routing protocols in ad hoc wireless networks. (8)

(ii) Write short notes on transport layer protocol in ad hoc networks. (8)

13. (a) Explain briefly about the network architecture of wireless sensor network with a neat sketch. (16)

Or

(b) (i) Write short notes on data dissemination in wireless sensor networks. (8)

(ii) List the various challenges in design of wireless sensor networks. (8)

14. (a) Explain in detail the various issues in designing a routing protocol for a wireless sensor networks. (16)

Or

(b) Explain the functionalities of Optimized Link State Routing Protocol (OLSR) with a data flow diagram. (16)

15. (a) Discuss in detail the IEEE 802.11s architecture with neat sketch. (16)

Or

(b) (i) Explain protocol and algorithm design of heterogeneous mesh networks. (8)

(ii) Write short notes on necessity of mesh networks. (8)