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Question Paper Code : 20341

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Seventh / Eighth Semester

Computer Science and Engineering

CS 6003 – AD HOC AND SENSORS NETWORKS

(Common to Biomedical Engineering, Electronics and Communication Engineering,
Information Technology)

(Regulations 2013)

(Also common to PTCS 6003 – Ad Hoc and Sensors Networks for B.E. (Part-Time)
Sixth Semester – Computer Science and Engineering and Seventh Semester –
Electronics and Communication Engineering, Regulations – 2014)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define the term: Internet Protocol (IP).
2. Differentiate between WSNs and MANETs.
3. What is meant by Internet Proxy?
4. What is slotted ALOHA?
5. What is the need for Routing Protocols?
6. Mention the QoS parameters.
7. What is Data relaying?
8. What is Sensor Network Localization?
9. Why is energy efficiency important in WSN Routing?
10. What is Synchronized communication?

PART B — (5 × 13 = 65 marks)

11. (a) Describe the characteristics of Wireless Channel in detail.
Or
(b) (i) Explain briefly the architecture of MANET with a neat diagram. (7)
(ii) Describe the characteristics, requirements and applications of Ad Hoc and Sensor Networks. (6)
12. (a) Explain in detail the principle of contention based protocols with scheduling mechanism. (13)
Or
(b) Discuss the classification of MAC protocols. Explain the principle of contention based reservation mechanism. (13)
13. (a) Describe in detail the design issues in routing and transport layer protocols. (13)
Or
(b) Explain the various classical improvements over TCP in mobile with environment.
14. (a) Outline the hardware and software components of a Sensor Node with a block diagram.
Or
(b) Explain data aggregation strategies in WSNs. (13)
15. (a) Distinguish between Absolute and Relative Localization in detail. (13)
Or
(b) Describe about OLSR routing protocol with an example. (13)

PART C — (1 × 15 = 15 marks)

16. (a) How will you conduct Mathematical analysis of routing, based on Circular Graphs? Illustrate with an example. (15)
Or
(b) How will you estimate the technical challenges related to the information flow in a network and the communication costs imposed by different algorithms? Illustrate with suitable examples. (15)