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10CS/IS841

Eighth Semester B.E. Degree Examination, Dec.2016/Jan.2017
Ad-hoc Networks

Time: 3 hrs. Max. Marks:100

Note: ***Answer FIVE full questions, selecting at least TWO questions from each part.***

PART – A

1 a. List out any 10 differences between cellular networks and ad hoc wireless networks. **(10 Marks)**

b. Discuss following applications of Ad Hoc wireless networks
   i) Collaborative and Distributed computing
   ii) Emerging operations. **(04 Marks)**

c. Explain the following issues need to be considered when an ad hoc wireless system is to be designed i) Scalability ii) Self organization. **(06 Marks)**

2 a. Explain the issues that need to be addressed while designing a MAC protocol for ad hoc networks. **(10 Marks)**

b. Describe the three types of MAC protocols. **(06 Marks)**

c. Explain the frame format in CATA with neat diagram. **(04 Marks)**

3 a. Explain MAC protocol using Directional Antennas. **(10 Marks)**

b. Discuss multichannel MAC protocol in detail. **(10 Marks)**

4 a. List out at least 10 characteristics of an Ideal routing protocol for Ad Hoc wireless networks. **(10 Marks)**

b. Explain the route establishment and route maintenance in signal stability based Adaptive Routing protocols with an example. **(10 Marks)**

PART – B

5 a. Explain zone routing protocol and its advantages and disadvantages. **(10 Marks)**

b. Write a note on power – aware routing protocols. **(10 Marks)**

6 a. List out the design goals of a transport layer protocol for Ad – hoc wireless network. **(10 Marks)**

b. Explain Feedback –Based TCP with an example. **(10 Marks)**

7 a. Brief about the issues and challenges in security provisioning. **(06 Marks)**

b. List out the Network security requirements. **(04 Marks)**

c. Explain security Aware Ad Hoc Routing protocol. **(10 Marks)**

8 a. Write a note on the following design choices for providing QOS support
   i) Hard state versus soft state resource reservation
   ii) Statefull versus stateless approach. **(10 Marks)**

b. Explain cluster TDMA. **(10 Marks)**

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