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**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 (04 Marks)
  - 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 (10 Marks)
  - ii) Statefull versus stateless approach. (10 Marks)
- b. Explain cluster TDMA. (10 Marks)

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