

**Code No: D9306****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****M.TECH II - SEMESTER EXAMINATIONS, APRIL/MAY 2012****ADHOC WIRELESS AND SENSOR NETWORKS****(SYSTEMS & SIGNAL PROCESSING)****Time: 3hours****Max. Marks: 60****Answer any five questions****All questions carry equal marks**

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- 1.a) Compare and contrast infrastructure networks with adhoc networks.
- b) What are the various issues that are to be considered for wireless Internet? Explain.
- 2.a) What are the various issues and challenges that are to be considered to design a ad-hoc wireless system?
- b) How does the packet queueing mechanism of MACA differ from that of MACAW? Which one of them is better? Why?
- 3.a) What are the advantages of reservation based MAC protocols over contention based MAC protocols?
- b) Which protocol is more bandwidth efficient, RTMAC or MACA/PR? Explain.
- 4.a) Compare the on-demand routing protocols and the table-driven routing protocols.
- b) What are the various issues in designing a transport layer protocol for ad-hoc wireless networks?
- 5.a) Discuss the various TCP solutions for ad-hoc wireless networks.
- b) What are the various issues in providing QoS in ad-hoc wireless networks? Explain.
- 6.a) Explain the MAC protocol used in IEEE 802.11e.
- b) What are the advantages of having transmission opportunities, arbitrary inter frame space (AIFS) in the IEEE 802.11e MAC protocol?
- 7.a) What are the advantages of clustered architecture over a layered architecture in a sensor networks?
- b) Explain the MAC protocol for sensor network.
8. Write short notes on
  - a) Home RF
  - b) Transmission power management schemes in ad-hoc wireless networks.
  - c) HIPERLAN standard.

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