

Code No: 873AF

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**MCA III Semester Examinations, March/April - 2023****AD-HOC AND SENSOR NETWORKS****Time: 3 Hours****Max.Marks:75****Note:** i) Question paper consists of Part A, Part B.

ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.

iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A**(25 Marks)**

- 1.a) Write the important characteristics of Mobile ad hoc networks. [5]
- b) Explain the motivation for hybrid multicast protocols in Manets. [5]
- c) Explain the differences between the two types of Geocast routing protocols. [5]
- d) Explain the challenges for routing in WSN. [5]
- e) What is meant by data aggregation in distributed sensor query processing? [5]

PART – B**(50 Marks)**

- 2.a) Give the taxonomy of routing protocols for Manets. Differentiate them. [5+5]
 - b) Illustrate the working of Zone Routing Protocol (ZRP). [5+5]
- OR**
- 3.a) Compare and contrast DSDV and AODV protocols. [5+5]
 - b) What are the building blocks of position-based routing algorithms in ad hoc networks? [5+5]
- 4.a) Explain the concept in AMRIS protocol for multicast in Manets. [5+5]
 - b) Write the steps in ODMRP protocol for multicast in Manets. [5+5]
- OR**
- 5.a) Distinguish the terms-Broadcast, multicast and geocast. [5+5]
 - b) Write about MCEDAR, a hybrid multicast protocol. [5+5]
- 6.a) Explain the concept in Location-Based Multicast (LBM) for Manet geocasting. [5+5]
 - b) Illustrate the working of MGR protocol for geocast in Manets. [5+5]
- OR**
- 7.a) Explain the cross-layer architecture used in ELFN protocol for TCP in Manets. [5+5]
 - b) Write the role of extra layer in Ad hoc TCP (ATCP) scheme over ad hoc links. [5+5]
- 8.a) Draw a neat sketch for functional block diagram of a typical wireless sensor node. [5+5]
 - b) Explain how routing is done using Directed Diffusion protocol in Manets. [5+5]
- OR**
- 9.a) Explain how links are established using SMACS protocol in WSNs. [5+5]
 - b) Mention the steps in SPIN family of protocols for sensor networks. [5+5]
- 10.a) List and brief the issues of transport layer in wireless sensor networks. [5+5]
 - b) Write about sensor database system-COUGAR. [5+5]
- OR**
- 11.a) What are the concepts used for in-network processing in WSNs? [5+5]
 - b) Explain the role of an adaptation mechanism in the context of dynamic nature of WSNs? [5+5]

---ooOoo---