

Code No: 864AD**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****MCA IV Semester Examinations, September/October - 2022****MOBILE COMPUTING****Time: 3 Hours****Max.Marks:75****Answer any five questions****All questions carry equal marks**

- 1.a) Explain how GPRS networks replace circuit switch services on second generation GSM Communication. Explain its services and operations in detail.
- b) List various limitations of Mobile and Handheld devices. [8+7]
- 2.a) Explain the role of HLR entity of a GSM network.
- b) What are the functions of authentication and encryption in GSM? [7+8]
- 3.a) Describe the process of IP Packet delivery with neat sketch.
- b) Give the main reason for implementing specialized MAC in wireless networks. [9+6]
- 4.a) Explain the requirements for the evolution of new mobile IP protocol from existing IP protocol along with the working of mobile IP protocol.
- b) Compare SDMA, FDMA. [8+7]
- 5.a) Explain how selective retransmission is a useful extension of TCP. Are there any disadvantages of this approach?
- b) In detail explain the procedural differences between stateless synchronous and asynchronous and stateful synchronous and asynchronous mechanisms of cache invalidation. [7+8]
- 6.a) Write about distributed Hoarding (caching) of specific database in mobile devices with diagram.
- b) Explain Mobile TCP. How does a supervisory host send TCP packets to the mobile node and to a fixed TCP connection? [7+8]
- 7.a) Discuss about communication asymmetry with the help of a diagram.
- b) Explain the concept of push based data dissemination mechanism and focus on its advantages and disadvantages. [7+8]
- 8.a) Describe the working principle of AODV algorithm with suitable example.
- b) What is MANET? What are the characteristics of MANETs? [10+5]

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