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Question Paper Code: 59402

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2022

Elective

Electronics and Communication Engineering

15UEC902– Mobile Ad hoc Networks

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

1. The device which is used for single hop infrastructure wireless network is ----- CO1- U
(a) Router (b) Base station (c) Cellular (d) Ad hoc network
2. The nodes in the wireless ad hoc networks are -----in nature. CO2- U
(a) Stable (b) Mobile (c) Hidden (d) Centralized
3. The inability of a node which is blocked due to transmission by a nearby transmitting node is called ----- CO3- U
(a) Exposed terminal (b) Delay (c) Traffic (d) Hidden terminal
4. The protocol which maximizes the throughput per connection is ----- CO4- U
(a) Transport layer (b) MAC layer (c) Application (d) Routing
5. The system which provides broad coverage and short messaging system is known as ----- CO5- U
(a) Satellite system (b) Paging systems (c) 3G (d) 4G – LTE

PART – B (5 x 3= 15 Marks)

6. Compare fast fading and slow fading. CO1- U
7. Write the classification of MAC protocol. CO2- U
8. Define the characteristics of ideal routing protocol for ad hoc wireless network CO3- U
9. Define the design issues in transport layer protocol for ad hoc wireless networks. CO4- U
10. Compare 3G and 4G cellular design. CO5- U

PART – C (5 x 16= 80 Marks)

11. (a) Explain the design issues in mobile ad hoc networks. CO1- U (16)
Or
(b) State the application of wireless ad hoc networks. CO1- U (16)
12. (a) Design the MAC protocol which satisfies the rule of only if the node winning the mini slot contention is a voice node, it is permitted to reserve the same slot in each subsequent frame until the end of the session. CO2-App (16)
Or
(b) Design the MAC protocol which uses one of the frequency transmitting and receiving hop-reservation packets. CO2-App (16)
13. (a) Explain in detail about issues in designing a routing protocol for ad hoc wireless networks. CO3- U (16)
Or
(b) With neat sketch explain about table-driven routing protocols. CO3- U (16)
14. (a) Explain the design issues in designing transport layer protocol for mobile ad hoc networks. CO4- U (16)
Or
(b) Discuss briefly the reasons why TCP does not perform well in Ad hoc wireless network CO4- U (16)
15. (a) Explain cross layer optimization at MAC layer. CO5- U (16)
Or
(b) With neat sketch explain the ÉCLAIR architecture details. CO5- U (16)