Reg. No. :

Question Paper Code : 70402

M.E./M.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019

Second Semester

Computer Science and Engineering

CP 5201 – NETWORK DESIGN AND TECHNOLOGIES

(Regulations 2017)

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions

PART – A   (10×2=20 Marks)

1. Compare the features of DWDM and OFDM in terms of accessing wireless channel.

2. State the characteristics of firewall in a network design.

3. Mention the network elements and signaling specifications of UMTS and WLAN.

4. What is the functionality of L2CAP at sender and receiver Bluetooth stack ?

5. What is the role of SCH and FCCH channels in GSM ?

6. Calculate the reuse distance of a cellular network with cell radius 25 KMs and 5 cells per cluster.

7. State the role of OFDM and DFT-precoded OFDM in LTE radio access.

8. List down the primary technologies used in 5G networks.

9. What are the advantages of network overlays in SDN framework ?

10. State the role of SDN controllers in a SDN framework.

PART – B   (5×13=65 Marks)

11. a) Explain in detail about
   i) Shared media networks.   (7)
   ii) Switched networks.   (6)

   (OR)

   b) Discuss in detail about end to end network level solutions to accommodate QoS requirements of applications in wireless scenario.   (13)

SSLC, HSE, DIPLOMA, B.E/B.TECH, M.E/M.TECH, MBA, MCA

Notes   *Available @*
Syllabus
Question Papers   www.AllAbtEngg.com
Results and Many more…

70402

12. a) Highlight and discuss the features of the technologies employed for Mobile WiMAX that has more advantages over CDMA based 3G systems.   (13)

(OR)

b) i) Explain in brief about the security features adopted in WiMAX.   (6)

ii) How IEEE 802.11 e adopts WMM to cater the demands of multimedia QoS specifications ? What are the major changes made with IEEE 802.11 ?   (7)

13. a) Explain the GSM handover schemes and state the reasons for their occurrence. What are all the resources need to be allocated during handover for data transmission using GPRS by satisfying QoS.   (13)

(OR)

b) i) Discuss in detail about GPRS Radio resource management.   (8)

ii) What are the security features adopted by UMTS from GSM and list down the additional UMTS security features.   (5)

14. a) Discuss about LTE security architecture in detail.   (13)

(OR)

b) i) Specify the parameters used as a measure to perform handover decisions by LTE and handover initiations in GSM.   (5)

ii) Discuss about the interconnection of LTE happens with GSM and UMTS networks.   (8)

15. a) i) Discuss about (i) Role of SDN controllers. (ii) Network virtualization.   (8)

ii) Write notes on network overlays with its features and advantages.   (5)

(OR)

b) Discuss in detail about centralized and distributed control and data plane approaches in SDN scenario by considering an example network application.   (13)

PART – C   (1×15=15 Marks)

16. a) Identify the suitable network elements, technologies and protocols to design a next generation heterogeneous network scenario with an aim of achieving green wireless infrastructure.

(OR)

b) Design a SDN framework with distributed SDN controllers for an application and explain about the flow of control and data packets between the entities in the framework.

———————————————