

Reg.No.:



VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.



Question Paper Code: 5013

B.E. / B.Tech. DEGREE SUPPLEMENTARY EXAMINATIONS – FEB. / MAR. 2020

Computer Science and Engineering

U15CS519 - COMPUTER NETWORKS

(Regulation 2015)

Time : Three Hours

Maximum : 100 Marks

Answer ALL the questions

PART – A

(10 x 2 = 20 Marks)

1. Compare and contrast mesh and ring topology.
2. Assuming a framing protocol that uses bit stuffing, show the bit sequence that will be transmitted over the link when the frame contains the following bit sequence: 1101011111010111110101111110; Mark the stuffed bits.
3. Differentiate between Bluetooth and WLAN.
4. The Ethernet address consist of _____ number of bytes. Give an example of Ethernet address.
5. Define count to infinity problem.
6. Find the class of following IP address:
 - a) 193.14.56.22
 - b) 10000000 11110000 11111111 00110011
7. How can the effect of jitter be compensated? What types of applications require this compensation?
8. What is meant by TCP congestion control?
9. How the SOAP message structure is represented?
10. What is the difference between a User Agent (UA) and a Mail Transfer Agent (MTA)?

PART – B

(5 x 13 = 65 Marks)

11. a) i. Explain ISO OSI network architecture with a neat diagram and list the data unit and protocols used in each layer. (8)
- ii. List out the steps followed in checksum generator and checker side. Assume that the receiver receives the following data. Check whether any error occurred in the received data using checksum. (5)
- 10101111 11111001 00011101
- (OR)
- b) What is the difference between OSI model and the TCP/IP model? (4)
Elucidate about the flow control mechanism in computer networking. (9)
12. a) i. Show the ARP packet format and explain in detail. (7)
ii. Elaborate the functions of Wi-Fi in detail. (6)
- (OR)
- b) Elucidate the Service Model and Packet format of an IPV4 Protocol.
13. a) Describe in detail about OSPF routing protocol with the network architecture of your choice. (OR)
- b) Elucidate about the Distance Vector Multicast Routing Protocol with an example.
14. a) Describe in detail about the three way handshake protocol for connection establishment in TCP. (OR)
- b) Explain the Congestion avoidance mechanisms used to assist the end node in the anticipation of congestion and congestion in the end nodes.
15. a) Explain in detail how electronic mail application is carried out in a network. Analyze the various protocols used in this application. (OR)
- b) How the Hypertext Transfer Protocol is used to communicate between web browsers and web servers.

PART – C

(1 x 15 = 15 Marks)

16. a) Evaluate the relationship between a domain name (e.g. cs.princeton.edu) and an IP subnet number (e.g. 192.12.69.0)? Do all hosts on the subnet have to be identified by the same name server, Explain? (OR)
- b) A student attaches a Laptop to a campus network and requests/receives a web page from WWW.Google.com. Analyze the sequence of operations carried out with the help of different protocols used in application, transport, network and link layers.