Hall Ticket No | | | | | | | | | | | Question Paper Code: AITB10

INSTITUTE OF AERONAUTICAL ENGINEERING
(Autonomous)

B.Tech V Semester End Examinations (Regular), February – 2021

Regulation: IARE–R18

COMPUTER NETWORKS

Time: 3 Hours **(CSE | IT)** **Max Marks: 70**

Answer any Four Questions from Part A
Answer any Five Questions from Part B

PART – A

1. Explain the network support layers in OSI model. **[5M]**
2. Summarize the working of carrier sense multiple access protocol. **[5M]**
3. State and explain the major difference between distance vector routing and link state routing. **[5M]**
4. How an application process running in one host is addressed by another process through TCP? **[5M]**
5. What is DNS namespace? Briefly explain. **[5M]**
6. What are the elements of transport protocols?Illustrate why protocols are needed. **[5M]**
7. List out and explain briefly the three categories of multiple access protocols. **[5M]**
8. How broadcast and multicast address is represented in IP addressing scheme? **[5M]**

PART – B

9. With a neat sketch explain about unguided medias and guided medias. **[10M]**
10. Illustrate some of the factors that determine whether a unification system is a LAN or WAN. **[10M]**
11. How performance is improved in CSMA/CD protocol compared to CSMA protocol? Explain. **[10M]**
12. Find the status of the following generators related to two isolated, single-bit errors.
    i) x+ 1
    ii) x4 + 1
    iii) $x^7 + x^6 + 1$
    iv) $x^{15} + x^{14} + 1$ **[10M]**
13. Why are we running out of IPv4 addresses? How does IPv6 solve this problem? **[10M]**
14. Change the following IPv4 addresses from binary notation to dotted-decimal notation.
    i) 10000001 00001011 00001011 11101111
    ii) 11000001 10000011 00011011 11111111 **[10M]**
15. Summarize all congestion control algorithms. Explain TCP congestion control mechanism in detail. **[10M]**
16. List major types of networks. How network performance is valuated? **[10M]**
17. Illustrate the working principle of file transfer protocol (FTP) in detail with neat diagram. **[10M]**
18. What is client server programming? Compare and contrast client/server with peer-to-peer data transfer over networks. **[10M]**