Reg. No. : | | | | | | | | | | | | |

# Question Paper Code : X 67538

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2020
Fifth Semester
Information Technology
CS 1302 – COMPUTER NETWORKS
(Common to Computer Science and Engineering)
(Regulations 2008)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A **(10×2=20 Marks)**

1. What are different classes of service primitives ?
2. Identify the five components of a data communication networks.
3. List the most command kinds of baseband 802.3 LAN.
4. Compare and contrast VRC with LRC.
5. What is count-to-infinite problem ?
6. What is subnet mask ?
7. What is multiplexing and demultiplexing ?
8. How is QoS provided in an integrated services architecture ?
9. How is HTTP related to WWW ?
10. Encrypt the message "THIS IS AN EXERCISE" using a shift cipher with a key of 20. Ignore the space between words. Decrypt the message to get the original plaintext.

PART – B **(5×16=80 Marks)**

11. a) i) Describe in detail ISO/OSI model. **(10)**

    ii) What is line coding ? Explain. **(6)**

(OR)

b) i) Describe in detail different network topologies. **(8)**

    ii) Write notes on RS-232 interfacing sequences. **(8)**

12. a) i) Explain with neat diagram the working of CSMA/CD protocol with an example. **(8)**

ii) Write detailed notes on FDDI. What are the advantages of FDDI over a basic token ring ? **(8)**

(OR)

b) i) Illustrate the Sliding window Go back n ARQ. Comment on its window size. **(8)**

ii) Assume the message $M(x) = x^7 + x^5 + x^4 + x^2 + x + 1$ and the generator polynomial $G(x) = x^5 + x^4 + x + 1$ and explain how error detection and validation can be carried out. **(8)**

13. a) i) How do subnetting and supernetting enhance scalability ? What is the purpose of a subnet mask and a supernet (CIDR) mask ? **(8)**

ii) Explain the Bellman-Ford distance vector routing algorithm with a sample network. **(8)**

(OR)

b) i) How many addresses are spanned by the CIDR address 205.12.192.0/20 and what range do they span ? **(8)**

ii) Explain the count to infinity problem with an example. **(8)**

14. a) Explain TCP and UDP features with neat diagram.

(OR)

b) Write a note on the operations of simple demultiplexer in UDP.

15. a) Explain the following :

i) DNS

ii) SMTP **(8+8)**

(OR)

b) Write a detailed note on Cryptographic techniques in the application layer. **(16)**

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