

**N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI**

**END-OF-SEMESTER EXAMINATIONS : MAY – 2024**

**B.Sc. – COMPUTER TECHNOLOGY**

**MAXIMUM MARKS: 50**

**SEMESTER: IV**

**TIME : 3 HOURS**

**PART – III**

**DATA COMMUNICATION AND NETWORKS**

**SECTION – A**

**(10 X 1 = 10 MARKS)**

**ANSWER THE FOLLOWING QUESTIONS.**

**(Objective Questions with four Multiple Choices)**

**(K1)**

1. The frequency range from \_\_\_\_ to \_\_\_\_ Hz is sufficient to recognize a voice in a telephone system.  
a) 0 to 20000 Hz                      b) 0 to 4000 Hz  
c) 300 to 3000 Hz                      d) 3300 to 4000 Hz
2. \_\_\_\_\_ causes because signals at different frequencies travel at different speeds along the medium.  
a) Attenuation                      b) Delay distortion    c) Noise    d) Burst Errors
3. \_\_\_\_\_ layer is responsible for transmitting group of bits between adjacent nodes.  
a) Network                      b) Physical              c) Transport              d) Data link
4. Which one is the role of repeaters?  
a) Translation services                      b) Bridging  
c) Regenerating the signals                      d) Addressing
5. Applications running on different hosts communicate with TCP through \_\_\_\_\_.  
a) browsers    b) ports              c) Sockets              d) hand shake

**ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES.**

**(K2)**

6. Write the role of physical layer.
7. Define network topology.
8. In which 2 layers the frame delay operates?
9. What is the role of flags in IP datagram?
10. List the uses of PGP.

**(CONTD .... 2)**

**SECTION – B****(5 X 3 = 15 MARKS)****ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)**

11. a) Differentiate baud rate and bits / sec.  
(OR)
- b) Distinguish FDM and TDM
12. a) Explain about CRC.  
(OR)
- b) Differentiate datagram approach and virtual circuit approach.
13. a) Discuss about virtual LAN.  
(OR)
- b) Explain how frame relay works.
14. a) How are the incompatibility issues dealt in software level while forming an internet.  
(OR)
- b) Sketch the structure of IP datagram and explain the main parts.
15. a) Sketch the TCP packet format and discuss the fields.  
(OR)
- b) Illustrate the functions of email.

**SECTION – C****(5 X 5 = 25 MARKS)****ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.****(K4 (Or) K5)**

16. a) Give short notes on Digital signal and Analog Transmission  
(OR)
- b) Outline any three types of multiplexing.
17. a) Explain about unguided media.  
(OR)
- b) Calculate the shortest path between two routers using Distance Vector Routing.
18. a) Explain about Ethernet.  
(OR)
- b) Elucidate about the FDDI network architecture.
19. a) Inspect how will be the user get connected to the internet.  
(OR)
- b) Illustrate the classes of IP address and illustrate the dotted decimal notation.
20. a) Outline the functions of TCP.  
(OR)
- b) Survey the protocols needed for email communication.