**R22**

# ANURAG Engineering College
## (An Autonomous Institution)
### III B.Tech I Semester Regular Examinations, December – 2024
## DATA COMMUNICATIONS AND COMPUTER NETWORKS
### (ELECTRONICS AND COMMUNICATION ENGINEERING)

Time: 3 Hours　　　　　　　　　　　　　　　　　　　　　　　Max.Marks:60

### Section – A (Short Answer type questions)　　　　　　　(10 Marks)
**Answer All Questions**

| | | Course Outcome | B.T Level | Marks |
|---|---|---|---|---|
| 1. | List the applications of Computer Networks. | CO1 | L1 | 1M |
| 2. | Write differences between Guided Media and Unguided Media. | CO1 | L2 | 1M |
| 3. | What are noiseless channels? Give an example. | CO2 | L1 | 1M |
| 4. | State the difference between pure ALOHA and slotted aloha. | CO2 | L1 | 1M |
| 5. | What is the purpose of tunnelling in networking? | CO3 | L1 | 1M |
| 6. | List the design issues of network layer. | CO3 | L1 | 1M |
| 7. | What is the advantage of using UDP over TCP for real-time applications? | CO4 | L1 | 1M |
| 8. | Write the functions of transport layer. | CO4 | L2 | 1M |
| 9. | What is the purpose of HTTP? | CO5 | L2 | 1M |
| 10. | Define the Domain Name System (DNS) and its purpose. | CO5 | L1 | 1M |

### Section B (Essay Questions)
**Answer all questions, each question carries equal marks.**　　　　(5 X 10M = 50M)

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|---|---|---|---|---|
| 11. A) | Explain the OSI Reference model in network communication. Describe its 7 layers. | CO1 | L2 | 10M |
| | **OR** | | | |
| B) | What is network topology? Describe the different types of network topologies and illustrate each with neat diagrams. | CO1 | L2 | 10M |
| 12. A) | Illustrate the working of CRC with an example. | CO2 | L2 | 10M |
| | **OR** | | | |
| B) | i) Illustrate and describe the structure of the Ethernet frame. | CO2 | L2 | 10M |
| | ii) Justify how selective repeat protocol is better than Go Back N protocol. | | L3 | |
| 13. A) | Discuss in detail about classful addressing. | CO3 | L2 | 10M |
| | **OR** | | | |
| B) | Explain the distance vector routing algorithm with an example. | CO3 | L2 | 10M |
| 14. A) | Explain about TCP congestion control. | CO4 | L2 | 10M |
| | **OR** | | | |
| B) | i)What are the techniques used to improve Quality of Service (QoS) in transport layer? Explain | CO4 | L2 | 10M |
| | ii)Discuss in detail about integrated services. | | L2 | |

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|---|---|---|---|
| 15. A) i) Illustrate the architecture of the World Wide Web (WWW) and explain its key components. | CO5 | L3 | 10M |
| ii) Discuss the importance of the HTTP methods (GET, POST, PUT, TRACE, CONNECT) with examples. | | L2 | |

**OR**

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|---|---|---|---|
| B) Write a short note on the following<br>    i) E-Mail        ii) FTP | CO5 | L2 | 10M |