

**Course: B. Tech. Computer Science and Engineering (AI/ML)**  
**Subject: Computer Networks**  
**Subject Code: ETCS-208**  
**Semester: IV**

**Time: 03 Hours**

**Max Marks: 70**

**Instructions to the Students:**

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of short answer type. All questions are compulsory. Each question carries 02 marks.
3. Section B comprises 8 long answer type questions out of which students must attempt any 5. Each question carries 10 marks.
4. Do not write anything on the question paper.

Q.No.	SECTION –A (SHORT ANSWER TYPE QUESTIONS)	Marks
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|----|--|-----|
| 1. | a. State a difference between DHCP and BOOTP.                                      | (2) |
|    | b. Define odd and even Parity with the help of example.                            | (2) |
| ?  | c. Why do we need the pop3 protocol for e-mail?                                    | (2) |
|    | d. List some services provided by the application layer in the Internet model?     | (2) |
|    | e. Name which OSI layer is the header and trailer added?                           | (2) |
|    | f. Differentiate between HTTP and HTTPS.   | (2) |
|    | g. Name and define the multiplexing techniques are used to combine analog signals. | (2) |
|    | h. What is subnetting?   | (2) |
|    | i. Define piggybacking?  | (2) |
| ?  | j. Why do we OSPF a protocol that is faster than our RIP.                          | (2) |

**SECTION –B (LONG ANSWER TYPE QUESTIONS)**

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|---|---|------|
| ? | 2. Explain hamming code by taking suitable example.         | (10) |
|   | 3. What is multiplexing? Differentiate between FDM and TDM. | (10) |

4. Differentiate between  
a) IPV4 and IPV6. (10)  
b) Bridges and Switches
5. Discuss various Data Link Protocols in details. (10)
6. Write short notes on following: - (10)  
a) ~~FTP~~  
b) ~~TELNET~~  
c) ~~DNS~~
7. What are various Medium Access Control protocols? Explain them in details. (10)
8. Discuss and explain the operation of TCP with the help of diagram. (10)
9. Explain the working of Electronic mail. How SMTP used in Email applications (10)

==END OF PAPER==