

205

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-2 EXAMINATION-MARCH-2026

B.Tech- IVth Semester (ECE)

COURSE CODE (CREDITS): 25B11EC416 (3)

MAX. MARKS: 25

COURSE NAME: Telecommunication Networks

COURSE INSTRUCTOR: Dr. Pardeep Garg

MAX. TIME: 1.5 Hours

Note: (a) All questions are compulsory. (b) The candidate is allowed to make suitable numeric assumptions wherever required for solving problems. (c) Calculator is not allowed.

Q. No	Question	CO	Marks									
Q1(a)	Bit stuff the following data: 01111101111110111110011110111110	CO-3	1.5									
Q1(b)	Byte stuff the following data: <table border="1" style="margin-left: 20px;"> <tr> <td>Flag</td> <td>ESC</td> <td>ESC</td> <td></td> <td></td> <td>Flag</td> <td>ESC</td> <td></td> <td>ESC</td> </tr> </table>	Flag	ESC	ESC			Flag	ESC		ESC	CO-3	1.5
Flag	ESC	ESC			Flag	ESC		ESC				
Q2	Prove that the codeword table (00000, 01011, 10111, and 11111) is not a linear code. You need to find only one case that violates the linearity.	CO-3	2									
Q3	Discuss the drawback of checksum method of error detection.	CO-3	2									
Q4	Given the dataword 1010011011 and the divisor 10111 , show the generation of the codeword at the sender site using cyclic redundancy check (CRC) using polynomial approach only.	CO-3	4									
Q5	Justify the names of Go-Back-N and Selective-Repeat protocols by discussing their functioning in detail.	CO-3	2+2=4									
Q6	To provide the flexibility necessary to support all the options possible in the modes and configuration of High Level Data Link Control (HDLC), which three frames are defined? Discuss their functioning along with their frame formats.	CO-3	4									
Q7	What CHAP is considered more secure than PAP?	CO-3	2									
Q8	Using 4 bit sequence numbers, what is the maximum size of the send and receive windows for each of the following protocols? a. Stop-and-Wait ARQ b. Go-Back-N ARQ, justify your answer c. Selective-Repeat ARQ, justify your answer	CO-3	1+1.5+1.5= 4									