

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION SP/2025)

CLASS: BCA
BRANCH: BCA

SEMESTER : IV
SESSION : SP/2025

SUBJECT: CN225 COMPUTER NETWORKS

TIME: 02 Hours

FULL MARKS: 25

INSTRUCTIONS:

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates
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Q.1	What do you mean by network topology? Describe the various topologies. Additionally calculate the number of cable links required to connect N devices using both mesh and star topologies.	[5] 1	1,2,3
Q.2	How do the layers of the Internet Model correlate to the layers of the OSI reference model? Give some advantages of combining the session, presentation, and application layer in the OSI model into a single application layer in the Internet model	[5] 1	1,2
Q.3	How guided media differ from unguided? Additionally, describe the roles of the core and cladding in fiber optic cables.	[5] 2	1,2
Q.4	Define multiplexing and describe its objectives. Distinguish between FDM and TDM	[5] 2	1,3
Q.5(a)	Discuss the basic functions of the data link layer.	[2] 3	2
Q.5(b)	What do you mean by error in data transmission? Briefly explain the single-Bit error and Burst error with examples.	[3] 3	2,3

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