

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

CLASS: B.SC
BRANCH: M & C / AI & ML

SEMESTER : I
SESSION : MO/2025

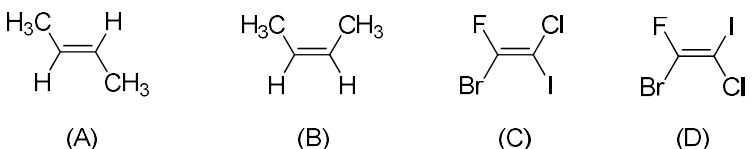
SUBJECT: CH24101 CHEMISTRY

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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		CO	BL
Q.1(a)	What are ligands? How are they classified?	[2] 1	1
Q.1(b)	What are the main postulates of Werner's theory?	[3] 1	1
Q.2(a)	Differentiate between a double salt and a coordination compound.	[2] 1	1
Q.2(b)	Explain bonding in $[\text{Cr}(\text{NH}_3)_6]^{3+}$ complex using Valence bond theory?	[3] 1	2
Q.3(a)	What is chiral molecule? Give an example.	[2] 2	1
Q.3(b)	Determine the E/Z configurations of the following compounds:	[3] 2	2
			
Q.4(a)	Explain: i) Functional isomers, ii) Metamerism isomers	[2] 2	2
Q.4(b)	Define geometrical isomers and its different conditions.	[3] 2	1
Q.5(a)	Discuss the parallel reactions with examples.	[2] 3	2
Q.5(b)	Explain transition state theory.	[3] 3	2

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