

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION SP/2024)

CLASS: IMSc
BRANCH: MATHS

SEMESTER : 6
SESSION : SP/2024

SUBJECT: CS325 DATABASE MODELLING

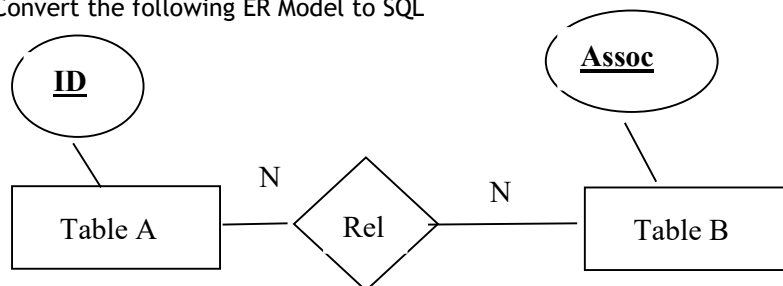
TIME: 02 Hours

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

		CO	BL
Q.1(a) Define the following terms:	[2]	1	1
a) key attribute			
b) composite attribute			
Q.1(b) What do you mean by the concept of a weak entity used in data modeling? Define the terms owner entity type, weak entity type, identifying relationship type, and partial key	[3]	1	2
Q.2(a) What is meant by a recursive relationship type? Give an example of recursive relationship types.	[2]	2	2
Q.2(b) Explain briefly about database life cycle with the help of diagram.	[3]	1	2
Q.3(a) What are the four basic steps needed for conceptual schema integration?	[2]	2	1
Q.3(b) Explain briefly about merging and restructuring of schemas with the help of example.	[3]	2	2
Q.4(a) What are the grouping operations of entity cluster techniques?	[2]	2	1
Q.4(b) Explain briefly about the clustering technique with the help of an example.	[3]	2	2
Q.5(a) Show with the help of ER diagram many-to-many-to-many ternary relationships and translate it to SQL tables.	[2]	2	3
Q.5(b) Convert the following ER Model to SQL	[3]	2	3



Note : relationship is many to many and both entities are optional