

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATIONS-2022

B.Tech-VII Semester (CSE/IT)

COURSE CODE (Credits): 19B1WCI833 (3)

MAX. MARKS: 35

COURSE NAME: INFORMATION MODELING

COURSE INSTRUCTOR: DR. RAJINDER SANDHU

MAX. TIME: 2 Hour

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*Note: All questions are compulsory. Marks are indicated against each question in square brackets.*

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- Q. No. 1 Explain in detail and with example the taxonomic class modeling methodology and class categories for object-oriented analysis. 5 Marks
- Q. No. 2 List and explain the rules used in taxonomic class modeling methodology? 5 Marks
- Q. No. 3 Explain all packaging steps used in creation of hierarchical ER diagrams. 5 Marks
- Q. No. 4 Suppose your team lead has asked you to replace all the traditional ER diagrams with hierarchical ER diagrams. List the benefits of hierarchical ER diagrams you will convey to your team. 5 Marks
- Q. No. 5 Justify the use of HERD over the Flat ER, using the experimental results shown in the table below: 5 Marks

No	Category	Model	Mean Grade	No. of Observ	t-Statistic	P(T<=t) two-tail	Significant Difference?
1	Attributes of entities	HERD	0.900	20	0.843	0.404	No
		Flat ERD	0.867	21			
2	Binary relationships	HERD	0.850	20	1.759	0.087	Yes— HERD (weak)
		Flat ERD	0.816	21			
3	Ternary relationships	HERD	0.700	20	-2.433	0.020	Yes— Flat ERD
		Flat ERD	0.857	21			
4	Abstractions	HERD	0.975	20	1.000	0.324	No
		Flat ERD	0.929	21			
5	Two relationships	HERD	0.839	20	0.141	0.889	No
		Flat ERD	0.830	21			
6	More than two relationships	HERD	0.726	20	1.601	0.118	No
		Flat ERD	0.646	21			
7	Relationship and abstraction	HERD	0.917	20	1.019	0.315	No
		Flat ERD	0.873	21			
8	Weak entities	HERD	0.640	20	-0.361	0.720	No
		Flat ERD	0.667	21			
9	Overall comprehension	HERD	0.8124	20	0.580	0.565	No
		Flat ERD	0.7943	21			
10	Time (minutes)	HERD	42.950	21	-1.919	0.063	Yes— Flat ERD (weak)
		Flat ERD	37.524	20			

Q. No. 6 Explain the concept of linked data and semantic web for the application of building information modeling. 5 Marks

Q. No. 7 Explain the relationship of architectural model, structural model and MEP model for the linked data in building information model. 5 Marks