GEETHANJALI INSTITUTE OF SCIENCE & TECHNOLOGY
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QUESTION BANK (DESCRIPTIVE)

DATA ENGINEERING
A.Y:2024-25

Subject Name with Code: 23A32003T **Branch:CSE(DS)**
Year& Semester:II-II **Regulation;RG23**

UNIT – I

UNIT-1

S. No.	Question	[BT Level] [CO][Marks]
Descriptive Questions (Long)		
1	What is meant by Data Engineering?Explain about it overview detail with a neat sketch?	L2/CO1/10M
2	Explain briefly about the data engineering life cycle in detail with a neat sketch.	L2/CO1/10M
3	Differentiate between Data Engineering vs Data Science in detail ? Explain them with a neat sketch.	L2/CO1/10M
4	Write a short note on Evolution of data engineering in real time ?	L2/CO1/10M
5	Explain briefly about data engineering skills &activities in detail with a neat sketch?	L2/CO1/10M
6	What is Data maturity?Explain briefly about the Data Maturity model in detail with neat sketch?	L2/CO1/10M
7	Explain briefly about the skills of data engineering to be performed in real time?	L2/CO1/10M
8	Write a short note on Business & techinques responsibilities in Data engineering?	L2/CO1/10M
9	What is meant by data engineering?Explain briefly about its technical role in real time?	L2/CO1/10M
10	Explain briefly about the Data Engineering vs Data Sscience in real time world?	L2/CO1/10M

UNIT-2. Methodologies-I

S. No.	Question	[BT Level] [CO][Marks]
Descriptive Questions (Long)		
1.	Differentiate between Data Life Cycle vs Data Engineering Life Cycle with a neat sketch?	L2/CO2/10M
2.	Explain briefly about the Data Life Cycle vs Data Engineering Life Cycle in detail with a neat sketch.	L2/CO2/10M
3.	Explain briefly about major undercurrents across the Data Engineering Life Cycle with a neat sketch	L2/CO2/10M
4.	Write a short note on generation & source system in data engineering?	L2/CO2/10M
5.	Write a short note on data ingestion &data transformation in data engineering?	L2/CO2/10M
6.	Explain briefly about data security &data management in Data Engineering with a neat sketch?	L2/CO2/10M
7.	Explain briefly about the Data Ops & Data Orchestration in data engineering?	L2/CO2/10M
8.	Write short note on data Architecture &software engineering principles in real time?	L2/CO2/10M
9.	Write a short note on data storage &data serving in Data Engineering?	L2/CO2/10M
10.	List out the steps of Major undercurrents in data engineering life cycle &explain brief about them?	L2/CO2/10M

UNIT-3

S. No.	Question	[BT Level] [CO][Marks]
Descriptive Questions (Long)		
1.	Explain briefly about decision of good data architecture in data engineering	L2/CO2/10M
2.	Write a short note on enterprise architecture &Data architecture	L2/CO2/10M
3.	Explain briefly about major architecture concepts in data emergency?with a neat sketch	L2/CO2/10M
4.	List out the principles of good data architecture &briefly explain about it	L2/CO2/10M
5.	Explain briefly about the SLTP & OLAP operations in data engineering with a neat sketch	L2/CO2/10M
6.	Write a short note on files & unstructures data in data engineering	L2/CO2/10M
7.	Explain brieflt about how data can be generated in source systems in data engineering	L2/CO2/10M
8.	Write short note on APIs & Application databases in data engineering	L2/CO2/10M
9.	Explain briefly about the crud &its source system in real time with a neat sketch	L2/CO2/10M
10.	Write short on change in data capture login data engineering	L2/CO2/10M

UNIT-4

S. No.	Question	[BT Level] [CO][Marks]
Descriptive Questions (Long)		
1.	Explain briefly about the raw ingredients of the data structures in data engineering	L2/CO2/10M
2.	Write a short note on dataware house &data lake house in data engineering	L2/CO2/10M
3.	Explain briefly about the Data engineering storage abstractions in real time	L2/CO2/10M
4.	Write short note on ingestion & data storage systems in data engineering	L2/CO2/10M
5.	Explain briefly about how ingestion is implemented &its phases in real time	L2/CO2/10M
6.	List out the key engineering considerations for the ingestion phase & explain briefly about it	L2/CO2/10M
7.	Explain briefly about the message &stream considerations in data engineering	L2/CO2/10M
8.	Explain short note on data ingestion &batch ingestion in data engineering	L2/CO2/10M
9.	Explain briefly about ways to ingest data in real time scenario with a example	L2/CO2/10M
10.	Differentiate between Dataware house & Data lake house with a neat sketch	L2/CO2/10M

UNIT-5

S. No.	Question	[BT Level] [CO][Marks]
Descriptive Questions (Long)		
1.	Write a short note on queries,modelling &transformation in data engineering	L2/CO2/10M
2.	Explain briefly about the life of a query & query optimizer in data engineering	L2/CO2/10M
3.	Write short note on quieries on live streaming data ,data modeling in data engineering	L2/CO2/10M
4.	Explain briefly about the streaming transformation & processing in real time	L2/CO2/10M
5.	List out the various general considerations for serving data in data engineering with the help of ML	L2/CO2/10M
6.	Write a short note on Business analytic & Operational analytic Data engineering	L2/CO2/10M
7.	Explain briefly about machine learning &reverse ETL processor in real time	L2/CO2/10M
8.	Write short note on embedded analytics &serving data for analytics in ML?	L2/CO2/10M
9.	Explain Briefly about the modelling streaming data transformation in data engineering	L2/CO2/10M
10.	Explain briefly about the Machine Learning algorithms &ETL Processing in real time	L2/CO2/10M

SHORT ANSWERS:

	UNIT -1	
S.No.	**Question**	**[BT Level] [CO] [Marks]**
2 Marks Questions (Short)		
1.	Define Data Engineering	**[L1] [CO1] [2M]**
2.	What is data maturity model	**[L1] [CO1] [2M]**
3.	List out the Skills of a data engineering	**[L1] [CO1] [2M]**
4.	List out the phases in DELC ?	**[L1] [CO1] [2M]**
5.	List out the technical responsibility of a data engineering	**[L1] [CO1] [2M]**
6.	List out the business responsibility of a data engineering	

	UNIT -2	
S.No.	**Question**	**[BT Level] [CO] [Marks]**
2 Marks Questions (Short)		
1.	What is meant by data life cycle	**[L1] [CO2] [2M]**
2.	Define ingestion	**[L1] [CO2] [2M]**
3.	What is meant by dataops	**[L1] [CO2] [2M]**
4.	Define orchestration	**[L1] [CO2] [2M]**
5.	List out the major under currents of DELC	**[L1] [CO2] [2M]**
6.	Define software engineering	

	UNIT -3	
S.No.	**Question**	**[BT Level] [CO] [Marks]**
2 Marks Questions (Short)		
1.	What is meant by data Architecture	**[L1] [CO3] [2M]**
2.	List out the different concepts of data Architecture	**[L1] [CO3] [2M]**
3.	Define OLTP &OLAP	**[L1] [CO3] [2M]**
4.	What is meant by data generation	**[L1] [CO3] [2M]**
5.	Define Application programming interface	**[L1] [CO3] [2M]**
6.	What enterprise Architecture	

	UNIT -4	
S.No.	**Question**	**[BT Level] [CO] [Marks]**
2 Marks Questions (Short)		
1.	What is meant by Abstraction	**[L1] [CO4] [2M]**
2.	Define Datalake house	**[L1] [CO4] [2M]**
3.	What is meant by stream ingestion	**[L1] [CO4] [2M]**
4.	List out the different ways to ingest data	**[L1] [CO4] [2M]**
5.	What is ingestion	**[L1] [CO4] [2M]**
6.	Define message ingestion	

	UNIT -5	
S.No.	**Question**	**[BT Level] [CO] [Marks]**
2 Marks Questions (Short)		
1.	Define query processing	**[L1] [CO5] [2M]**
2.	What is meant by reverse ETL	**[L1] [CO5] [2M]**
3.	Define embedded systems	**[L1] [CO5] [2M]**
4.	What is meant by data modelling	**[L1] [CO6] [2M]**
5.	Define data transformation	**[L1] [CO6] [2M]**
6.	List out general considerations of serving data	**[L1] [CO6] [2M]**