

SYNERGY INSTITUTE OF ENGINEERING AND TECHNOLOGY, DHENKANAL

Near NH-55, Banamali Prasad – 759001

Assignment-I



Full Marks-40

Duration-Within 1 Week from Notification

Name-

Registration No-

Subject with Code: Database Engineering(CSPC2004)

Course & Branch: B. Tech: CSE

Year & Semester: 2nd & 4th

Section- A

Answer All Questions

1. What is data base? [2marks][CO1][L2]
2. What is schema? [2marks][CO1][L2]
3. List the types of data base models? [2marks][CO1][L2]
4. What is primary key? [2marks][CO1][L1].

Section-B

Answer All Questions

1. Explain three level architecture of DBMS? [6marks][CO1][L2]
2. Explain the ER model and its Components? [6marks][CO1][L2]

Section-C

Answer All Questions

1. What is database language , Explain in detail? [10 marks][CO1][L2]
2. What is generalization, specialization and aggregation? Explain how these are used in ER Diagram with suitable example. [10 marks][CO1][L2]

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Assignment-II

Full Marks-40

Duration-Within 1 Week from Notification

Name:-

Registration No-

Subject with Code: Database Engineering(CSPC2004)

Course & Branch: B. Tech: CSE

Year & Semester: 2nd & 4th

Section- A

Answer All Questions

1. List some integrity constraints? [2marks][CO2] [L2]
2. What is selection operation in relational algebra? [2marks][CO2] [L1]
3. Short notes on SELECT command in SQL.? [2marks][CO2] [L1]
4. Short notes on COUNT(*) command in SQL? [2marks][CO2] [L2].

Section-B

Answer All Questions

1. What is relational calculus , Explain ? [6marks][CO2] [L1]
2. List and explain the aggregate functions in SQL? [6marks][CO2] [L2]

Section-C

Answer All Questions

1. Explain Codd's 12 rule in relational data base. [10 marks][CO2][L3]
2. Create a STUDENT table with attribute Sroll, Sname, Saddr, Smark and perform INSERT,DELETE,UPDATE operation. [10 marks][CO2][L3]

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Assignment-III

Full Marks-40

Duration-Within 1 Week from Notification

Name-

Registration No-

Subject with Code: Database Engineering(CSPC2004)

Course & Branch: B. Tech: CSE

Year & Semester: 2nd & 4th

Section- A

Answer All Questions

1. What is database normalization, and why is it important in database design?? [2marks][CO3][L1]
2. What is the First Normal Form (1NF) in database normalization?? [2marks][CO3][L1]
3. What is the Third Normal Form (3NF), and how does it further refine the database schema?? [2marks][CO3][L1]
4. What is the purpose of the Fourth Normal Form (4NF), and when is it applied in database design? [2marks][CO3][L1]

Section-B

Answer All Questions

1. Explain the inference rule? [5marks][CO3] [L2]
2. Explain 2NF in DBMS? [5marks][CO3] [L2]

Section-C

Answer All Questions

1. What is BCNF? Explain how to convert 3NF to BCNF with suitable example? [10 marks][CO3][L2]
2. Given a relation R(A, B, C, D, E) and Functional Dependency set $FD = \{ A \rightarrow B, B \rightarrow E, C \rightarrow D \}$, determine whether the given R is in 2NF? If not convert it into 2 NF. [10 marks][CO3][L3]

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Assignment-IV

Name- Full Marks-40 Duration-Within 1 Week from Notification

Registration No-

Subject with Code: Database Engineering(CSPC2004)

Course & Branch: B. Tech: CSE

Year & Semester: 2nd & 4th

Section- A Answer All Questions

1. What is hashing? [2marks][CO4][L1]
2. Difference between single level index vs multi level index? [2marks][CO4][L1]
3. What is transaction? [2marks][CO4][L1]
4. What is serializability? [2marks] [CO4][L2]

Section-B

Answer All Questions

1. What is hashing and explain the hashing techniques? [5marks][CO4][L2]
2. What is transaction? Explain the ACID Properties and also describe the transaction states with diagram? [5marks][CO4][L2]

Section-C

Answer All Questions

1. What is deadlock and explain the deadlock handling technique? [10 marks][CO4] [L3]
2. Explain recovery mechanism from transaction failure? [10 marks][CO4][L3]