Candidates are required to answer the questions in their own words as far as practicable.

**Group “A”**

1. **Brief Answer Question:**
   \[10 \times 1 = 10\]
   i. What do you mean by backpocket file?
   
   ii. What is S/MIME?
   
   iii. Define digital certificate.
   
   iv. State Biba integrity model.
   
   v. Define cipher text.
   
   vi. What is a Bastion host?
   
   vii. What is hash function?
   
   viii. What do you mean by a trusted system?
   
   ix. Define cyber crime.
   
   x. List the categories of digital evidence.

**Group “B”**

**Short Answer Questions**
\[6 \times 5 = 30\]

2. Explain the PGP Services.
   
3. Differentiates between copyrights and trademarks
   
4. What is Kerberos? Explain the steps of Kerberos version 4.
   
5. What is IDS? Explain the rule-based intrusion detection system.
   
6. What do you mean by malicious program? What are desirable properties of virus scanner?
   
7. Write short notes on:
   
   a. X.509
   
   b. VPN

**Group “C”**

**Long Answer Question**
\[2 \times 10 = 20\]

8. What is access control? Explain the types of access control with examples.

9. Define public key cryptosystem. Write RSA algorithm. Show all the steps of the algorithm and verify the algorithm for the given message (M) = 7, and two prime numbers p=17 and q=13.

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Candidates are required to answer the questions in their own words as far as practicable.

Group “A”

1. Brief Answer Question: [10 \times 1 = 10]

xi. Why information is public good?

xii. Define spot market.

xiii. Define speculation.

xiv. What does bundling mean?

xv. What is online and offline version

xvi. What do you mean by standard war?

xvii. Define price sensitivity for information product.

xviii. What is locking?

xix. Define knowledge organization.

xx. List any two economic indicators.

Group “B”

Short Answer Questions [6 \times 5 = 30]

10. What do you mean by moral hazards? Explain in brief.

11. What is group pricing? Discuss why group pricing is needed in information economy.

12. What are the various aspects of price differentiation and competition policy that you have to consider while developing information policy?

13. What do you mean by internet economy? Discuss the indicators of internet economy.

14. What are tacit and explicit knowledge? Discuss how they are different with each other.

15. Write short notes on:
   a. Lock in cycle
   b. Metcalf’s Law of network

Group “C”

Long Answer Question [2 \times 10 = 20]

16. Justify the statement “Information is very costly to produce but cheap to reproduce”. Also give brief overview on impact of above statement on information economy.

17. What do you mean by demand side economy of scale? Explain openness Vs control and compatibility Vs performance as network expanding strategies.

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BIM / Eighth Semester / ITC 309: Data Mining and Data Warehousing

Candidates are required to answer all the questions in their own words as far as practicable.

Group “A”

1. **Brief Answer Questions:** \([10 \times 1 = 10]\)

   a. Why data mining attracted great deal of attention in the information industry?

   b. What are the functionalities of online analysis and processing (OLAP)?

   c. What do you mean by predictive data mining?

   d. What are the patterns that can be mined from data?

   e. What do you mean by measure that is found in fact table?

   f. Write formula of \(z\)-score normalization used in data transformation.

   g. Give an example of Boolean association rule.

   h. What is Bayesian classifier?

   i. Write formula to calculate net input to hidden or output layer of neural network.

   j. Where can be CLARA (Clustering LARge Applications) used?

Group “B”

**Short Answer Questions:** \([5 \times 3 = 15]\)

2. Explain the major components of the architecture of a typical data mining system.

3. What do you mean by distributive aggregate functions?

4. Define and describe use of concept hierarchy.

5. What are the data preprocessing techniques? Explain any one.

6. What are the functions that are supported by load manager?

Group “C”

**Long Answer Questions:** \([3 \times 5 = 15]\)

7. Explain the process used to compute dissimilarity between objects described by symmetric binary variables.

8. Write k-means algorithm used for partitioning data.

9. How disk required to set up data warehouse is calculated?

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Group “A”

1. **Brief Answer Questions:**
   
   a. How does online transaction processing (OLTP) view query?
   
   b. Why is the technique of extracting or mining knowledge from large amounts of data called data mining instead of knowledge mining?
   
   c. Why data warehouse is called time-variant?
   
   d. What is the purpose of using “group by” in SQL select statement?
   
   e. What is schema integration?
   
   f. What is market basket analysis?
   
   g. Write formula to calculate expected information needed to classify given data sample in Decision tree algorithm.
   
   h. What is posterior probability?
   
   i. Write formula to calculate error for unit j in the output layer of neural network.
   
   j. What is density based cluster?

Group “B”

**Short Answer Questions:**

10. Explain OLAP operations with example.

11. Differentiate between operational database systems and data warehouses.

12. Why data has to be preprocessed before doing data mining?

13. List the data warehouse processes and warehouse managers handling each warehouse processes.

14. How correlation analysis can be used to reduce or eliminate redundancy from data?

Group “C”

**Long Answer Questions:**

15. How the missing values in the database are can be filled? Explain.

16. Write Decision tree algorithm.

17. Explain data warehouse manager.

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Candidates are required to answer all the questions in their own words as far as practicable.

Group “A”

1. **Brief Answer Questions:**  
   ![10 \times 1 = 10](image)
   
   k. What is object identifier?
   l. What do you mean by one-to-many relationship?
   m. What is type?
   n. Differentiate between polymorphism and overloading.
   o. What is method?
   p. What is accessor class?
   q. What kind of collection is List?
   r. Define Entity relationship model.
   s. Differentiate between object and class.
   t. What is open ODB?

Group “B”

**Short Answer Questions:**  

![5 \times 3 = 15](image)

18. What do you mean by “Pure object-oriented databases are navigational”?
19. Explain extends relationship with example.
20. Explain Coad/Yourdon notation used for representing classes and class relationships.
21. Explain different types of methods found in object oriented systems.
22. How logical relationship that exists between objects can be represented?

Group “C”

**Long Answer Questions:**  

![3 \times 5 = 15](image)

23. How is object created in Oracle? Explain with example.
25. List mandatory features of Object oriented systems and explain any three of them.

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TRIBHUVAN UNIVERSITY
FACULTY OF MANAGEMENT
Office of the Dean
2012

BIM / Eighth Semester / ITC 306: Object Oriented Database Management System

Candidates are required to answer all the questions in their own words as far as practicable.

Group “A”

1. Brief Answer Questions: \([10 \times 1 = 10]\)
   
   u. What do you mean by many-to-many relationship?
   
   v. What is mutator class?
   
   w. What kind of collection is Bag?
   
   x. Define interface.
   
   y. What is PL/SQL?
   
   z. What is object?
   
   aa. What is E-R diagram?
   
   bb. Differentiate between object and class.
   
   cc. What is Relational Model – Tasmania?
   
   dd. Define inheritance.

Group “B”

Short Answer Questions: \([5 \times 3 = 15]\)

26. How is one-to-many relationships represented in OODB? Explain.

27. How is whole-part relationship implemented in OODB?

28. Explain Booch notation used for representing classes and class relationships.

29. Explain benefits of object orientation.

30. What do you mean by object collection? Explain different types of object collection.

Group “C”

Long Answer Questions: \([3 \times 5 = 15]\)

31. How is inheritance achieved in Oracle? Explain with example.

32. List optional features of Object oriented systems and explain any three of them.

33. Explain OODBMS architecture.

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