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<b>7MIT2C1</b>
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**M.Sc. DEGREE EXAMINATION, APRIL 2019**

**Second Semester**

**Information Technology**

**INFORMATION AND NETWORK SECURITY**

**(CBCS – 2017 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What is confidentiality?
2. What is mean by brute force attack?
3. Differentiate stream cipher and block cipher.
4. Write the properties of hash function.
5. Draw a block diagram of public key cryptography.
6. Write the advantages of Elliptic curve based cryptosystem.
7. What is a digital signature?
8. Define integrity.
9. What is PCP?
10. What are the impacts of virus?

**Part B****(5 × 5 = 25)**

Answer **all** questions, choosing either (a) or (b).

11. (a) Write a note on security services.

Or

- (b) What is Access Control Matrix.

12. (a) Write a note on differential cryptanalysis.

Or

- (b) What are the various modes of operation in DES?

13. (a) Differentiate symmetric and asymmetric crypto system.

Or

- (b) Write a note on number theory.

14. (a) What is mean by key management? Brief.

Or

- (b) What are the techniques used in distribution keys? Explain.

15. (a) Write a note on secret sharing scheme.

Or

- (b) What is the use of firewall? Brief.

**Part C** $(3 \times 10 = 30)$ 

Answer any **three** questions.

16. Explain the different types of security policies.
  17. Discuss about the hash function.
  18. Explain about the Elliptic curve based Crypto system.
  19. Explain the functions of Digital signature algorithm.
  20. Describe the structure of IPSec and its responsibilities.
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**M.Sc. DEGREE EXAMINATION, APRIL 2019**

**Second Semester**

**Information Technology**

**RELATIONAL DATABASE MANAGEMENT SYSTEM  
(RDBMS)**

**(CBCS – 2017 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Compare database system and file system.
2. What is locking protocol?
3. What is Integrity constraint?
4. Define the terms degree and cardinality of a relation.
5. What is Nested query and subquery?
6. Compare procedures and functions.
7. What is fuzzy-checkpoint?
8. What is Multiple Granularity?
9. What is the need for Indexing?
10. Compare ISAM and B+ trees.

**Part B****(5 × 5 = 25)**

Answer **all** questions, choosing either (a) or (b).

11. (a) Explain briefly about Data Abstraction.

Or

- (b) Discuss Relationships and Relationship sets with suitable ER diagram.

12. (a) Explain how entity sets are mapped into relations with a sample ER diagram.

Or

- (b) Discuss about the syntax of Tuple Relational calculus Queries.

13. (a) Discuss about Triggers.

Or

- (b) Discuss about specifying CHECK Constraints over a single table with an example.

14. (a) Discuss about the Implementation of Atomicity and Durability.

Or

- (b) Write about Log-Based Recovery.

15. (a) Compare the various file organizations.

Or

- (b) Discuss about Indexes and performance Tuning.

**Part C** $(3 \times 10 = 30)$ 

Answer any **three** questions.

16. Discuss about
    - (a) Entities, Attributes and Entity sets.
    - (b) Database users and Administrator
  17. Explain the following operations available in relational algebra.
    - (a) Selection and projection
    - (b) Join
  18. Explain the basic structure of SQL Queries.
  19. Write briefly about Lock-based Protocols.
  20. Discuss briefly about Index Data Structures.
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**M.Sc. DEGREE EXAMINATION, APRIL 2019**

**Second Semester**

**Information Technology**

**DATA MINING AND WAREHOUSING**

**(CBCS – 2017 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Explain Machine Learning.
2. What is Data Selection?
3. Define Data Warehousing.
4. What is Data Mart?
5. What is Redundancy?
6. How to create Association Rule?
7. What is Tree Pruning?
8. What is Back Propagation?
9. Define Clustering.
10. What is Web Structure Mining?

**Part B** (5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) What is Data Mining? Compare Data Mining and Query Tools.  
Or  
(b) Write a brief note on Taxonomy of Data Mining Tasks.
12. (a) Write a note on OLAP Operations.  
Or  
(b) Discuss about the Meta Data and their types.
13. (a) Explain briefly about the Data Transformation.  
Or  
(b) Discuss about the Generalization.
14. (a) Explain in detail about Decision Tree Induction.  
Or  
(b) Write a brief note on Rough set approach.
15. (a) Explain briefly about the Hierarchical methods.  
Or  
(b) Write a note on Web Usage Mining.

**Part C** (3 × 10 = 30)

Answer any **three** questions.

16. Explain briefly about Steps in Data Mining Process.
17. What are the major activities during Data Warehouse Development Life Cycle? Explain.
18. Discuss in detail about Data Cleaning.
19. Explain briefly about the Bayesian Classification.
20. What is Graph Mining? Explain in detail.



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**M.Sc. DEGREE EXAMINATION, APRIL 2019**

**Second Semester**

**Information Technology**

**Elective – WIRELESS COMMUNICATIONS**

**(CBCS – 2017 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. What are the multipath channel parameters that can be determined from a power delay profile?
2. What is Brewster angle?
3. List the general operating modes of an Adaptive equalizer.
4. List the four categories of space diversity reception methods.
5. What is frequency planning?
6. What is cell splitting?
7. What is GSM?
8. What is multiframe?
9. What is Next-Generation – Network?
10. What is IMT 2000?

**Part B** $(5 \times 5 = 25)$ 

Answer **all** questions, choosing either (a) or (b).

11. (a) Write briefly about the types of small-scale fading.

Or

- (b) Explain the Direct RF pulse system.

12. (a) Write briefly about the classification of Equalizers.

Or

- (b) Write a brief note on Vocoders.

13. (a) Write briefly about Handoff strategies.

Or

- (b) Write briefly about sectoring.

14. (a) Write a brief note on GSM services and features.

Or

- (b) Write about GSM traffic channels.

15. (a) Discuss the applications of mobile adhoc networks.

Or

- (b) Write briefly about 4G.

**Part C** $(3 \times 10 = 30)$ 

Answer any **three** questions.

16. Explain in detail about diffraction.

17. Explain:

- (a) RAKE receiver

- (b) Characteristics of speech signals.

18. Explain briefly about Interference and system capacity.
  19. Explain briefly about forward CDMA channel.
  20. Write briefly about mobile data networks.
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**M.Sc. DEGREE EXAMINATION, APRIL 2019**

**Second Semester**

**Information Technology**

**Elective — WEB TECHNOLOGY**

**(CBCS – 2017 onwards)**

Time : 3 Hours

Maximum : 75 Marks

**Part A**

(10 × 2 = 20)

Answer **all** questions.

1. Write any two problems solved by Transport Layer.
2. Define Firewall.
3. Write any four HTML tags to format document.
4. How to create hyperlinks to other documents?
5. What is Function in Script?
6. What is XML?
7. What are the operations performed in PHP array?
8. Mention the usage of cookies.
9. Write the syntax to create a database in MYSQL.
10. What are the common problems occurred with PHP database?

**Part B**

(5 × 5 = 25)

Answer **all** questions, choosing either (a) or (b).

11. (a) What are the problem faced using FTP?

Or

- (b) How site map concept is used in Web Design? Explain.

12. (a) How image can be implemented in website? Explain.

Or

- (b) Explain the different types of input supplied in Forms.

13. (a) Write note on DTD.

Or

- (b) How <XSL: if> used to Extract information? Explain.

14. (a) How will you access the value in PHP from Server and Form? Explain.

Or

- (b) How file concept is implemented in PHP? Explain.

15. (a) Write a PHP program to connect the Server.

Or

- (b) How will you insert the data in MYSQL table? Explain.

**Part C**

(3 × 10 = 30)

Answer any **three** questions.

16. Explain about the Website Development planning Activity.
  17. Write a HTML program to read username and password.
  18. Explain with example looping structure of Java Script.
  19. How session concept is implemented in PHP? Explain.
  20. How will you alter the table in MYSQL? Explain with example.
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