

A-9712

Sub. Code

4MCI1C4

**M.Sc. DEGREE EXAMINATION, APRIL 2021 &
Supplementary/Improvement/Arrear Examinations**

First Semester

Computer Science and IT

DIGITAL COMPUTER FUNDAMENTALS

(CBCS – 2014 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is VLSI?
2. Specify the use of shift registers.
3. Define full adder.
4. Mention the purpose of Multiplexers.
5. Write the characteristics of dynamic RAM.
6. Why do we need decoders?
7. Write the differences between Buses and Interfaces.
8. Name any two applications of D/A converter.
9. What is the primary use of Control registers?
10. What do you mean by Micro-programming?

Part B

(5 × 5 = 25)

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

11. (a) Explain the concepts of Flip flop with its logic diagram.

Or

- (b) List and explain the types of counters.

12. (a) Illustrate the functionalities of a Half and Full adder circuits.

Or

- (b) How to perform arithmetic operations using Adder? Explain.

13. (a) Draw and explicate functions of decode circuit.

Or

- (b) Give a brief note on Virtual Memory.

14. (a) List and explain any two I/O devices.

Or

- (b) What are the techniques used for I/O addressing? Elaborate its concepts.

15. (a) How to construct an instruction? Explain its procedures.

Or

- (b) Write a short note on Register Transfer Language.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Give a detailed account on Integrated Circuits.
 17. Elaborate the functions of multiplexer with its circuit diagram.
 18. Describe the types of RAM in detail.
 19. Discuss on A/D and D/A converters.
 20. Illustrate the branch instructions with examples.
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A-10433

Sub. Code

4MC12C1

M.Sc. (CS & IT) DEGREE EXAMINATION, APRIL 2021 &

Supplementary/Improvement/Arrear Examinations

Second Semester

Computer Science and Information Technology

DATABASE TECHNOLOGY

(CBCS – 2014 onwards)

Time : 3 Hours

Maximum : 75 Marks

Section A

(10 × 2 = 20)

Answer **all** the questions.

1. Write the characteristics of Database system.
2. Define Second Normal Form(2nd NF).
3. List out the different data types in SQL.
4. Mention the various commands available in DML.
5. Define deadlock in database.
6. What do you mean by transactions?
7. List down the advantages of parallel databases.
8. Mention the advantages of web databases.
9. Define data cube.
10. What are the security specifications available in SQL?

Section B

(5 × 5 = 25)

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

11. (a) Write short note on types of data models.

Or

- (b) Enumerate the domain key normal form with an example.

12. (a) Write short note on Transaction control Language and its uses.

Or

- (b) Discuss about Query processing techniques.

13. (a) Write short note on Two Phase Commit Protocol.

Or

- (b) What are the properties of transaction Processing?

14. (a) Write short note on distributed databases.

Or

- (b) Discuss about the multidimensional databases.

15. (a) Write short note on security threats in database.

Or

- (b) Define data mart. Also give various types of data marts.

Section C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain in detail the various components of DBMS.
17. Write a brief note on Heuristics and cost estimates in query optimization.

18. Give a brief account on Concurrency control mechanisms.
 19. Discuss about mechanisms in mobile and web databases
 20. Explain in detail the security threats and defense mechanisms.
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A-10213

Sub. Code

4MCI3C2

**M.Sc. DEGREE EXAMINATION, APRIL 2021 &
Supplementary / Improvement / Arrear Examinations**

Third Semester

Computer Science and Information Technology

SOFTWARE ENGINEERING

(CBCS – 2014 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. Define software.
2. Specify the role of SRS in software development.
3. List out the uses of Data Flow Diagram.
4. State the objectives of Requirement Analysis.
5. Mention the uncertainties in cost estimation.
6. What are the activities involved in risk management?
7. List the elements of design model.
8. Mention any two principles of software design.
9. What are the two levels of testing?
10. Specify the aim of mutation testing.

Part B

(5 × 5 = 25)

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

11. (a) Write short note on effort distribution with phases in software development.

Or

- (b) Describe the salient features of spiral model.

12. (a) What are the characteristics of good SRS? Explain.

Or

- (b) Write a short note on problem analysis.

13. (a) What do you mean by project scheduling? Discuss it.

Or

- (b) Describe the guidelines for software code design.

14. (a) Elaborate the software design principles.

Or

- (b) Write a short note on module level system design methods.

15. (a) Discuss about top-down and bottom-up testing approaches.

Or

- (b) Give a brief account on testing process.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Discuss in detail the waterfall model of software development process.
 17. Describe the structure of software requirement document.
 18. Illustrate the fundamental concepts project monitoring plans.
 19. Write a brief note on transaction analysis in system design.
 20. Explain in detail the functional testing with suitable example.
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4MCI3C1

**M.Sc. DEGREE EXAMINATION, APRIL 2021 &
Supplementary/Improvement/Arrear Examinations
Third Semester**

Computer Science and Information Technology

PRINCIPALS OF COMPILER DESIGN

(CBCS – 2014 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is Compiler?
2. Specify the role of lexical analyzer.
3. Why do need symbol table?
4. Expand LALR parsing.
5. What is concrete syntax?
6. What is L attribute in compiler design?
7. Name any two storage allocation strategies.
8. How to do declarations?
9. Mention the purpose of flow graph.
10. What do you mean by code optimization?

Part B

(5 × 5 = 25)

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

11. (a) Write the functions of one-pass compiler.

Or

- (b) Describe the possible error recovery actions in lexical analyzer.

12. (a) Explain the principles of Top down parsing.

Or

- (b) Elaborate the concepts of SLR parsing.

13. (a) How to construct a syntax tree? Explain with an example.

Or

- (b) Write the specifications of simple type checker.

14. (a) Explicate the syntax for parameter passing with suitable example.

Or

- (b) Illustrate the rules for specifying the Boolean expression with examples.

15. (a) What do you mean by Run Time storage management? Explicate its concepts.

Or

- (b) How to optimize the code? Explain with an example.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the structure of Compiler in detail.
17. Check whether the following Grammar is LR or not: $S \rightarrow CC; C \rightarrow cC/b$
18. Illustrate the procedures of bottom up evaluation.
19. What is intermediate code representation? Explain quadruple and indirect triple with examples.
20. Give a brief account on (a) Code Generation
(b) Loop Optimization.

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4MCI3C3

**M.Sc. DEGREE EXAMINATION, APRIL 2021 &
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Third Semester

Computer Science and Information Technology

.NET TECHNOLOGY

(CBCS – 2014 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. What is Interoperability?
2. Expand CLR.
3. What do you mean by MsgBox?
4. What is the use of conditional statement?
5. List down various List controls.
6. What is server side validation?
7. What is a overloading?
8. Define Abstraction.
9. What is state management?
10. List out the advantages of Data Grid.

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Discuss the concept of Namespace.

Or

- (b) Write a note on Assemblies.

12. (a) Describe the concept of string handling.

Or

- (b) Describe various Data types in VB.Net.

13. (a) Write a steps to create a simple web application through ASP.NET.

Or

- (b) Write a short note on Data controls.

14. (a) Write a note on Form Authentication.

Or

- (b) Describe encapsulation and polymorphism.

15. (a) Discuss the concept of Data List.

Or

- (b) List out the characteristics of ADO.NET.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain the .NET frame work Architecture.
17. Explain the any five windows controls with an example.
18. Illustrate the concept of AJAX with examples.
19. Elaborate the concept of Inheritance with suitable example.
20. Discuss the ADO.NET provider objects with example.

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4MCI3E1

**M.Sc DEGREE EXAMINATION, APRIL 2021 &
Supplementary/Improvement/Arrear Examinations**

Third Semester

Computer Science and Information Technology

Elective — MULTIMEDIA AND ITS APPLICATIONS

(CBCS – 2014 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** questions.

1. List any four applications of Multimedia.
2. What is multimedia networking?
3. Define Pixel.
4. What are the elements of graphics?
5. What do you meant by Quantization noise?
6. Define Resolution.
7. Differentiate between media services and session services.
8. What is Teleconferencing?
9. What is the difference between client and server?
10. Write any two functions of Internet

Part B

(5 × 5 = 25)

Answer **all** questions.

11. (a) Write short notes on Multimedia software.

Or

- (b) Explain briefly about Multimedia environments.

12. (a) Summarize the goals of multimedia system services.

Or

- (b) Discuss how to use graphics on multimedia applications.

13. (a) Write a note on Color fundamentals.

Or

- (b) Explain how to evaluate a compression system.

14. (a) With suitable illustration, discuss about BISDN protocol reference model.

Or

- (b) Enlist the requirements for multimedia communications.

15. (a) Write short notes on Internet addressing.

Or

- (b) Explain briefly about HTML and Web authoring.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write a detailed note on Multimedia Computer Components with suitable illustration.
17. Explain some views of the Multimedia system services architecture.
18. Discuss briefly about the digital representations of sound.
19. Describe about network based multimedia services with appropriate illustration.
20. Explain in detail about Multimedia development Process.

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4MCI3E5

**M.Sc. DEGREE EXAMINATION, APRIL 2021 &
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Third Semester

Computer Science and Information Technology

Elective — INFORMATION SECURITY

(CBCS – 2014 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 2 = 20)

Answer **all** the questions.

1. Define Information Security.
2. List out the security components.
3. What do you mean by security investigation?
4. Mention the different types of attacks.
5. What is risk management?
6. What are the deliverables of risk assessment?
7. Write the standards of BS 7799?
8. How to create logical designs for security?
9. What is Intrusion Detection System?
10. Define Cryptanalysis.

Part B

(5 × 5 = 25)

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

11. (a) Explain the various phases of security SDLC.

Or

- (b) Describe the critical characteristics of the Information.

12. (a) Why do need security? State any five reasons?

Or

- (b) Explicate the business needs for security Investigation.

13. (a) What are the steps involved in risk management? Explain them.

Or

- (b) Elaborate the risk identification processes in detail.

14. (a) Describe the VISA international security model

Or

- (b) How to plan for security continuity? Confer them.

15. (a) Illuminate the various access control devices.

Or

- (b) Discuss the criteria used for security and personnel.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Elucidate the components of an Information System.
 17. Discuss on Ethical and Professional Issues of Information Security.
 18. What are the strategies used for controlling the risks? Explain them.
 19. Give a brief account on security standards and practices.
 20. List and illustrate various types of security technologies.
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