F–9122	Sub. Code
	7BIT2C1

B.Sc. DEGREE EXAMINATION, APRIL 2023.

Second Semester

Information Technology

PROGRAMMING IN C AND DATA STRUCTURES

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer all the questions.

1. What is Macro?

2. What is Recursion?

3. Write the syntax for creating two dimensional array.

4. What is dynamic memory allocation?

5. What is Union?

6. List out any four formatted I/O commands.

7. What is postfix?

8. Mention the various functions of a Queue.

9. How to delete an element in a tree?

10. Specify any two tree applications.

Part B (5 × 5 = 25)

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

11. (a) Describe the various operators in C.

Or

(b) Explicate the storage classes in C.

12. (a) Explain the steps to create a multidimensional array.

Or

(b) How to allocate a memory dynamically? Give a sample program.

13. (a) Give a short note on Self-referential structures.

Or

(b) Write a C program to open and close a file.

14. (a) Elaborate the functions of Queue.

Or

(b) Write a C program to convert an expression into postfix

15. (a) What is Binary Tree? Write the characteristics of a Binary Tree.

Or

(b) Write a C program to implement a Linked List.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write a C program to sort 'n' numbers.

17. How to pass the pointers to a function ? Explain with sample program.

18. Write a C program to create the student information using Structure.

19. Give a brief account on List.

20. Describe the steps to represent the Binary trees.

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7BIT4C1

B.Sc. DEGREE EXAMINATION, APRIL 2023

Fourth Semester

Information Technology

OPEN SOURCE SOFTWARE

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define open source software.

2. What is kernel mode?

3. How can you connect to the mysql server?

4. State mysqld.

5. What is variables?

6. What is meant by functions? Give example.

7. Describe the built in types present in the python programming.

8. What are the numbers present in the python?

9. State perl.

10. Define Sub routines.

Part B (5 × 5 = 25)

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

11. (a) List and explain the advantages of open source system.

Or

(b) What is process? Explain its states.

12. (a) Neatly sketch the concept of Date and time with example.

Or

(b) What are the capabilities provided by mysql client API's?

13. (a) Discuss the naming conventions in PHP with proper examples.

Or

(b) How can you assign range of values to the array? Explain with an example.

14. (a) Write down the mechanism of accessing strings in python.

Or

(b) Give a brief account on removing list elements and lists.

15. (a) Clarify the concept of Packages.

Or

(b) Write short note on Data manipulation.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. How do you send a signal through system cells? Explain with example.

17. Describe the tools that are available for managing sql server. Give examples.

18. Explain the basic types of abstract patterns in a regular expression.

19. Clarify the concept of Dictionaries in python programming.

20. What are control structures in Perl? Explain with examples.

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	7BITE2A

B.Sc. DEGREE EXAMINATION, APRIL 2023.

Fifth Semester

Information Technology

Elective: COMPUTER NETWORKS

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. What is Computer Network?

2. Expand the word ISDN.

3. Define the responsibilities of Data Link Layer.

4. What is Petri net model?

5. Specify the primary uses of routing algorithms.

6. What is Subnet?

7. List out any four service categories.

8. What is Protocol?

9. Mention the uses of SNMP?

10. What standards for MPEG?

Part B (5 × 5 = 25)

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

11. (a) Describe the ISO's Reference model.

Or

(b) Write a short note on Narrowband ISDN.

12. (a) Illustrate the concepts of error detection and correction codes.

Or

(b) Clarify the mechanisms of ALOHA.

13. (a) Write a brief account on Congestion Control Algorithm.

Or

(b) What is ATM LANs? How to formulate ATM LAN?

14. (a) Illustrate the various elements of Transport Layer.

Or

(b) List and explicate any two Transport layer protocols.

15. (a) Illustrate the concepts of Secret and Public Key Algorithms.

Or

(b) What is WWW? Explain its applications.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Give a brief account on Transmission Media.

17. Discuss the functions of any two elementary data link protocols.

18. Describe the responsibilities of network layer.

19. Illustrate the mechanisms of Flow Control and Buffering.

20. Elaborate any two data compression techniques in detail.

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	7BIT6C1

B.Sc. DEGREE EXAMINATION, APRIL 2023.

Sixth Semester

Information Technology

SOFTWARE ENGINEERING

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define Software Engineering.

2. Mention the activities of planning.

3. Write the importance of software cost estimation techniques.

4. Define software requirements.

5. List the software design methods.

6. Give the purpose of a test plan.

7. Mention the types of Software Testing.

8. State the source code metrics.

9. What is software quality assurance?

10. Define the elements of a SQA plan.

Part B (5 × 5 = 25)

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

11. (a) Describe the principles of Software Engineering.

Or

(b) Elaborate the organizational structure.

12. (a) Explain any two Software Cost Estimation techniques.

Or

(b) Describe the software requirements specification.

13. (a) Write the importance of design notations.

Or

(b) Discuss about the real time and distributed system design.

14. (a) Illustrate the concepts of unit testing and system testing.

Or

(b) Clarify the mechanisms of configuration management

15. (a) Write a short note on Quality Concepts.

Or

(b) List and explicate the ISO 9000 quality standards.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain Planning the Development Process in detail.

17. Explicate the concepts of Software Requirements.

18. Discuss about the software design modules and modularization criteria.

19. Illuminate any two Software Testing Models.

20. Illustrate Statistical Quality Assurance with examples.

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B.Sc. DEGREE EXAMINATION, APRIL 2023

Sixth Semester

Information Technology

OPERATING SYSTEM AND SYSTEM SOFTWARE

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What are interrupts?

2. Define system calls.

3. What do you mean multicore programming?

4. Mention the features of monitors.

5. What is meant by virtual memory?

6. Mention any two disk allocation methods.

7. Write the various instruction sets.

8. What are symbols?

9. Write any two functions of linkage editors.

10. What do you mean by dynamic linking?

Part B (5 × 5 = 25)

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

11. (a) Write short note on OS generation and system boot.

Or

(b) Describe about cache memory and its advantages.

12. (a) Describe the need for multithreading models.

Or

(b) Write short note on Windows 7 operating system and its features.

13. (a) Discuss the various page replacement algorithms with an example.

Or

(b) Write short note about on disk sharing and protection mechanisms.

14. (a) Write short note on I/O and programming.

Or

(b) Mention the various addressing_modes in modern computer.

15. (a) What are the options available in loader design?

Or

(b) Write short note on features of machine independent loaders.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write brief note on multiprocessor and multicore organization.

17. Describe the characteristics and mechanisms involved in deadlock.

18. Write brief note on paging and segmentation memory management techniques.

19. Discuss about one pass and multi pass assemblers.

20. Explain the algorithm and data structures used for linking loader.

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7BIT6C3

B.Sc. DEGREE EXAMINATION, APRIL 2023

Sixth Semester

Information Technology

PRINCIPLES OF MULTIMEDIA

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. Define multimedia.

2. Mention the products included in Entertainment multimedia.

3. Define the term Text.

4. What is meant by GIF?

5. Define Bitmap.

6. List out the characteristics of Sound.

7. What are the factors to be considered, when selecting graphics used in Multimedia Project?

8. What is meant by Storyboards?

9. List out the three categories of Controls in Multimedia Tool.

10. Define HTML.

Part B (5 × 5 = 25)

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

11. (a) Write a short note on "Copyright in Multimedia".

Or

(b) Describe about the Information Products in Multimedia.

12. (a) What is "Standards in Multimedia"? Discuss it.

Or

(b) Write a short note on Using Text in Multimedia Applications.

13. (a) Explain the features of color models in Multimedia.

Or

(b) What are the different Audio File formats? Describe it.

14. (a) Illustrate the building blocks in Product Design.

Or

(b) Describe the concept of "Digital Video Data Sizing"

15. (a) List out the criteria for Selecting a Tool in Multimedia

Or

(b) What is Web Authoring? Explain

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Describe the resources for multimedia developers.

17. Discuss: Operating systems support for Multimedia

18. What is MIDI? Explain its Applications in detail.

19. Illustrate the concept of Computer Animation with an example.

20. Elucidate the categories of Authoring Tools.

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7BITE3A

B.Sc. DEGREE EXAMINATION, APRIL 2023

Sixth Semester

Information Technology

Elective – MOBILE COMMUNICATION

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define Frequency.

2. Specify the advantages of modulation.

3. List the various orbits of Satellites.

4. What are the different types of broadcast patterns?

5. Specify the advantages of Infrared technology.

6. What are the three phases of EY-NPMA in HIPERLAN?

7. Name the protocol used for agent advertisement message.

8. Specify the mechanisms used in Snooping TCP.

9. Which Protocol provides error handling mechanisms for WDP?

10. Write a note on WWW.

Part B (5 × 5 = 25)

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

11. (a) Describe the methods used for signal propagation.

Or

(b) Explain the spread spectrum technologies.

12. (a) Compare S/T/F/CDMA technologies.

Or

(b) Explicate the concept of Localisation.

13. (a) Write down the advantages of WLAN.

Or

(b) Write a short note on Wireless ATM.

14. (a) Depict Mobile IP network in detail.

Or

(b) Can the problems using TCP be solved by replacing TCP with UDP? Where could this be useful? Discuss.

15. (a) Write a note on File System Consistency.

Or

(b) Discuss any two problems available in HTTP and HTML.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. List and explain various types of multiplexing techniques.

17. Which types of different services does GSM offer? Justify why these services have been separated.

18. What are the security services offered by Bluetooth? Explain them.

19. Explicate the concepts of Mobile Ad-hoc Networks.

20. Explain the components and interface of the WAP architecture.

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	7BITE3B

B.Sc. DEGREE EXAMINATION, APRIL 2023.

Sixth Semester

Information Technology

Elective: E- COMMERCE

(CBCS – 2017 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is meant by Electronic Commerce?

2. List the components of I-Way?

3. Define framework in e-commerce?

4. Specify the uses of Smart Card.

5. Describe EDI and its types.

6. What is an Interned based EDI?

7. What are the types of Internet advertising?

8. How do consumers benefit from e-commerce?

9. Mention the purpose of E-commerce copyrights?

10. Describe the e-commerce model.

Part B (5 × 5 = 25)

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

11. (a) Describe the e-commerce applications.

Or

(b) Write the short note on Internet Terminology.

12. (a) What is meant by Web security? Explain.

Or

(b) Explicate the concepts of Electronic Payment System.

13. (a) Elaborate the mechanisms of Electronic Data Interchange.

Or

(b) List and explain the main functions of a Value Added Networks?

14. (a) Justify the various On-line marketing processes.

Or

(b) What do you mean by Information Filtering? Give explanation.

15. (a) What are computer-based training programs? Explain them.

Or

(b) Describe the properties of software agents.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Illustrate the Electronic Commerce Framework with neat diagram.

17. Explicate the WWW as Architecture.

18. Briefly discuss about the EDI envelope and Message Transport.

19. Explain about Market Research in detail.

20. Illustrate the technology components of Education on Demand.

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