S–6942

Sub. Code
22BIT5C1

B.Sc. DEGREE EXAMINATION, APRIL 2025

Fifth Semester

Information Technology

VISUAL STUDIO.NET

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. State any two components of IDE.

2. Mention the features of CLR.

3. Construct the While-loop.

4. Enumerate on “With Statement”.

5. Indicate the syntax to create Rich Textbox through coding.

6. State the use of popup menus.

7. What is “GridView” control in ASP.NET?

8. Interpret on List< T> in ASP.NET.

9. Differentiate DataReader and DataSet.

10. What do you mean by SqlCommandBuilder?

Part B (5 × 5 = 25)

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

11. (a) What is MSIL? Discuss the importance of MSIL in .NET execution process.

Or

(b) Demonstrate the use of Just-In-Time compilation in CLR.

12. (a) Illustrate the syntax and flow diagram of do...loop and while…end while statement with your own program.

Or

(b) Elaborate on Polymorphism and its type in VB.Net.

13. (a) Develop a VB.Net program for displaying factorial value, of given number in message box.

Or

(b) Demonstrate the use of Calendar control and Timer control with example program.

14. (a) Discuss the role of TextBox, DropDownList and Button Controls in ASP.NET forms.

Or

(b) Enlighten the benefits of using MVC pattern for Web Application Development.

15. (a) Discuss the role of ADO.NET in handling data operations in ASP.NET applications.

Or

(b) Create a VB.Net application that connects to SQLServer database and display a list of employees.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Describe the different types of libraries available in .Net Framework.

17. State the following control structure with example :

    (a) For…Next

    (b) Select….End Select.

18. List out the common methods and properties of Text Boxes, Labels and Buttons.

19. Analyze the difference between using List< T> and a Dictionary<TKey, TValue> for managing data.

20. Describe the steps involved in connecting VB.NET to SQLServer database using ADO.NET.

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S–6943

Sub. Code
22BIT5C2

B.Sc. DEGREE EXAMINATION, APRIL 2025

Fifth Semester

Information Technology

MULTIMEDIA AND ITS APPLICATIONS

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Mention the role of text in multimedia experience.
2. Name two types of software used in multimedia projects.
3. Why is understanding natural light important in creating still images?
4. List out the three common Audio file formats.
5. Write the basic steps involved in creating an animation.
6. How can lighting and sound impact the quality of a video?
7. Identify the three popular image editing software tools.
8. What are the advantages of using specialized animation software?
9. Define symbols in Adobe Animate.
10. How can Adobe Animate is used to create interactive motion graphics for the web?

Part B

$(5 \times 5 = 25)$

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

11. (a) Analyse the process of Editing fonts and Designing tools.

Or

(b) Outline the applications of hypermedia and hypertext in multimedia projects.

12. (a) Discuss the various techniques and tools used in making still images.

Or

(b) Explain the psychological and emotional effects of sound in multimedia.

13. (a) Identify the different methods and techniques used in making animations.

Or

(b) Discuss the methods used to integrate computers with television systems.

14. (a) Explain the role of input and output devices in multimedia production.

Or

(b) Describe the key considerations for designing multimedia content for WWW.

15. (a) Explicate the purpose of Tools panel and Timeline panel in Adobe Animate.

Or

(b) Illustrate the working with shapes in Adobe Animate.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain the tools and software available for font editing and design.

17. Explain the different audio file formats and their characteristics.

18. Analyze the process of shooting and editing video.

19. Describe the various editing tools available for text, image, sound, animation and video.

20. Discuss the process of creating motion tween and shape tween in Adobe Animate.

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S–6944	Sub. Code 22BIT5C3

B.Sc. DEGREE EXAMINATION, APRIL 2025

Fifth Semester

Information Technology

INTERNET OF THINGS

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define the term Interoperable of communication protocols.

2. Why do IoT systems have to be self-adapting and self-configuring?

3. Differentiate between IoT and M2M.

4. State about Network Function Virtualization (NFV).

5. What is the need for a controller service?

6. Show the schematic diagram of home automation of IoT system.

7. List out five pins of Raspberry Pi for SPI interface.

8. State the use of 'pass' statement in Python.

9. Explain Amazon RDS.

10. How do you define a URL pattern?

Part B (5 × 5 = 25)

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

11. (a) Draw a block diagram of IoT Device and explain the components.

Or

(b) Enumerate the various application areas of IoT in Environment.

12. (a) Explain briefly the roles of YANG and TransAPI modules in device Management.

Or

(b) Discuss shortly the significance of NETCONF server.

13. (a) Briefly explain Information model specification in IoT design methodology.

Or

(b) Describe shortly the significance of operational view specification.

14. (a) Clarify about Packages in Python.

Or

(b) Compare the significance of JSON and XML.

15. (a) Describe shortly the Amazon DynamoDB.

Or

(b) Elucidate the key concepts of SkyNetIoT Messaging Platform.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Illustrate on IoT Enabling technologies and elaborate each one.

17. Clarify the Simple Network Management Protocols (SNMP) with its limitations.

18. Explain in detail about functional view specification in IoT design methodology.

19. Describe in details about control flow statements in Python.

20. Discuss the key concepts of Web Application Messaging Protocol (WAMP).

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S–6945

Sub. Code
22BIT5C4

B.Sc. DEGREE EXAMINATION, APRIL 2025

Fifth Semester

Information Technology

FUNDAMENTALS OF DIGITAL IMAGE PROCESSING

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define the term Image.

2. Mention the applications of image processing.

3. What is meant by image filtering?

4. What is the Discrete Fourier Transform?

5. What is inverse filtering?

6. What are the types of noise models?

7. State the applications of color image processing.

8. What is image compression?

9. What is meant by image segmentation?

10. What are patterns in the context of image processing?

Part B (5 × 5 = 25)

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

11. (a) Classify the different components of image processing system.

Or

(b) Explain in detail about image acquisition system.

12. (a) Explain the mechanics of spatial filtering.

Or

(b) Distinguish between smoothing and sharpening filters.

13. (a) Explain the procedure for histogram matching process.

Or

(b) What is image degradation and restoration? Explain with example.

14. (a) Differentiate between lossless and lossy compression.

Or

(b) Describe the process of applying smoothing filters to color images.

15. (a) Explain the role of thresholding in segmentation.

Or

(b) Describe the process of region splitting in image segmentation.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain the fundamental steps involved in digital image processing.

17. Construct the 2D fourier transform and its inverse.

18. Discuss about basics of intensity transformation in image enhancement.

19. Explain about the RGB and CMYK color models.

20. Explain the key differences between pattern classification and image segmentation.

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S–6949

Sub. Code
22BIT6E4

B.Sc. DEGREE EXAMINATION, APRIL 2025

Sixth Semester

Information Technology

Elective – PRINCIPLES OF ARTIFICIAL INTELLIGENCE

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define Artificial Intelligence.

2. What is the difference between a reactive and a deliberative agent?

3. State about Alpha-Beta procedure.

4. Difference between data-driven and a goal-driven search.

5. What are the principles of knowledge representation using predicate logic?

6. Elucidate on structured representations of knowledge.

7. Define independence in probability.

8. What is the planning graph?

9. What is utility theory in decision-making?

10. Point out the main methods of learning in machine learning.

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

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

11. (a) Explain the different types of intelligent agents in Artificial Intelligence.

Or

(b) Evaluate the current state of Artificial Intelligence research and its future potential.

12. (a) Discuss the importance of heuristic searches in problem solving.

Or

(b) Compare and contrast different search strategies in problem solving.

13. (a) Discuss the advantages and disadvantages of propositional logic.

Or

(b) Compare the terms semantics and inference procedure.

14. (a) Explain probabilistic inference and how it can be used to make decisions based on uncertain knowledge.

Or

(b) Provide a sample application of representing and reasoning with uncertain knowledge, such as in medical diagnosis or financial forecasting.

15. (a) Discuss the elementary game theory and analyze strategic decision-making.

Or

(b) Compare and contrast learning through exploration and learning through examples.

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

Answer any **three** questions.

16. Describe in detail about foundations, Scope, Problems, and Approaches of AI.

17. Explain in detail about the role of state space search, problem solving.

18. Describe how knowledge representation can be used to improve the performance of machine learning algorithms.

19. Discuss Bayesian networks and their applications in representing and reasoning with uncertain knowledge.

20. Explain the advantages and disadvantages of learning through memorization in machine learning and knowledge acquisition.

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S–6950

Sub. Code
22BIT6E5

B.Sc. DEGREE EXAMINATION, APRIL 2025

Sixth Semester

Information Technology

Elective – SOFTWARE ENGINEERING

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define Software Engineering.

2. Give some project control variables.

3. Write a note on LOC based estimation.

4. Difference between states oriented notation and relation notation.

5. Elucidate the term Data Flow Diagram (DFD).

6. Outline the Walkthrough.

7. Define the term white box testing.

8. List out some advantages of software testing.

9. Define source code metrics.

10. List out some examples of software quality attributes.

Part B

$(5 \times 5 = 25)$

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

11. (a) Write a short note on prototype model.

Or

(b) How to develop a solution strategy of a software project? Explain.

12. (a) Explain briefly estimating software maintenance costs.

Or

(b) Describe shortly software requirements analysis.

13. (a) Briefly explain the various design techniques in software engineering.

Or

(b) Compare the terms coupling and cohesion.

14. (a) Explain briefly about validation testing.

Or

(b) Summarize the details of structured coding techniques.

15. (a) Describe shortly the significance of software reviews.

Or

(b) Elucidate the various tools and techniques to maintain the software.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Analyze the various phases of Waterfall Model with neat diagram.

17. Discuss about software cost estimation techniques.

18. Describe the fundamental design concepts.

19. Elucidate on coding style standards and guidelines.

20. Analyze the different approaches of software configuration management.

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S–6951

Sub. Code
22BIT6E6

B.Sc. DEGREE EXAMINATION, APRIL 2025

Sixth Semester

Information Technology

Elective – CLOUD COMPUTING

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define Cloud Computing.

2. List out the benefits of cloud computing.

3. What is network bandwidth?

4. Contrast the terms Multitenant Technology.

5. Differentiate between Public cloud and Private cloud.

6. Elucidate the term Storage as a Service.

7. Point out benefits of Inter-cloud resource management.

8. Mention the term encryption.

9. State and explain Cloud security mechanisms.

10. Classify the perspectives on SaaS from IaaS and PaaS.

Part B (5 × 5 = 25)

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

11. (a) Describe the basic concepts and terminology of cloud computing.

Or

(b) Narrate on cloud computing risk and challenges.

12. (a) Elaborate on Virtualization Technology.

Or

(b) Discuss shortly several prominent service technologies.

13. (a) Briefly explain Redundant Storage Architecture.

Or

(b) Compare and contrast private cloud, public cloud and Hybrid Cloud.

14. (a) Summarize about Global Exchange of Cloud Resources.

Or

(b) Explain about Resource provisioning Methods.

15. (a) Describe the significance of Equipping PaaS environments.

Or

(b) Elucidate the working with Iaas Environments.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Explain in detail about Cloud Delivery Models with neat diagram.

17. Illustrate on Broadband Networks and Internet Architecture technology.

18. Explain the Workload Distribution Architecture.

19. Describe about Public key Infrastructure.

20. Discuss the different perspective of SaaS development.

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S–6952

Sub. Code
22BIT6E7

B.Sc. DEGREE EXAMINATION, APRIL 2025

Sixth Semester

Information Technology

Elective – DATA MINING

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define Data Mining.

2. State any two issues in data mining.

3. Distinguish between data cleaning and noisy data.

4. Comment on feature selection.

5. Define association and correlations.

6. What is meant by Closed Frequent Item Set?

7. List the advantages of using the KNN classifier.

8. How to evaluate the accuracy of a Classifier?

9. Distinguish between Classification and clustering.

10. What is the impact of outliers on cluster analysis?

Part B (5 × 5 = 25)

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

11. (a) Explain the importance of data mining.

Or

(b) Explain the various kinds of data used in Data Mining.

12. (a) Describe different types of data summarization techniques.

Or

(b) Classify different types of reductions.

13. (a) Compare the advantages of FP growth algorithm over apriori algorithm.

Or

(b) How to improve the efficiency of apriori algorithm? Explain.

14. (a) What is rule-based classification, and how does it work?

Or

(b) How does the Naive Bayesian classification works? Explain.

15. (a) Inference the working of k-means clustering.

Or

(b) Explain how categorical data is handled in cluster analysis.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Show with diagrammatic illustration of the steps involved in the process of the Knowledge Discovery from Data.

17. Explain about CUR decomposition and its advantages.

18. Describe the concept of market basket analysis and its significance.

19. Outline the concept of Classification by Decision Tree Induction.

20. Explain the difference between agglomerative and divisive hierarchical clustering.

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S–7292

Sub. Code
22BIT1C1

B.Sc. DEGREE EXAMINATION, APRIL 2025

First Semester

Information Technology

PRINCIPLES OF INFORMATION TECHNIQUES

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. What is Computer?

2. What are the advantages of Computer?

3. Sp ecify the purpose of Voice Recognition Systems.

4. What is Magnetic tape?

5. Give an example for Octal to Hexadecimal conversion.

6. Define Assembler.

7. How to measure data transmission speed?

8. Define Modem.

9. List the various elements of Internet address.

10. Mention any two Email ethics.

Part B (5 × 5 = 25)

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

11. (a) Describe the evolution of Computer.

Or

(b) Explicate the functions of Computer with block diagram.

12. (a) Elucidate the role of input devices in a computer system.

Or

(b) Differentiate impact and non-impact printers.

13. (a) Explain the different types of number system used in Computer.

Or

(b) Write a short note on Instruction Cycle.

14. (a) Illustrate the concepts of communication process.

Or

(b) Describe the various types of computer networks.

15. (a) Write detailed note on Internet addressing.

Or

(b) Write a brief note on Mailing Lists.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Describe in detail about Classification of Computers.

17. Summarize the functions of various storage devices.

18. Give a brief account on Computer Languages.

19. List and illuminate the characteristics of guided transmission media.

20. Illustrate different formatting tags used in HTML with examples.

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S–7293

Sub. Code
22BITA1

U.G. DEGREE EXAMINATION, APRIL 2025

Information Technology

Allied – FUNDAMENTALS OF COMPUTER

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define the term microprocessor.

2. What is microprocessor?

3. Comment on Optical Disk.

4. Mention the need of register.

5. Comment on software acquisition.

6. Recall the main ways of users interact with a computer system.

7. What are control structures in programming?

8. Define flowchart.

9. What is an internetworking?

10. What is an IP address?

Part B (5 × 5 = 25)

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

11. (a) Explain the various applications of a computer.

Or

(b) Describe the instruction format with example.

12. (a) State the advantages and disadvantages of using magnetic tape for data storage.

Or

(b) Differentiate between direct access and sequential access in storage devices.

13. (a) Interpret the application software with example.

Or

(b) What are data entry devices? Provide examples and their uses.

14. (a) Describe the various functions of an operating system.

Or

(b) Describe the characteristics of a good algorithm.

15. (a) Describe the role of TCP/IP in Internet communication.

Or

(b) Describe the role of an Internet Service Provider (ISP) in connecting users to the Internet.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain the role of hardware in the functioning of a computer system.

17. Describe the role of primary memory in the execution of programs.

18. Describe the different types of I/O ports and their uses.

19. Explain the stages of Program Development Life Cycle.

20. Illustrate the basic architecture of the Internet.

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S–7294

Sub. Code
22BIT2C1

B.Sc. DEGREE EXAMINATION, APRIL 2025

Second Semester

Information Technology

PROGRAMMING IN JAVA

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. How to declare the variable in Java?
2. What is mean by token?
3. Write a program to display “hello world”.
4. What is mean by type conversion?
5. Mention the need of Constructor.
6. How array is differ from variable?
7. Give the properties of thread.
8. Classify the types of errors.
9. What is the role of the Graphics class in Java?
10. How do you draw a line using the Graphics class?

Part B (5 × 5 = 25)

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

11. (a) Explain the benefits of OOPs.

Or

(b) Interpret the history and Evolution of Java.

12. (a) Explain the *If Else* and *Switch* statement with example.

Or

(b) Develop a java program to check whether the year is leap year or not.

13. (a) Explain parameterized constructor with example.

Or

(b) Differentiate between abstract class and interface.

14. (a) Explain about try, catch, statements with examples.

Or

(b) Why synchronization is required in thread? Discuss.

15. (a) Differentiate between applet and application.

Or

(b) Explain drawRect 0 method in Graphics class with suitable example.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Describe the structure of the Java Program with example.

17. Describe the different types of operators with example.

18. Explain the concepts of class and object with example.

19. Explain how to create user defined package in java with example.

20. Write a brief note on managing input and output files in java.

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S–7295

Sub. Code
22BITA2

U.G. DEGREE EXAMINATION, APRIL 2025

Information Technology

Allied – DIGITAL ELECTRONICS

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Differentiate positive with negative logic.

2. What is the function of 1-to-16 decoder?

3. What is meant by parity bit?

4. Convert $(15)_{10}$ to Binary.

5. What is the result of adding the binary numbers 1010 and 0110?

6. List two operations that an ALU can perform besides addition.

7. Prepare the truth table for JK Flip flop.

8. What is the operation of D flip-flop?

9. State the primary function of a register in a digital system.

10. How is a decade counter different from a binary counter?

Part B (5 × 5 = 25)

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

11. (a) Interpret the characteristics of demultiplexer.

Or

(b) Implement BCD to 7-segment decoders.

12. (a) Find the equivalent Gray code for $[10110]_2$.

Or

(b) Classify the different types of ROM.

13. (a) Find 1's and 2's complement of 8 digit binary number 10101101.

Or

(b) Subtract $(111001)_2$ from $(101011)_2$.

14. (a) Analyze the differences between Latch and Flip-Flop.

Or

(b) Explain the Logic diagram of JK flip-flop.

15. (a) Explain the operation of a Serial In-Parallel Out (SIPO) register.

Or

(b) Elaborate note on synchronous counter.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain the basic gates and verify their truth table.

17. Convert $(115)_{10}$ and $(235)_{10}$ into hexadecimal numbers.

18. Construct the half adder circuit and verify the truth table.

19. Enumerate about Triggering method for Flip-Flop.

20. Describe the operation of universal shift register.

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S–7296

Sub. Code
22BIT3C1

B.Sc. DEGREE EXAMINATION, APRIL 2025

Third Semester

Information Technology

PHP PROGRAMMING

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. State the difference between and <bold> tags?
2. What is the purpose of 'colspan' attribute?
3. State data types in PHP.
4. When do we need to use POST method?
5. Define: Array.
6. What is the purpose of foreach() function?
7. How to create a file? Give the code.
8. What do you mean by Exception handling?
9. Define: Cookie.
10. State any two features of MySQL.

Part B (5 × 5 = 25)

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

11. (a) Write a HTML code to create a class timetable by merging appropriate table cells in both rows and columns.

Or

(b) Explain the procedure to create simple text based navigation bar.

12. (a) Discuss the various types of operators in PHP with example expressions.

Or

(b) How to capture form elements using PHP? Explain with an example code.

13. (a) Explain the process of accessing index based array with an example.

Or

(b) Explain the concept of call by value and call by reference with example.

14. (a) Write PHP code to creating, copying, and deleting folder.

Or

(b) Write a node on Error tracking and debugging with PHP.

15. (a) How to set Cookies with PHP? Explain with a code.

Or

(b) Explain the procedure to execute a query join with PHP.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Write an HTML code to create student application form to apply for a PG Programme.

17. Elaborate on various conditional and looping structures in PHP with examples.

18. Illustrate the String based operations in PHP with examples.

19. How try, catch and throw are used in Exception handling? Explain in detail with code.

20. Discuss session control features of PHP with example code.

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S–7297

Sub. Code
22BIT3C2

B.Sc. DEGREE EXAMINATION, APRIL 2025

Third Semester

Information Technology

DATABASE MANAGEMENT SYSTEMS

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Define: DBMS.
2. Define: View.
3. What is meant by Database Schema?
4. What is the use of Primary key?
5. Give a query to destroy a table.
6. What is the usage of 'Order by' clause?
7. Define: Homogeneous Databases.
8. List any two uses of I/O Parallelism
9. What is meant by RAID?
10. Define: Static Hashing.

Part B (5 × 5 = 25)

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

11. (a) Write a note on Database Languages.

Or

(b) Discuss the characteristics of Database systems.

12. (a) Write a note on Functional dependencies.

Or

(b) Discuss the types of integrity constraints.

13. (a) Explain the Date and Time functions with example queries.

Or

(b) Discuss the concept of outer joins with examples.

14. (a) Explain the types of Parallel Databases.

Or

(b) Write a note on Distributed Query Processing.

15. (a) Discuss the concept of B-Tree indexing.

Or

(b) Compare the characteristics and working of Ordered Indexing and Hashing.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain the characteristics and limitations of various data models in detail.

17. Describe the various Normal Forms with example tables.

18. Explain the creation and other operations of Cursors and Triggers.

19. Explain and differentiate the characteristics and operations between Inter-queries Parallelism and Intra-query Parallelism

20. Elaborate on various forms of Storage and File Structures

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S–7298

Sub. Code
22BITA3

U.G. DEGREE EXAMINATION, APRIL 2025

Information Technology

Allied – MULTIMEDIA AND ITS APPLICATIONS

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Give the applications of multimedia.

2. Define hypertext.

3. What is the compression technique used in Facsimile and Document Images?

4. What are the applications of Photographic Images?

5. Define Holography.

6. State the properties of holographic images.

7. What is fractals?

8. Define Animation.

9. What is Image Animation?

10. State Frame averaging.

Part B (5 × 5 = 25)

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

11. (a) How do you choose the fonts in multimedia? Explain.

Or

(b) Write a short note on computers and Text.

12. (a) Clarify the concept of audio file formats.

Or

(b) How do you make still images? Explain.

13. (a) Neatly sketch the principles of Animation.

Or

(b) How do you integrate computers and television? Explain.

14. (a) List and explain the storage devices in multimedia.

Or

(b) How do you utilize the editing tools? Explain.

15. (a) Clarify the concept of Animate interface.

Or

(b) How do you use the shapes in adobe animate? Explain.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain about the various uses of Multimedia.

17. How do you understand natural light and color? Explain.

18. Enumerate the concept of broadcast video standards with example.

19. Briefly Explain the concept of designing for the world wide web.

20. Discuss in detail about animating with diverse techniques.

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S–7299

Sub. Code
22BIT4C1

B.Sc. DEGREE EXAMINATION, APRIL 2025

Fourth Semester

Information Technology

PYTHON PROGRAMMING

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is variable? Give an Example.

2. Define continue statement.

3. What is nested tuple?

4. What is Dictionary?

5. Define function.

6. Differentiate global and local variables.

7. Define Thread.

8. Write the difference between syntax error and runtime error.

9. What is the role of sample () method?

10. Define Label widget.

Part B (5 × 5 = 25)

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

11. (a) What is data type? List out the types of data types with example.

Or

(b) What is Indentation? Explain with example.

12. (a) Explore the concept of slicing with an example.

Or

(b) Explain how to update an element in Tuple.

13. (a) Explain lambda function with an example.

Or

(b) Elucidate the string and its methods with example.

14. (a) How to create user defined exception? Give an example.

Or

(b) Write a note on assert statements and exceptions for handling errors.

15. (a) Illustrate the role of the pack( ), place() methods of Tkinter.

Or

(b) Explain the different types of message box in message widget of TKinter.

Part C

$(3 \times 10 = 30)$

Answer any **three** questions.

16. Explain the different types of operators in Python and their message in expressions.

17. Enumerate the list and its methods with example.

18. What is inheritance? Illustrate the types of inheritance with an example.

19. What is an Exception? Explain the different types of exceptions with an example.

20. Explain the following widget in Tkinter.

    (a) Check button

    (b) Listbox

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S–7300

Sub. Code
22BIT4C2

B.Sc. DEGREE EXAMINATION, APRIL 2025

Fourth Semester

Information Technology

COMPUTER NETWORKS

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. Define the term 'Computer Networks.
2. What are the key components of a telephone system?
3. List out the services provided by data link layer.
4. Compare error control with flow control.
5. Differentiate between static and dynamic routing.
6. What is the role of router in internetworking?
7. List the performance issues in transport layer.
8. Compare UDP with TCP.
9. Define World Wide Web.
10. What is electronic mail?

Part B (5 × 5 = 25)

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

11. (a) Classify the different types of networks.

Or

(b) Why guided media used for transmission? Discuss.

12. (a) Describe the Stop-and-Wait protocol and its operation.

Or

(b) What are collision-free protocols, and why are they important in network communication?

13. (a) Prove that adaptive routing is superior to non adaptive routing.

Or

(b) What is the Internet Protocol (IP), and why is it essential for the functioning of the Internet?

14. (a) Describe the process of connection establishment in a transport protocol.

Or

(b) Discuss how transport protocols manage buffer sizes to optimize data transmission.

15. (a) What is the Domain Name System (DNS), and why is it essential for the internet?

Or

(b) Describe the MPEG standard and its role in video compression.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Demonstrate the OSI reference model with neat diagram.

17. Illustrate the various methods used for error detection and correction code.

18. Describe the congestion control algorithms in managing network traffic.

19. Categorize the various elements of transport protocols.

20. Explain the concept of encryption and its role in network security.

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S–7301

Sub. Code
22BITA4

U.G. DEGREE EXAMINATION, APRIL 2025

Information Technology

Allied – OPENSOURCE TECHNOLOGIES

(CBCS – 2022 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** the questions.

1. What is Open source?

2. List out the looping statement.

3. What is Array? Give example.

4. Name any two library functions.

5. Define Function.

6. Write the query for renaming a file.

7. What is keywords in python?

8. Define mutability.

9. What is Recursive function?

10. Write the query for defining a function.

Part B (5 × 5 = 25)

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

11. (a) What are the needs of Open Source technologies? Justify.

Or

(b) Write a short note on GET and POST method.

12. (a) Clarify the concept of Index based and Associative array.

Or

(b) How do you search and replace the strings? Explain.

13. (a) List out the application of python.

Or

(b) Write a short note on exception handling with examples.

14. (a) Explain the procedure for making a dictionary.

Or

(b) What are the list methods available to python? Explain.

15. (a) Neatly sketch the concept of installing packages.

Or

(b) Explain the concept of strings and regular expressions.

Part C

(3 × 10 = 30)

Answer any **three** questions.

16. Write a PHP program to create a student mark statement and find total and average.

17. Enlighten the concept of string related library functions.

18. Discuss in detail about Try, catch and throw exceptions.

19. Briefly explain the concept of updating and deleting elements with tuple with examples.

20. Discuss the detail about recursive functions with example.

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