

[BS-HS 5106]

B.Sc. (Honours) DEGREE EXAMINATION.

First Semester

(Major)

Computer Science

Course 2 – PROBLEM SOLVING USING C

(Common with B.Sc. Data Mining, Data Science & B.C.A.)

(Effective from the admitted batch of 2025–2026)

Time : Three hours

Maximum : 70 marks

SECTION A — (5 × 4 = 20 marks)

Answer any FIVE questions from the following Eight questions.

Write short notes on data types in C.

List the symbols used in Flowchart design

Write short notes on break and continue statements.

- 4. What is a switch statement? Mention advantages.
- 5. Write short notes on memory representation arrays.
- 6. Explain different storage classes in C with examples.
- 7. Explain pointer arithmetic.
- 8. Write short notes on array of structures.

SECTION B — (5 × 10 = 50 marks)

Answer ALL Questions.

- 9. (a) Define C tokens. Explain different types of tokens.
Or
(b) Explain operators in C with suitable examples.
- 10. (a) Discuss loop control statements with symbols and examples.
Or
(b) Explain decision-making statements in C with examples.

- (a) Explain various string and character handling functions in C.

Or

- (b) Write a C Program to perform addition of two Matrices.

- (a) Differentiate between call by value and call by address with an example program.

Or

- (b) Define Function. Explain function prototype, definition, and calling with example.

- (a) Explain unions and compare them with structures.

Or

- (b) Explain file handling in C.

[BS-HS-5105]

B.Sc. (Honours) DEGREE EXAMINATION.

First Semester

(Major)

Computer Science

Course I : COMPUTER FUNDAMENTALS AND
OFFICE AUTOMATION

(Common with B.Sc., Artificial Intelligence,
Data Mining, Data Science and B.C.A.)

(Effective from the admitted batch of 2025–2026)

Time : Three hours

Maximum : 70 marks

SECTION A — (5 × 4 = 20 marks)

Answer any FIVE questions from the following, eight
questions.

Convert $2BA1_{(16)}$ into Decimal, Octal and Binary.

Define IP address and Domain Name.

Write short notes on LAN and WAN.

Differentiate between primary and secondary
storage.

5. List common keyboard shortcuts used in MS Word.
6. Explain the purpose of animations in presentations.
7. Define cell referencing and explain its types.
8. Write short notes on VLOOKUP and HLOOKUP.

SECTION B — (5 × 10 = 50 marks)

Answer ALL questions.

9. (a) Explain the block diagram of a computer system with components.

Or

- (b) Discuss the generations of computer technologies used, characteristics and examples.

10. (a) Explain different network topologies and their diagrams.

Or

- (b) Discuss the Concept of Memory Hierarchy in detail.

[BCA – HS – N – 501]

B.C.A.(Honours) DEGREE EXAMINATION.

Fifth Semester

(Minor)

Computer Applications

WEB PROGRAMMING

(Effective from the admitted batch of 2023 – 2024)

(Common for all U.G. Degree Programme)

Time : Three hours

Maximum : 70 marks

SECTION A — (5 × 4 = 20 marks)

Answer any FIVE from the following eight questions

What is the purpose of CSS Preview in web development?

Explain the use of hyperlink tag <a> with its attributes.

Write a note on sup, sub, and mark elements with examples.

What is whitespace collapsing in HTML?

5. Write in detail about CSS color properties RGB, HSL, and HSLA values.
6. Explain the box model in CSS?
7. Explain the difference between data tables layout tables.
8. Write an example of a button element with event handler in JavaScript.

SECTION B — (5 × 10 = 50 marks)

Answer ALL questions.

9. (a) Explain the syntax of table and elements with examples in HTML.

Or

- (b) Write an HTML code to create a web for your department.

10. (a) Describe block elements, phrasing editing elements in HTML with examples.

Or

- (b) Describe the different Content Categories in HTML with Suitable Examples.

- (a) Describe the difference between inline, internal and external CSS files with examples.

Or

- (b) Explain the CSS syntax structure and how a CSS rule is defined. Give examples of type selectors and the universal selector.

- (a) Discuss different image formats supported in HTML. Implement bitmap and SVG image elements within a webpage.

Or

- (b) Explain the difference between child selector and descendant selector in CSS with suitable examples.

- (a) Describe how to embed audio and video in a web page using HTML5 elements. Provide examples of handling different file formats.

Or

- (b) Describe the Document Object Model (DOM) and its role in dynamic web page manipulation.

[BS – HS 2121]

B.Sc. (Honours) DEGREE EXAMINATION.

Third Semester

(Major)

Computer Science

Course 5 – OBJECT ORIENTED PROGRAMMING
USING JAVA

(Effective from the admitted batch of 2023-2024)

Time : Three hours

Maximum : 70 marks

SECTION A — (5 × 4 = 20 marks)

Answer any FIVE of the following.

Explain type conversion and type casting in Java with examples.

Differentiate between procedural and object-oriented programming paradigms.

Discuss various access modifiers in Java.

Write a short note on method overloading in Java.

5. What is the difference between checked and unchecked exceptions? Give examples.
6. Explain the significance of CLASSPATH.
7. Write a short note on the life cycle of a thread.
8. List and explain any three layout managers in Java Swing.

SECTION B — (5 × 10 = 50 marks)

Answer ALL questions.

9. (a) Discuss various Object-Oriented Concepts with real life examples.

Or

- (b) Briefly discuss about Iterative and Control Statements in Java.

10. (a) Explain how classes and objects are created in Java with an example.

Or

- (b) Explain various types of Inheritance with examples.

- (a) Explain how interfaces can be extended and accessed through interface references.

Or

- (b) Write a short note on Exception Handling in Java. Write a Java program to demonstrate custom exception handling.

- (a) Explain how to create Threads in Java with examples.

Or

- (b) Briefly discuss about Stream Based I/O in Java.

- (c) Explain the various components and containers used in Java Swing with examples.

Or

- (b) Discuss about handling Keyboard and Mouse Events.

[BS -HS 3129]

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B.Sc. (Honours) DEGREE EXAMINATION.

Fifth Semester

(Major)

Computer Science

COURSE-12 : WEB INTERFACE DESIGNING
TECHNOLOGIES

(Effective from the admitted batch of 2023-2024)

Time : Three hours

Maximum : 70 marks

SECTION A — (5 × 4 = 20 marks)

Answer any FIVE of the following.

List any four HTML tags.

What is the difference between web and desktop applications?

Define CSS combinators.

Mention any two CSS properties used for layout.

Define a variable in JavaScript.

[BS – HS 3130]

B.Sc. (Honours) DEGREE EXAMINATION.

Fifth Semester

(Major)

Computer Science

Course 13 — WEB APPLICATIONS DEVELOPMENT
USING PHP & MYSQL

(Effective from the admitted batch of 2023-2024)

Time : Three hours

Maximum : 70 marks

SECTION A — (5 × 4 = 20 marks)

Answer any FIVE of the following

Define variable in PHP.

What is echo() in PHP?

What is a function in PHP?

Define recursion with an example.

Define GET and POST methods.

Define SQL query.

7. List two data types in MySQL.

8. What is a session in PHP?

SECTION B — (5 × 10 = 50 marks)

Answer ALL questions.

9. (a) Explain the structure and syntax of program.

Or

(b) Describe different data types supported in PHP.

10. (a) Explain string functions and array handling techniques.

Or

(b) Write about scope of variables and parameter passing in PHP.

11. (a) Write an essay on server-side validation forms.

Or

(b) Describe how to upload files using PHP.

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(a) Discuss the SQL commands for creating and manipulating tables.

Or

(b) Explain error handling in MySQL connection and queries.

(a) Explain session management and cookies in PHP.

Or

(b) Write about file handling operations in PHP.

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[BS – HS 3131]

B.Sc. (Honours) DEGREE EXAMINATION.

Fifth Semester

(Major)

Computer Science

Course 14A — INTERNET OF THINGS

(Effective from the admitted batch of 2023-2024)

Time : Three hours

Maximum : 70 marks

SECTION A — (5 × 4 = 20 marks)

Answer any FIVE of the following eight questions

Define IoT. Explain the identifiers in IoT.

Explain about industrial IoT.

Write a short note on sensor networks.

Describe RFID principles.

Write about NFC.

Differentiate between analog and digital sensors.

7. Explain RPL.

8. What is Cloud Computing?

SECTION B — (5 × 10 = 50 marks)

Answer ALL questions.

UNIT I

9. (a) Explain physical and logical design of

Or

(b) Describe different applications of IoT.

UNIT II

10. (a) What is actuator? Explain types of actuators.

Or

(b) Explain about RaspberriPi Development Kit.

UNIT III

11. (a) Explain IEEE 802.15.4.

Or

(b) Explain IPv6 and CoAP protocols.

UNIT IV

(a) Explain the architecture of Arduino.

Or

(b) Describe the interfacing of actuators with Arduino.

UNIT V

(a) Explain AWS and Google Cloud IoT.

Or

(b) Explain about Fog Computing in detail.