

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fifth Semester B.Sc Computer Science Degree Examination, November 2025

BCS5B08 - Computer Organization & Architecture

(2022 Admission onwards)

Time: 2 ½ hours

Max. Marks : 80

PART A**Answer All Questions****Each question carries Two marks****Ceiling - 25 marks**

1. What is Johnson Counter?
2. What is Shift Register?
3. What is Asynchronous Counter ?
4. What are the major parts of CPU?
5. Explain Micro-program.
6. What is interrupt?
7. Explain I/O organisation.
8. What do you meant by addressing modes?
9. What are peripheral devices?
10. Explain Strobe control.
11. Explain Asynchronous data transfer.
12. Explain memory hierarchy.
13. What is MESI Protocol?
14. Explain CISC.
15. Explain parallel processing

PART B**Answer All Questions****Each question carries Five marks****Ceiling - 35 marks**

16. Explain Parallel in parallel out configuration.
17. Explain UP-DOWN counter.
18. Explain Design of Accumulator logic.
19. Explain Stack organisation.
20. Explain the role of DMA controller.

21. Explain priority Interrupt.
22. Explain Hit and Miss Ratio.
23. Write Basic Concept of Pipelining.

PART C

**Answer any two questions
Each question carries Ten marks**

24. Discuss about General Register Organisation.
25. What are the Various mapping techniques used in Cache Memory?
26. Write an Essay about I/O devices.
27. Write Short note on:
 - a. Auxiliary Memory
 - b. Associate Memory
 - c. Virtual Memory

(2x10=20 marks)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fifth Semester B.Sc Computer Science Degree Examination, November 2025

BCS5B09 - Java Programming

(2022 Admission onwards)

Time: 2 ½ hours

Max. Marks : 80

PART-A

Answer all questions.

Each Question carries Two marks.

Ceiling -25 Marks

1. What is the role of the *Java Virtual Machine* (JVM) in program execution?
2. What is the difference between `==` and `.equals()` when comparing two String objects in Java? Give an example.
3. Differentiate between implicit and explicit type casting in Java.
4. Write the syntax of the *switch* statement in Java with an example.
5. Explain the use of the *continue* statement with an example.
6. Define an *array* in Java and give an example of its declaration.
7. What is the use of the 'this' keyword in Java?
8. What is an *abstract* class? Give example.
9. What is *Arithmetic Exception* in Java?
10. Explain the purpose of the '*final*' keyword with an example.
11. What is the use of the '*super*' keyword in inheritance?
12. What is a *Driver Manager* in Java ?
13. What are *Thread Synchronization* ?
14. What is the role of the *InetAddress* class in Java networking?
15. What is the purpose of the *repaint()* method in an applet?

Part B
Answer all questions.
Each question carries Five marks.
Ceiling -35 Marks

16. Explain the different looping statements in Java with syntax and examples.
17. Write a Java program to search sequentially for an element in an array (including multiple occurrences). Print the position also.
- 18 . Explain the concepts of method overloading and constructor overloading with examples.
19. Create an interface *Shape* with methods *getArea()* and *getPerimeter()*. Implement this interface in two classes, *Circle* and *Rectangle*. Write a Java program to read dimensions from the user, calculate the area and perimeter for each shape, and display the results.
20. Explain the *String* class in Java and describe any two commonly used String handling methods with examples.
21. What is the significance of *static* keyword? Discuss how it is used in java.
22. Write a Java program to read a list of names from a file called *input.txt*, convert each name to uppercase, and write the modified names into a new file called *output.txt*.
23. Explain the steps to connect to a database and executing a query using JDBC.

Part C
Answer any two questions.
Each question carries Ten marks.

24. Describe exception handling in Java. Explain the purpose of try, catch, throw, throws, and finally with examples.
25. Discuss multi threading in java. Write Java program to implement multithreading by creating two threads: one for printing even numbers and another for printing odd numbers up to 50.
26. Write a Java program to create a class Bank Account with the following features:
Account number and account holder name as instance variables. Methods to deposit, withdraw, and display account details. Maintain a *static* interest rate applicable to all accounts and a method to calculate yearly interest. Implement constructor overloading to initialize accounts with and without an opening balance.
27. Explain the AWT and event handling in Java. Discuss various components, layout managers, and event listener interfaces with suitable examples.

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Fifth Semester B.Sc Computer Science Degree Examination, November 2025
BCS5B10 - Web Programming Using PHP
(2022 Admission onwards)

Time: 2 ½ hours

Max. Marks : 80

PART — A
Answer all questions.
Each question carries Two mark.
Ceiling -25 Marks

1. What is the use of placeholder attribute of tel control in html?
2. Differentiate between static and dynamic web pages.
3. What is the use of the <script> tag?
4. How do you use comments in PHP?
5. What is the use of the foreach() method in PHP?
6. Differentiate between echo() and print().
7. What is the use of the isNaN() function in JavaScript?
8. Name the different DML commands in MySQL and explain one.
9. Differentiate between textbox and textarea.
10. What is the role of CSS?
11. How do we declare variables in JavaScript?
12. What is the role of client-side scripting?
13. How can we concatenate two strings in JavaScript.
14. What is the role of webserver software? Differentiate between LAMP and WAMP servers.
15. What is a function? Write the syntax for defining a function in PHP.

PART — B
Answer all questions.
Each question carries Five
marks.
Ceiling -35 Marks

16. What is MySQL? Describe its features.
17. With an example show the use of min and max attribute of date control in HTML.
18. Briefly explain data types used in PHP.
19. Differentiate between Number() and parseInt() in JavaScript.
20. Discuss the use of mysqli_query() and mysqli_prepare() functions.

21. Briefly explain about lists in HTML.
22. Explain CSS ID and CLASS with examples.
23. Explain the commands needed to establish a connection between a PHP script and a MySQL database.

PART - C

**Answer any Two question.
Each question carries Ten
marks.**

24. What is a form in HTML? Briefly describe various form controls with examples.
25. Explain the following:
 - (a) String functions in PHP (5 marks)
 - (b) Built-in functions in JavaScript (5 marks)
26. Explain with examples any three Form events and Keyboard events in JavaScript.
27. What are the different conditional statements and looping statements used in PHP? Explain each with examples.

2 x 10 = 20 Marks

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FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fifth Semester B.Sc Computer Science Degree Examination, November 2025

BCS5B11 - Computer Networks

(2022 Admission onwards)

Time: 2 hours

Max. Marks : 60

PART A

Answer all questions. Each question carries two (2) marks, Ceiling 20 Marks

1. What is HTTP? List any two HTTP commands.
2. Differentiate between simplex and full-duplex transmission.
3. List two categories of computer networks.
4. What is a burst error?
5. Explain the role of CRC in error detection.
6. State the difference between pure ALOHA and slotted ALOHA.
7. What is the function of a router?
8. Write two differences between IPv4 and IPv6 addressing.
9. Define Network Address Translation
10. State the main function of the transport layer.
11. Differentiate between UDP and TCP.
12. What is DNS?

PART B

Answer all questions. Each question carries Five (5) Marks. Ceiling 30 Marks.

13. Explain the concept of multiplexing with examples.
14. Describe Hamming code with an example for single-bit error correction.
15. Discuss the working of Distance Vector Routing algorithm.
16. Explain congestion control techniques used in TCP.
17. Describe the working of SMTP and POP protocols.
18. Illustrate with an example the sliding window protocol for flow control.
19. Explain the importance of Quality of Service (QoS) in transport layer.

PART C

Answer any one (1) question. Each question carries ten (10) Marks

20. (a) Describe the architecture of the OSI model with functions of each layer. (5 Marks)
(b) Explain switching techniques with neat diagrams. (5 Marks)
21. (a) Explain the working of FTP protocol . (5 Marks)
(b) Explain the Dijkstra algorithm for routing with an example. (5 Marks)

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE

Fifth Semester B.Sc Computer Science Degree Examination, November 2025

(Open Course)

BCS5D01 - Office Automation

(2022 Admission onwards)

Time: 2 hours

Max. Marks : 60

PART A**(Answer all questions. Each question carries two Marks. Ceiling 20 Marks)**

1. Explain Conditional Formatting in a Spreadsheet with an example.
2. List the different display options of a Ribbon in a Spreadsheet.
3. Differentiate between a Table and a Form in a database.
4. What is the use of Data Validation in a Spreadsheet?
5. Describe the basic Joomla template.
6. How does the 'AutoCorrect' feature assist in a Word Processor?
7. What is a 'Template' in the context of office automation software? What is its use in a Spreadsheet?
8. Name and explain the two main parts of a Joomla website.
9. Why is 'Print Preview' an important feature before printing a document?
10. What do you mean by Pivot table.
11. Define a 'Query' in a DBMS like MS Access.
12. What is a 'Category' in Joomla content management?

PART B**(Answer all questions. Each question carries five Marks. Ceiling 30 Marks)**

13. Describe the different types of charts available in spreadsheet software and the use of each.
14. Explain the different Slide Views.
15. Explain the use of Macro. Also, explain the steps to set up, define, and record a Macro.
16. Explain functions in a Spreadsheet along with parts of a function. List any five functions and their use.

17. Differentiate Design View and Datasheet View with example diagrams.
18. Explain the features of Joomla.
19. How can animations and sound effects be added to a presentation to enhance its delivery? Also write about the types of Animations.

PART C

(Answer any one. Each question carries ten Marks)

20. Explain the process of planning and creating a new database. Detail the steps involved in defining tables, setting primary keys, creating forms, defining queries, and generating reports.
21. Describe the various steps and features used in the 'Mail Merge' process, from creating a data source to generating the final merged documents. Also, explain its use.