Model Question Paper Pattern External

1-03-EMPC01-R24

SEMESTER – I OBJECTIVE QUESTION PAPER

Course-1 : ESSENTIALS AND APPLICATIONS OF MATHEMATICAL, PHYSICAL AND CHEMICAL SCIENCES

External Model Question Paper

Time: 3 Hrs. Max Marks: 75M

PART-A

I. Answer All the following Questions. 30x1=30M

Multiple Choice

S.No:01 to S.No:30

PART-B

II. Answer all the questions.

Provide 5 Match the following sets (each set carries 5 marks)

S.No:31 to S.No:35 5x5 = 25 M

For ex: Match the following

Group A	Group B
a)	1)
b)	2)
c)	3)
d)	4)
e)	5)

PART-C

III. Answer all the questions. 10x1=10M

True or False

S.No:36 to S.No:45

Question:

Answer: a) True b) False

PART-D

IV. Answer all the questions. 10x1=10M

Fill in the Blanks

S.No:46 to S.No:55

Question: ---------- (Fill the blanks)

Model Question Paper Pattern External

1-03-AMPC02-R24

SEMESTER – I OBJECTIVE QUESTION PAPER

Course2: ADVANCES IN MATHEMATICAL, PHYSICAL AND CHEMICAL SCIENCES

External Model Question Paper

Time: 3 Hrs. **Max Marks:** 75M

PART-A

I. Answer All the following Questions. **30x1=30M**

Multiple Choice

S.No:01 to S.No:30

PART-B

II. Answer all the questions.

Provide 5 Match the following sets (each set carries 5 marks)

S.No:31 to S.No:35 **5x5 = 25M**

For ex: **Match the following**

Group A	Group B
a)	1)
b)	2)
c)	3)
d)	4)
e)	5)

PART-C

III. Answer all the questions.

10x1=10M

True or False

S.No:36 to S.No:45

Question:

Answer: a) True b) False

PART-D

IV. Answer all the questions.

10x1=10M

Fill in the Blanks

S.No:46 to S.No:55

Question: ---------- (Fill the blanks)

SEMESTER – II

Model Question Paper

Course 3: Problem solving using C

2-03CS-PSC03-R24

Time: 3 Hrs. **Max Marks:** 75M

PART - A

I. Answer All the following Questions **10 x 1 = 10 M**

1. What is an Algorithm?
2. Define Flowchart?
3. Write the syntax of If statement?
4. Write any one difference between while and do-while loop?
5. Define Array?
6. Define String?
7. What is Recursion?
8. Define pointer?
9. What is union?
10. What is a Structure?

PART - B

II. Answer any Five of the following Questions. **5 x 5 = 25 M**

11. Explain the characteristics of an Algorithm?
12. Explain the different symbols used in Flowchart?
13. Explain jump statements with example?
14. Explain Switch statement?
15. What are the different types of Arrays?
16. Explain String handling functions in C?
17. Explain storage classes in C?
18. Explain the relationship between the pointers and arrays?
19. Explain malloc() and calloc() functions?
20. Write a small program using structures?

PART - C

III. Answer any Four of the following Questions. 4 x 10 = 40 M

21. Explain the parts of computer system with neat Block Diagram?
22. Explain Datatypes and Operators in C?
23. Write a C program to find the biggest number of given integer?
24. Explain different loops in C with example?
25. Writa a C program to find the Addition of 2 matrices using arrays?
26. Write a C program using String handling functions?
27. Explain the relationship between the pointers and arrays?
28. What are differences between Structures and Unions?

SEMESTER – II

Model Question Paper

Course 4: Digital Logic Design

2-03CS-DLD04-R24

Time: 3 Hrs. **Max Marks:** 75M

PART - A

I. Answer All the following Questions **10 x 1 = 10 M**

1. What is Number System?
2. Define Bit?
3. What is XOR Gate?
4. Write one line about product of sums?
5. Define Half Adder?
6. Define Multiplexer?
7. What is Decoder?
8. Define Encoder?
9. What is combinational circuit?
10. What is Flip Flop?

PART - B

II. Answer any Five of the following Questions. **5 x 5 = 25 M**

11. What is decimal Number System?
12. Explain about unsigned binary numbers?
13. Write about Boolean laws?
14. Explain about four variable K-Map?
15. What about Full Adder?
16. Explain about Half Subtractor?
17. What is de-multiplexer?
18. write short notes on multiplexer?
19. Explain about JK Flioflop?
20. advantages and disadvantages of latch?

PART - C

III. Answer any Four of the following Questions. **4 x 10 = 40 M**

21. Explain different operations with binary numbers?
22. Explain complement and dual of a logic function?
23. Explain about DE Morgan's Theorm?
24. Explain about Universal Gates?
25. Briefly explain about Combinational Circuit?
26. briefly explain about Ripple Carry Adder?
27. What is Latch ?explain about RS Latch??
28. Explain about universal shift registers?

SRI VENKATESWARA UNIVERSITY::TIRUPATI

B.Sc. Computer Science Honours
II Year III Semester
Course 5: Object Oriented Programming using Java
MODEL QUESTION PAPER

Time: **3 Hours** Max. Marks: **75**

PART-A

Answer any FIVE of the following. Each Question Carries 5 marks.

(5X5=25)

1. Define Object-Oriented Programming. List its features.
2. What is type casting in Java? Explain the difference between implicit and explicit casting.
3. What is the role of this keyword in Java? Provide an example.
4. What is method overloading? Explain with an example.
5. What is the difference between an abstract class and an interface in Java?
6. How does exception handling work in Java? Name the main keywords involved.
7. What is multithreading? Describe the states of a thread in Java.
8. Explain how thread synchronization works in Java.
9. What are Byte Streams and Character Streams in Java? Give examples of each
10. Explain how you can read data from a file using Buffered Reader class in Java

PART-B

Answer any FIVE of the following. Each Question Carries 10 marks

(**5X10=50)**

11.a) Explain the key differences between procedural programming and object-oriented programming paradigms.

OR

11.b) Discuss the different types of operators in Java with examples and explain their usage.

12.a) How do you create an object and also explain class members are accessed?

OR

12.b) What is an array? Explain creation of one- dimentional array.

13.a) Write the difference between abstract class and interface.

OR

13.b) How to implementing an Interface? Explain with example?

14.a) What is thread? Explain different ways to create a thread.

OR

14.b) Explain about to write to file in java?

15.a) Write about MVC Architecture?

OR

15.b) Discuss about containers in java

SRI VENKATESWARA UNIVERSITY::TIRUPATI

B.Sc. Computer Science Honours
II Year III Semester
Course 6: Data Structures using C

MODEL QUESTION PAPER

Time: **3 Hours** Max. Marks: **75**

PART-A

Answer any **FIVE** of the following. Each Question Carries 5 marks. (5X5=25)

1. What is ADT?
2. Space and Time Complexity?
3. Difference between Arrays and Linked list?
4. Explain different types of Linked list?
5. Explain Queues briefly?
6. Applications of Stacks?
7. Explain Linear search with example?
8. Explain Bubble sort?
9. What is Binary search tree?
10. Applications of Graphs?

PART-B

Answer any **FIVE** of the following. Each Question Carries 10 Marks.(5X10=50)

11. a) Explain operations on Arrays with example?

    Or

    b) What is Data Structure and what are the different types of Data Structure?

12. a) Explain Singly Linked list and its operations?

    Or

    b) Write a C program to perform operations on Singly Linked list?

13. a) Explain Stack implementation using Arrays?

    Or

    b) Explain the evaluation of Post fix expression?

14. a) Explain Binary search with C program ?

    Or

    b) Explain Quick sort with example?

15. a) Explain Binary Tree Traversals in detail?

    Or

    b) Explain Graph Traversals in detail?

SRI VENKATESWARA UNIVERSITY::TIRUPATI

B.Sc. Computer Science Honours
II Year III Semester
Course 7: Computer Organization

MODEL QUESTION PAPER

Time: **3 Hours** Max. Marks: **75**

PART-A

Answer any FIVE of the following. Each Question Carries 5 marks.

(5X5=25)

1. Define Register Transfer Language (RTL) and give an example
2. What are micro-operations? Explain the types of arithmetic micro-operations.
3. What are the different types of instruction formats in computer architecture?
4. Explain any two addressing modes used in computer architecture.
5. What is the purpose of associative memory?
6. Describe the concept of **cache memory** and explain how it improves system performance.
7. Differentiate between programmed I/O and interrupt-driven I/O.
8. What is Direct Memory Access (DMA)?
9. Explain fixed-point representation and its role in computer arithmetic.
10. What is pipelining in computer architecture? How does it enhance processor performance?

PART-B

Answer any FIVE of the following. Each Question Carries 10 marks

(**5X10=50)**

11.a) Write an essay on Functional Units, Computer Registers

OR

11.b) Describe the Arithmetic, Logic, and Shift Micro-Operations .

12.a) Discuss in detail the design of a Hard-Wired Control Unit and explain how it operates.

OR

12.b) Explain the concept of Micro-Programmed Control and the steps involved in Address Sequencing.

13.a) Explain the Memory Hierarchy and differentiate between Main Memory, Auxiliary Memory, and Cache Memory.

OR

13.b) Describe different types of Memory Mappings used in Cache Memory and explain their importance in optimizing memory access time.?

14.a) Discuss the different Modes of Data Transfer in I/O operations.

OR

14.**b)** Explain the role of Peripheral Devices and describe how an I/O Interface is designed

15.a) Describe Data Representation in computer systems, including Fixed-Point and Floating-Point formats.

OR

15.b) Explain the concepts of Pipelining and Parallel Processing with examples.

SRI VENKATESWARA UNIVERSITY::TIRUPATI

B.Sc. Computer Science Honours
II Year III Semester
Course 8: Operating Systems

MODEL QUESTION PAPER

Time: **3 Hours** Max. Marks: **75**

PART-A

Answer any **FIVE** of the following. Each Question Carries 5 marks. (5X5=25)

1. Functions of Operating systems?
2. Compare and contrast Multiprogramming Systems and Batch Systems.
3. What is the difference between Processor Mode and User Mode in an Operating System?
4. Explain Threads in OS?
5. Define Deadlock in Operating Systems. What are the necessary conditions for a deadlock to occur?
6. Briefly explain the Producer-Consumer problem and its solution.
7. Explain the concept of Physical and Virtual Address Spaces in memory management.
8. Describe Fixed and Variable Partitioning memory allocation strategies.
9. What is Directory Structure in an Operating System? How does it help in file management?
10. List and briefly describe the different File Allocation Methods.

PART-B

Answer any **FIVE** of the following. Each Question Carries 10 Marks.(5X10=50)

11. a) Explain the history and evolution of Operating Systems. Discuss the shift from Batch Systems to Time-sharing Systems.

Or

b)Describe the types of Operating Systems used in Personal Computers, Workstations, and Hand-held Devices, focusing on their unique requirements.

12. a) Explain System programs and System Calls?

Or

b) Explain CPU Scheduling algorithms?

13. a) Explain the methods used for handling deadlock in an OS: Prevention, Avoidance, Detection, and Recovery.

Or

b) Describe the classical synchronization problems: Reader- Writer, and their solutions using Semaphores.

14. a) Explain Paging in OS?

Or

b) Explain Segmentation in OS?

15. a) Explain Piping in OS?

Or

bExplain the concept of I/O Management in Operating Systems. How do buffer and shared memory help in managing I/O?

SRI VENKATESWARA UNIVERSITY::TIRUPATI

B.Sc. Computer Science Honours
II Year IV Semester
Course 9: Data Base management Systems

MODEL QUESTION PAPER

Time: **3 Hours** Max. Marks: **75**

PART-A

Answer any **FIVE** of the following. Each Question Carries 5 marks. (5X5=25)

1. Define a Database Management System (DBMS). How does it differ from a file-based system?
2. Explain the classification of Database Management Systems (DBMS).
3. Explain the Strong entity and Weak entity in an ER model with examples.
4. What is the difference between generalization and specialization in the Enhanced Entity-Relationship (EER) model?
5. State and explain the importance of functional dependencies in the context of relational databases.
6. What is the significance of the 3rd normal form (3NF) in database normalization?
7. What is the purpose of the Data Definition Language (DDL) in SQL? Give examples of DDL commands.
8. What are aggregate functions in SQL? Provide examples of commonly used aggregate functions.
9. Explain the basic structure of a PL/SQL block with an example.
10. What are the data types supported in PL/SQL? Provide examples.

PART-B

Answer any **FIVE** of the following. Each Question Carries 10 Marks.(5X10=50)

11. a) Discuss the drawbacks of a file-based system and how the database approach addresses these issues. Provide examples.

Or

b) What are the various types of data models used in DBMS? Explain each model with suitable examples.

12. a) Explain the basic building blocks of an Entity-Relationship (ER) diagram. How are entities, attributes, and relationships represented?

Or

b) What is the concept of relationship degree and relationship classification in an ER model? Provide examples of each?

13. a) What are CODD's 12 rules for a relational database system? Explain their significance in defining a relational model.

Or

b) Describe the relational algebra operations in detail: selection, projection, union, intersection, and join. How are these operations used to query a relational database?

14. a) Explain the different types of JOIN operations in SQL (INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL JOIN). Provide examples for each.

Or

b) Discuss the concept of views in SQL. How are views created and used? What are the advantages and limitations of using views?

15. a) Explain control structures in PL/SQL. Discuss conditional control (IF-ELSE) and iterative control (FOR, WHILE) statements with examples.

Or

b) What are procedures and functions in PL/SQL? How do they differ? Explain with examples.

SRI VENKATESWARA UNIVERSITY::TIRUPATI
B.Sc. Computer Science Honours
II Year IV Semester
Course 10: Object Oriented Software Engineering

MODEL QUESTION PAPER

Time: **3 Hours** Max. Marks: **75**

PART-A

Answer any FIVE of the following. Each Question Carries 5 marks. (5x5 = 25)

1. Define Object-Oriented Programming (OOP). What are the main concepts of OOP?
2. What is the Unified Modeling Language (UML)? Discuss its purpose and importance in software engineering.
3. What are the major phases of the Software Development Life Cycle (SDLC)? Explain each phase briefly.
4. Explain the concept of inheritance in Object-Oriented Programming with an example.
5. Define Polymorphism in OOP. Differentiate between compile-time polymorphism and run-time polymorphism.
6. What are the key differences between Object-Oriented Programming languages like Java, C++, and Python?
7. What is a use case in software engineering? Explain how use cases are used in requirements analysis.
8. Explain the concept of software maintenance. What are the different types of software maintenance?
9. What is Test-Driven Development (TDD)? How does it differ from traditional testing methodologies?
10. What is the significance of refactoring in software maintenance? Give examples of refactoring techniques.

PART-B

Answer any FIVE of the following. Each Question Carries 10 marks. (5x10 = 50)

11.a) Explain the main concepts of Object-Oriented Programming (OOP). Discuss how classes and objects are related in OOP.

Or

b) Discuss the importance of software engineering in the development of large-scale applications and key principles of software engineering?

12.a) Describe the object-oriented analysis and design (OOAD) process. How does it help in software development?

Or

b) Explain in detail the use of UML class diagrams, sequence diagrams, and state machine diagrams in object-oriented design with examples

13.a) Discuss the different types of design patterns in object-oriented design. Provide examples for each type

Or

b) What is the difference between coupling and cohesion in object-oriented design?

14.a) Explain the process of software construction. How does object-oriented design contribute to effective software construction?

Or

b) Describe different types of software testing, such as unit testing, integration testing, and system testing.

15. a) What are the major principles of Model-Driven Engineering (MDE)? How does MDE enhance software development processes?

Or

b) Explain Agile software development and Scrum methodologies in detail?

SRI VENKATESWARA UNIVERSITY::TIRUPATI

B.Sc. Computer Science Honours
II Year IV Semester
Course 11: Data Communication and Computer Networks

MODEL QUESTION PAPER

Time: **3 Hours** Max. Marks: **75**

PART-A

Answer any FIVE of the following. Each Question Carries 5 Marks.
(5X5=25)

1. Explain the role of network hardware in a computer network.
2. Compare and contrast the OSI and TCP/IP reference models.
3. What are guided and unguided transmission media? Provide examples of each.
4. Define error detection and correction in the Data Link Layer. Why is it important?
5. What is the difference between IPv4 and IPv6 in the Network Layer?
6. Describe the functionality of UDP and TCP in the Transport Layer.
7. Explain the purpose of the Domain Name System (DNS) in the Application Layer.
8. What is the purpose of the Multiple Access Protocol in the Medium Access Sublayer?
9. Define Quality of Service (QoS) and its importance in networking.
10. Explain the function of the File Transfer Protocol (FTP) in networking.

PART-B

Answer any FIVE of the following. Each Question Carries 10 Marks.
(5X10=50)

11.a) Discuss the different types of network hardware and their roles in network architecture.

Or

b) Explain the X.25 protocol and how it supports connection-oriented networking.

12.a) Describe the theoretical basis for data communication and how it impacts data transmission.

Or

b) Explain the structure and functioning of the Public Switched Telephone Network (PSTN).

13.a) Discuss the different error detection and correction methods used in the Data Link Layer.

Or

b) Describe the design and application of sliding window protocols.

14. a) Explain routing algorithms and their role in the Network Layer. Provide examples.

Or

b) Discuss various congestion control algorithms used in the Network Layer.

15.a) Explain HTTP and its role in the architecture of the World Wide Web.

Or

b) Describe the functions of Simple Mail Transfer Protocol (SMTP) and Telnet in the Application Layer.

MODEL TEST PAPER - 1

B.Sc. DEGREE EXAMINATION

THIRD YEAR - FIFTH SEMESTER

PART II - COMPUTER SCIENCE - PAPER - 6A

WEB INTERFACE DESIGNING TECHNOLOGIES

Time : 3 Hours **Max. Marks : 75**

SECTION - A (5×5=25MARKS)

Answer any *FIVE* of the following questions.

1. Write advantages and disadvantages of *HTML* ?
2. Write about *HTML* styles ?
3. What is *CSS* ? Write the syntax for *CSS* ?
4. What is the difference between canvas graphics and *SVG* ?
5. What is *DHTML* ?
6. Explain how messages and confirmations can be done in java script ?
7. What is widget ?
8. What is *WAMP* ?
9. What is the difference between parent and child ?
10. Write short notes an themes ?

SECTION - B (5×10=50Marks)

Answer any *FIVE* of the following questions.

11. Write about basic structure of *HTML* ?
12. Explain about tables in *HTML* ?
13. Briefly explain about forms in *HTML* ?
14. Explain about *CSS* icons ?
15. Explain about regular expressions ?
16. Explain different data types in java script ?
17. How to download wordpress ? Explain ?
18. Explain about working with edit media and delete media elements ?
19. Explain about plug-ins in wordpress ?
20. How to delete users in wordpress ?

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3-5-108-7A-R20

THREE YEAR B.Sc. DEGREE EXAMINATION, JANUARY - 2024

CHOICE BASED CREDIT SYSTEM

FIFTH SEMESTER

PART - II : COMPUTER SCIENCES

PAPER-7A: WEB APPLICATIONS DEVELOPMENT USING PHP AND MYSQL

(Under CBCS New Regulation w.e.f. the academic year 2022-23)

Time : 3 Hours **Max. Marks : 75**

NOTE: This question paper contains two parts A and B.

Part A is compulsory and Carries **25** marks. Answer any **Five** of the following questions. in Part A.

Part B consists of 5 units. Answer one full question (a or b) from each unit (i.e., Q. No. 9 from Unit - I, Q. No. 10 from Unit - II, Q.No. 11 from Unit - III, Q.No. 12 from Unit - IV, Q. No. 13 from Unit - V). Each question carries **10** marks.

PART - A

Answer any FIVE of the following questions. Each question carries equal marks.

(5 × 5 = 25)

1. List the functions of PHP script
2. Describe various PHP functions to sort an array
3. How to create an array using assignment statement?
4. Write in brief about access modifiers
5. What is method overloading?
6. Write short notes on reflection
7. Define client server database
8. List the date and time functions of MYSQL

PART - B

Answer All the questions. Each Question carries equal marks. (5×10=50)

Unit - I

9. a) What are the steps involved in creating a first PHP script?

(OR)

b) List the flow control functions that are used to search the strings.

Unit - II

10. a) Explain about Arrays in detail with examples.

(OR)

b) Write about formatting strings with PHP.

Unit - III

11. a) Explain how to create forms?

(OR)

b) Explain how to create cookies?

Unit - IV

12. a) Explain file handling in PHP

(OR)

b) Explain reading and writing the binary data in a file.

Unit - V

13. a) Explain the basics of connecting and retrieving data from MYSQL using PHP

(OR)

b) How to manipulate MYSQL data with PHP?