SL.NO:2010 **SUBJECT CODE:35021E01**

VINAYAKA MISSIONS RESEARCH FOUNDATION

(Deemed to be University)

B.E./ B.TECH DEGREE EXAMINATIONS- APRIL -2022

COMPUTER SCIENCE AND ENGINEERING

COMMON TO ALL BRANCHES

FOUNDATIONS OF COMPUTING AND PROGRAMMING

(Candidates admitted under 2021 Regulations SCBCS)

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	Name the components of a computer.
2	Define storage unit.
3	Write the applications of an algorithm.
4	List any four applications of database.
5	Mention the function of ALU.
6	Define unix OS.
7	What is file processing system?
8	Mention TCL commands.
9	Give examples of web browsers.
10	Differentiate between Compiler and Interpreter.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11	a.	Write an algorithm and draw flowchart to calculate Area of a circle.
		OR
	b.	Write an algorithm and draw flowchart to find sum of n numbers
12	a.	Write an algorithm and draw flowchart to calculate area of the rectangle
		OR
	b.	Create a web page to showing an ordered & unordered list of name of your five friends
13	a.	Discuss in detail about the various Applications of Computers.
		OR
	b.	Discuss about various memory devices.
14	a.	Discuss in detail about mainframe computers.
		OR
	b.	Explain in detail about the categories of Software with an example.
15	a.	Explain in detail about the Characteristics of Operating System.

P.T.O

OR

b. Differentiate multitasking operating system and Multiprocessing operating system.

16 a. Discuss the following : a.Machine level Language (5 Marks)
b.High level Language (5 Marks)

OR

b. Differentiate DELETE and DROP command with syntax with example.

17 a. Explain about database users.

OR

b. Explain the types of alter command with syntax and example.

18 a. Explain the features of internet.

OR

b. Differentiate HTTP and HTTPS.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Discuss in detail about DML commands with syntax and example.

OR

b. Discuss in details about types of software.

20 a. Discuss in detail about the following:
a. Characteristics of Algorithm (5 Marks)
b. Qualities of a Good Algorithm (5 Marks)
c. Representation of Algorithm (5 Marks)

OR

b. Explain about various internet services with example.

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SL.NO:2010

SL.NO:2214 **SUBJECT CODE:35021C01**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- APRIL -2022
COMPUTER SCIENCE AND ENGINEERING
FIRST SEMESTER
COMPUTER ARCHITECTURE AND ORGANIZATION

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	Categorize on process switch and thread switch.
2	What is the hardware component that includes in the Data path Organization?
3	Draw diagram of data path for instruction fetch.
4	Define latency time.
5	Define program-controlled I/O.
6	Give example for Disk drive
7	Define single core.
8	Draw the block diagram of a digital computer.
9	Discuss about Mini Disk.
10	What is disk drive organisation.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Explain in detail about design of Arithmetic Unit and logic unit.

OR

b. Explain Bus arbitration techniques.

12 a. Describe about Computer Organization and main memory

OR

b. Explain about system performance measurement.

13 a. Explain in detail the different types of instructions that are supported in a typical processor

OR

b. Explain with diagram about typical minicomputer data path and mainframe data path

14 a. Explain the role of control unit.

OR

(P.T.O)

b. Explain Micro programmed control unit and discuss its issues.

15 a. Explain the Characteristics of Memories

OR

b. Explain about cache memory.

16 a. Explain the types of main memory.

OR

b. Explain in details the various standard I/O interfaces

17 a. Discuss the design of input or output interface

OR

b. Discuss the instruction level parallelism.

18 a. Restate on Multicore Processors in detail.

OR

b. Explain in detail about Hyper-Threading.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Define Addressing mode and explain the different types of basic addressing modes with an example

OR

b. Explain in detail about building a data path

20 a. Illustrate the characteristics of some common memory technologies

OR

b. Discuss about Moore's Law and Amdahl’s law.

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SL.NO:2223 **SUBJECT CODE:35021C03**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- APRIL -2022
COMPUTER SCIENCE AND ENGINEERING
FIRST SEMESTER
PROBLEM SOLVING USING COMPUTER

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	Illustrate the formula to compute prime factor
2	List the advantages of problem specification and analysis.
3	Recite the redundant computations
4	Tell about base conversion
5	Define the sorting by diminishing increment.
6	Describe a expression
7	Recall the syntax and draw flow chart for simple if statement.
8	Associate the worst and average case behaviour in analysis.
9	Explain an algorithm for generating prime number
10	Discuss precedence rule and associativity rule

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Illustrate an algorithm for hash search.

OR

b. Classify with an example for Reading and Writing a String and String Initialization

12 a. Classify an algorithm to find the maximum number in a set of “N” numbers.

OR

b. Demonstrate the use of computing system.

13 a. Apply the concept of reversing the digits of an integer.

OR

b. Illustrate the concept of raising the number to a large power.

14 a. Experiment the concept of pseudo random numbers.

OR

(P.T.O)

b. Determine an algorithm for the following: a)Binary search b)Hash search

15 a. Apply an algorithm for sorting by insertion.

OR

b. Illustrate a program to find whether the given string is palindrome or not.

16 a. Apply the following structures in C concept a)Control Structure b) Selection Structure c) Repetition Structure

OR

b. Experiment in detail about the kth smallest element.

17 a. Design an algorithm for Merging, Sorting & Searching.

OR

b. Evaluate the greatest common divisor.

18 a. Explain in detail about the Flow Chart.

OR

b. Explain the problem, algorithm development and algorithm description for base conversion.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Determine the Redundant computation and Referencing array element

OR

b. Examine with example of top down design.

20 a. Examine a C program to explain the concept of union.

OR

b. Summarize the branching and looping statements.

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S.No.2005 **SUB CODE:34121B04**

VINAYAKA MISSION'S RESEARCH FOUNDATION
(Deemed to be University)
B.E.DEGREE EXAMINATIONS- APRIL - 2022
COMMON TO ALL BRANCHES
PHYSICAL SCIENCES

(Candidates admitted under 2021 Regulations-SCBCS)

Time : 1 1/2 Hours Maximum Marks:50 Marks

PART A - ENGINEERING PHYSICS

Answer **ALL** questions

Part-A (5 x 2 =10 Marks)

1 Recognize the characteristics of laser.
2 Schedule any two applications of holography.
3 Tell about the characteristics of graded index multimode fiber.
4 Express about piezo-electric effect.
5 Schedule the Industrial applications of ultrasonic waves

Answer **Any FIVE** questions

Part-B (2 x12 =24 Marks)

6 a. Predict the applications of laser in communication, military and chemical fields.

OR

b. Express the various types of fibers based on refractive index profile.

7 a. Practice obtaining the expression for velocity of SONAR.

OR

b. Interpret the biological and chemical applications of ultrasonics.

Answer ALL questions

PART-C (1 x 16 = 16)

8 a. Tell about holography. Illustrate the construction and working of holography with neat diagram.

OR

b. Demonstrate piezo- electric effect? Explain with a neat circuit, the generation of ultrasonic using a piezo- electric oscillator.

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P.T.O

PART B - ENGINEERING CHEMISTRY

(Candidates admitted under 2021 Regulations-SCBCS)

Time : 1 1/2 Hours Maximum Marks:50 Marks

Answer **ALL** questions

Part-A (5 x 2 =10 Marks)

1 What is EDTA? Write its structure?
2 How calgon conditioning is superior than other methods?
3 Define electrochemical series.
4 State pilling bed worth rule.
5 Recall cetane number.

Answer **Any FIVE** questions

Part-B (2 x12 =24 Marks)

6 a. How is exhausted resin regenerated in an ion-exchanger? What are merits and demerits of ion-exchange method?

OR

b. List out the various water quality parameters for the drinking water.

7 a. Discuss about electrochemical series and their applications.

OR

b. What is power alcohol? Explain its manufacture, properties of power alcohol.

Answer ALL questions

PART-C (1 x 16 = 16)

8 a. How is internal treatment of boiler water carried out using phosphate, Carbonate, Sodium aluminate and calgon conditioning?

OR

b. Explain Otto-Hoffman's by product oven method for manufacture of metallurgical coal.

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SL.NO:2215 **SUBJECT CODE:35021C02**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- APRIL -2022
COMPUTER SCIENCE AND ENGINEERING
FIRST SEMESTER
DATA STRUCTURES

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Recite on Abstract Data type(ADT).
2 Tabulate few applications of linked lists.
3 Define Tree ADT.
4 Quote on how to find the height of a tree.
5 List the drawbacks of AVL trees.
6 Define on splay tree.
7 When does Collision occur in hashing?
8 When is path compression used?
9 Define edge.
10 Summarize the condition for stack full and stack empty.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Examine the algorithm for ‘Findmax’ and ‘Findmin’ in a binary search tree.

OR

b. Illustrate with a sample code explain the insertion and deletion operations of singly linked list(SLL).

12 a. Model an algorithm for push and pop operation in stack

OR

b. Model a binary tree whose nodes in inorder and preorder are given as follows: Inorder : 10, 15, 17, 18, 20, 25, 30, 35, 38, 40, 50
Preorder: 20, 15, 10, 18, 17, 30, 25, 40, 35, 38, 50

13 a. Model a splay tree for the following 9,18,2,15,17,16.

OR

b. Model an AVL tree for the values 1,2,3,4,5,6,7,8,9,10.

(P.T.O)

14 a. Illustrate in detail about Depth first traversal.

OR

b. Use your own example to demonstrate the basic terminologies of graph.

15 a. Compare Top down and Bottom up approach with an example

OR

b. Summarize about cursor based linked list

16 a. Explain about the card sort in detail.

OR

b. Paraphrase on the tree traversal with an example

17 a. Describe the B-tree with an example.

OR

b. Restate on the concept of extendible hashing with example.

18 a. Explain the different techniques resolving of collision.

OR

b. Paraphrase on the mechanism of breadth first traversal with a sample code.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Analyze how queue is implemented using linked list.

OR

b. Demonstrate path compression in detail.

20 a. Demonstrate Kruskal's algorithm with an example.

OR

b. Describe the difference between the Breadth first traversal and Depth first traversal.

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