SL.NO:1363 **SUBJECT CODE:17CSCC07**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

OPERATING SYSTEM

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Name the process states.

2 Name some techniques for performing I/O.

3 What are the service models available in cloud computing?

4 Give reasons for the non popularity of the SSTF algorithms.

5 What are System calls?

6 List out some operating system structures.

7 What is physical address space?

8 What is external fragmentation?

9 What is thrashing?

10 What is a directory?

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Illustrate with example, the CPU scheduling algorithms available.

OR

b. Explain First Come First Serve scheduling.

12 a. Describe how logical address is translated into physical address us Paging mechanism with a neat diagram.

OR

b. Describe the various techniques for structuring the page table in a page memory management scheme.

13 a. Discuss about file system in Linux.

OR

b. Discuss in detail about the types of system calls with examples.

14 a. Explain client – server computing.

OR

b. Explain the purpose and importance of system calls and discuss the calls related to device management.

15 a. Discuss the process states with neat diagram.

OR

b. Describe Thread types and SMP management.

16 a. Describe segmentation in detail.

OR

b. Discuss about the concept of disk caches.

17 a. Explain about directory implementation.

OR

b. Illustrate in detail about different Benefits and Disadvantages of cloud computing.

18 a. Write short notes on: i. Features in cloud computing. ii. Challenges and Risks.

OR

b. Discuss in detail the Simplified webOS Architecture.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Explain page replacement algorithms with examples.

OR

b. Explain the directory structure in detail.

20 a. Elabtate on deadlock prevention and avoidance techniques.

OR

b. Explain the file operations in detail.

*****

SL.NO:1348 **SUBJECT CODE:17CSES01**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING
ESSENTIALS OF COMPUTING

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Define the term "Computer."

2 Tell about any four applications of Computer.

3 Name two types of page layout.

4 List out the characteristics of good algorithm.

5 Define best, worst and average case.

6 How do you develop an algorithm?

7 Define Searching.

8 Explain about the Average function in MS Excel with an example.

9 List out the steps of analysis of an algorithm.

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 triangle.

OR

b. Write an algorithm and draw flowchart to find the given number is odd or even.

12 a. Write an algorithm and draw flowchart to find sum of n numbers

OR

b. Discuss about the following
a. Swapping
b. Circumference of a Circle.

13 a. Write an algorithm to compute the following series.
$Sum=2^2 + 4^2 + 6^2 + \ldots\ldots\ldots + (n-1)^2 + n^2$

OR

b. Explain the following :-
(i) Characteristics of Computer (ii) Components of Computer

(p.t.o)

14 a. Discuss in detail about Role of information technologies

OR

b. Discuss about the following terms
a. e-mail
b. FTP
c. WWW

15 a. Discuss in detail about software terminologies.

OR

b. Explain in detail about Tools menu in MS- Excel.

16 a. Discuss in detail about the analysis of algorithm.

OR

b. Discuss the features of an algorithm.

17 a. Discuss about the following
a. Finiteness. b. Definiteness.
c. Effectiveness. d. Input and Output. e. Terminate.

OR

b. Discuss in detail about fundamental concepts of an algorithms.

18 a. Explain in detail about recursive algorithm with an example.

OR

b. Explain in detail about Tools menu in MS Word

Answer ALL questions
PART-C (2 x 15 = 30)

19 a. Write an algorithm to compute arithmetic operations with an example.

OR

b. Write 1 an algorithm to print the first n terms of the Fibonacci sequence where n >=1. The terms are :0,1,1,2,3,5,8,13,.....

20 a. Discuss in detail about the following
a. Characteristics of Algorithm b. Qualities of a Good Algorithm
c. Representation of Algorithm

OR

b. Write an algorithm for reversing the digits of an integer.

*****

SL.NO:1348

SL.NO:1341 **SUBJECT CODE:17CSCC03**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

DATABASE MANAGEMENT SYSTEM

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Show the basic structure of a SQL queries.
2 List the syntax & use of the relational algebraic operations.
3 Name DDL.
4 Recall the first normal form.
5 Define transaction.
6 Define garbage collection.
7 Recall merits and demerits of a B+ tree index structure.
8 Where does pipelining improve query evaluation efficiency?
9 Explain about axioms.
10 Discuss recovery scheme.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Illustrate the three schema architecture of database systems

OR

b. Show the algorithms to compute the following joins
   i. Nested-loop join
   ii. Block nested-loop join
   iii. Indexed nested-loop join
   iv. Merge join

12 a. Describe the following:
   i.Data abstraction
   ii.Mapping cardinalities

(P.T.O)

OR

b. Describe the following:
i.Role of database administrator in controlling database access through DCL commond.
ii.Data independence and its types.

13 a. Describe the overall database system structure with neat diagram.

OR

b. Discuss about join query and its types with example.

14 a. Paraphrase on Distributed data base.

OR

b. Restate the following with suitable example
i.SQL function
ii.Set operations of SQL

15 a. Describe functional dependencies and explain briefly.

OR

b. Restate
i. Dependency Preservation
ii.Join Dependencies

16 a. Explain about insert, delete and update anomalies

OR

b. Describe transaction and ACID properties for transaction

17 a. Paraphrase on lock based concurrency control protocol.

OR

b. Interpret the deadlock prevention.

18 a. Explain tertiary stroage in detail.

OR

b. Paraphrase on various types of storage media.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Examine the state diagram of transaction and explain each state

OR

b. Show how you can apply the Serializability in database transaction management with brief explanation.

20 a. Explain about Relational database design and explain briefly.

OR

b. Explain the steps involved in query processing. How would you estimate the cost of a query?

*****

SL.NO:1341

S.No. 1328 SUB.CODE:17CSPI07

VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM
(Deemed to be University)
BE DEGREE EXAMINATION – FEB- 2022

ELECTIVE - LEARNING IT ESSENTIALS BY DOING

Three Hours Maximum: 100 marks

I. Answer ALL Questions (100 x 1 = 100)

1 Which of the following is the general purpose register
a. program counter b. accumulator c. Memory address register d. Instruction register

2 Which of the following is an information management of an operating system
a. memory management b. process management

3 Which of the following address is generated by the CPU
a. logical address b. physical address c. port address d. IP address.

4 LRU page replacement policy is
a. LastReplaceUnit b. LastRestoreUnit c. LeastRecentlyUsed d. LeastRequired Unit

5 which of the following is not a Process State
a. Ready b.Blocked c.Executing d.Terminated

6 Which of the follwing is not the cpu-scheduling algorithm.
a. FCFS b .SJF c. Round-Robin d. JSF

7 Abbreviation of FCFS is_____
a. Fast Come fast Serve b. Fast Come First Serve
c. First Come Fast Serve d. First Come First Serve

8 One kilobyte is equal to
a. 1000 bytes b. 1024 bytes c. 100 bytes d. 1023 bytes

9 The errors that can be pointed out by the compiler are
a. Syntax error b. Symantic error c. Logical error d. Internal error

10 Which of the following commands is given to reboot the computer?
a. Ctrl + Alt + Del b. Ctrl + Alt + Tab c. Ctrl + Shift + Del d. Ctrl + Alt + shift

11 Select the odd one out -
a. Interpreter b. Operating System c. Compiler d. Assembler

12 The part of machine level instruction, which tells the central processor what has to be done, is
a. Operation code b. Address c. Locator d. Flip-Flop

13 Which of the following refers to the associative memory?
a. the address of the data is generated by the CPU
b. the address of the data is supplied by the users
c. there is no need for an address i.e. the data is used as an address
d. the data are accessed sequentially

14 The Memory Buffer Register (MBR)
a. is a hardware memory device which denotes the location of the current instruction being executed.
b. is a group of electrical circuits (hardware), that performs the intent of instructions fetched from memory.
c. contains the address of the memory location that is to be read from or stored into.
d. contains a copy of the designated memory location specified by the MAR after a "read" or the new contents of the memory prior to a "write".

15 Computer cannot "boot" if it does not have the
a. Compiler b. Loader c. Operating system d. Assembler

16 A system program that sets up an executable program in main memory ready for execution is
a. assembler b. linker c. loader d. compiler

17 Bug means
a. A logical error in a program
b. A difficult syntax error in a program
c. Documenting programs using an efficient documentation tool
d. All of the above

18 The daily processing of corrections to customer accounts best exemplifies the processing mode of
a. batch processing b. real-time processing c. time-sharing
d. off-line processing

19 PC stands for
a. Process Counter b. Program Counter c. Program Connector
d. Personal Computer.

20 Which skill is the key skill required for a software engineer as it helps to develop technical as well as soft skills.
a. Technical b. Analytical c. Problem Solving d. Logical

21 _____ is a puzzle that requires logical thought or mathematics to solve.
a. Technical b. Analytical c. Problem d. Logical

22 Which logic deals with truth value of statements?
a. Propositional b. Predicate c. Fuzzy d. Tense

23 _____ is a language for reasoning
a. Technical b. Analytical c. Problem d. Logic

24 Which Propositional logic is perfect for leap year condition.
Year is divisible by 4 □ P, Divisible by 100 □
a. P And Q Or R b. ((P And (Not Q)) Or R)
c.P Or Q And R d. ((P Or(Not Q))And R)

25 Which problem is finding the best solution of the feasible solutions?
a. Decision Problem b. Searching &Sorting Problem
c. Counting Problem d. Optimization Problem

26 Operations are overlap in time is _____ Computational Problem
a. Concurrent b. Sequential c. Distributed d. Event - Based

27 Billing process at multiple Point of sales of a retail shop is example of
a. Concurrent b. Sequential c. Distributed d. a&c

28 Which is a graphical representation of Computation?
a. Flowchart b. Pseudo code c. Procedure d. Program

29 Which is used when a part of algorithm is to be executed in several times?
a. Sequential b. Selectional c. Iterational d. Recursive

30 Tower of Hanoi is a classical problem of
a. Sequential b. Selection c. Iteration d. Recursion

31 The data structure where we store similar type of data is
a. homogeneous b. heterogeneous c. non-homogeneous
d. non-hetrogeneous

32 The array elements can be accessed
a. Sequential b. Random c. Sequential and Random d. Reverse

33 Which represents the end of linked list?
a. Empty b. Null c. Pointer d. End

34 In linked list each node has _____ parts
a. One b. Two c. Three d. Four

35 In which the elements are remove in reverse order?
a. Stack b. Queue c. List d. Linked List

36 Which is an ordered collection of data elements from which insertion and deletion is performed from two different ends?
a. Stack b. Queue c. List d. Linked List

37 In the printer scenario which data structure should be used?
a. Stack b. Queue c. List d. Linked List

38 Which Search is applied on the array of items that are arranged in any particular order?
a. Binary search b. Linear Search c. Non-Linear Search d. Hashing

39 A Tree consist of a root node and _____ many levels of additional nodes that form a hierarchy.
a. One b. Two c. Seven d. Zero

40 A relational database is a group of ____.
a. common fields b. field values c. records d. tables

41 One of the advantages of a relational database model is ____.
a. structural dependence b. conceptual complexity
c. easier database design d. complex database design

42 Multivalued dependencies should _____ be eliminated.
a. always b. commonly c. seldom d. never

43
If a table has been normalized so that all determinants are candidate keys, then that table is in:
a. 1NF b. 2NF c. 3NF d. BCNF

44 The OODM ____.
a. adds semantic content b. has standards c. has a simple navigational system
d. has a low system overhead that speeds transactions

45 A foreign key is which of the following?
a. Any attribute b. The same thing as a primary key
c. An attribute that serves as the primary key of another relation
d. An attribute that serves no purpose

46 The RDBMS ____.
a. performs functions provided by the hierarchical and network DBMS system
b. does not manage data structures
c. allows the user/designer to ignore the logical view of the database
d. does not manage the details of physical storage

47 Consider two tables: Album and Song, that are related by a "1-to-Many" relationship. Given this type of relationship, in which table should the corresponding foreign key be placed?
a. Foreign key needed only in Album table
b. Foreign key needed only in Song table
c. Foreign key needed in both tables
d. Composite entity must be added, and then foreign keys will be required in both the Album and Song tables

48 When mapping a many-to-many unary relationship into a relation which of the following is true?
a. One relation is created. b. Two relations are created.
c. Three relations are created. d. Four relations are created.

49 If no multivalued attributes exist and no partial dependencies exist in a relation, then the relation is in what normal form?
a. First normal form b. Second normal form
c. Third normal form d. Fourth normal form

50 Using the SQL GROUP BY phrase with a SELECT statement can help detect which of the following problems?
a. The multivalue, multicolumn problem b. The inconsistent values problem
c. The missing values problem d. The general-purpose remarks column problem

51 Which of the following is a correlated subquery?
a. Uses the result of an inner query to determine the processing of an outer query.
b. Uses the result of an outer query to determine the processing of an inner query.
c. Uses the result of an inner query to determine the processing of an inner query.
d. Uses the result of an outer query to determine the processing of an outer query

52 Any value added to NULL gives
a. the value itself. b.0 c. NULL d. Unpredictable

53 The keys that can have NULL values are
a. Primary Key b. Unique Key c. Foreign Key d. Both b and c

54 Triggers can be written for
a. Insert, delete, update b. Create, alter, drop c. Login, logout d. (a. , (b) and (c)

55 In which areas of a PL/SQL block must the developer place code for user-defined exceptions? (Choose three)
a. Command line PL/SQL block call b. Variable declaration section
c. Executable section d. Exception handler

56 UPDATE OR DELETE ON SOCCER_FAN_SNACKS. Which two of the following keywords may be useful in your trigger source code to distinguish what should run, and when?
a. inserting b. updating c. deleting d. truncating

57 The command to eliminate a table from a database is:
a. REMOVE TABLE CUSTOMER; b. DROP TABLE CUSTOMER;
c. DELETE TABLE CUSTOMER; d. UPDATE TABLE CUSTOMER;

58 In an SQL SELECT statement querying a single table, according to the SQL-92 standard the asterisk (*) means that:
a. all columns of the table are to be returned.
b. all records meeting the full criteria are to be returned.
c. all records with even partial criteria met are to be returned.
d. None of the above is correct

59 A functional dependency is a relationship between or among:
a. tables. b. rows. c. relations. d. attributes.

60 Table is synonymous with the term:
a. record. b. relation. c. column. d. field.

61 Which of the following is not the type of inheritance
a. Single b. Derived c. Multiple d. Multilevel

62 OOP allows us to decompose a problem into a number of entities called,
a. Object b. Class c. Data d. Function

63 The insulation of data from direct access by the program is called as,
a. Encapsulation b. Data hiding c. Inheritance d. Polymorphism

64 The class from which the subclass derives the properties is called as
a. Super class b. Sub class c. Base class d. Child class

65 The property or the ability to take more than one form is called as
a. Encapsulation b. Polymorphism c. Inheritance d. Data hiding

66 Objects may communicate with each other through,
a. Methods b. Object c. Data d. Classes

67 Java compilers converts source code into,
a. Unicode b. Byte code c. Pseudo code d. Executable code

68 In Java, which tool translates byte code into machine code
a. Java applet b. Java compiler c. Java debugger d. Java interpreter

69 Variables declared outside a block are called _____
a. global b. universal c. stellar d. external

70 The two statements that can be used to change the flow of control are
a. if and switch b. if and while c. switch and do-while d. break and continue

71 What are the components of a structured class?
a. messages, connectors, and roles b. ports, roles, and threads
c. roles, ports, and connectors d. attributes, roles, and ports

72 What can UML interfaces are used for?
a. to provide concrete classes with the stereotype <<interface>>
b. to program in Java and C++, but not in C#
c. to define executable logic that can be reused in several classes
d. to specify required services for types of objects

73 Which diagram is NOT commonly used for illustrating use cases?
a. system sequence diagram b. activity diagram
c. use case diagram d. collaboration diagram

74 Abstract class cannot have _____
a. Zero instance. b. Multiple instance.
c. Both Zero instance & Multiple instance. d. None of these options

75 An application uses encapsulation to achieve _____
a. Information hiding b. Minimizing interdependencies among modules
c. Make implementation independent d. All of these options

76 Reusability can be achieved through.
a. Inheritance. b. Composition. c. Association. d. All of these options

77 OMG stands for _____
a. Object Management Group. b. Object Message Group.
c. Object Maintenance Group d. Object Member Group

78 The design of classes in a way that hides the details of implementation from the user is known as:
a. Encapsulation b. Information Hiding c. Data abstraction d. All of these options

79 What is a base class?
a. An abstract class that is at the top of the inheritance hierarchy.
b. A class with a pure virtual function in it.
c. A class that inherits from another class
d. A class that is inherited by another class, and thus is included in that class.

80 An _____ denotes the essential characteristics of an object that distinguish it from all other kinds of objects.
a. Aggregation b. Abstraction c. Modularity d. None of these options

81 Which layer is responsible for providing services to the user
a. Physical layer b. Transport layer c. Application layer d. Data link layer

82 Which address is used to sent a packet from one source to multiple destinations is called,
a. Unicast address b. Multicast address c. Broadcast address d. Network address

83 Which address is used to sent a packet from one source to all destinations is called,
a. Unicast address b. Multicast address c. Broadcast address d. Network address

84 The range (starting number) of class A address in IPv4 is
a. 0 – 125 b. 0 – 126 c. 0 – 127 d. 0 – 128

85 The range (starting number) of class C address in IPv4 is
a. 0 – 127 b. 128 – 191 c. 192 – 223 d. 224 – 239

86 Which of the following address is used by transport layer
a. IP address b. email address c. port address d. physical address

87 A computer that is Connected to different networks is called,
a. Variety homed device b. Multi homed device
c. Homo homed device d. Virtual homed device

88 Find the class of the IP address 212.17.35.17
a. class A b. class B c. class C d. class D

89 The IP address with the first byte equal to 127 is used for,
a. Specific address b. Special address c. Public address d. Loop back address

90 Each device has a dedicated point-to-point link only to a central controller is called,
a. star topology b. mesh topology c. ring topology d. bus topology

91 Format of the classless addressing is,
a. A.B.C.D / n b. A.B.C.D - n c. A.B.C.D // n d. n / A.B.C.D

92 URL means
a. Uniform Response Locator b. Uniform Resource Locator
c. Uniform Request Locator d. Uniform Random Locator

93 Generic domain of .com in DNS represents
a. commercial b. communication c. computer d. common

94 Which of the following protocol is used for remote login
a. SMTP b. FTP c. SNMP d. Telnet

95 Which protocol used mainly to access data on the world wide web (WWW),
a. Hyper Text Telephone Protocol b. Hyper Text Transfer Protocol
c. HTML Text Transport Protocol d. HTML Text Transfer Protocol

96 In Cryptography, the plain message is converted before transformed, is called
a. cipher text b. web text c. active text d. hyper text

97 Port address is used for
a. Node to Node communication b. Process to Process communication
c. Network to Network communication d. device to switch communication

98 Which of the following are the Private address
a. 8.0.0.0 – 9.255.255.255 b. 9.0.0.0 – 9.255.255.255
c. 10.0.0.0 – 10.255.255.255 d. 11.0.0.0 – 11.255.255.255

99 Transformation of plain text to ciper text is called,
a. Key b. Encryption c. Decryption d. Shift key

100 Transformation of ciper text to plain text is called,
a. Key b. Encryption c. Decryption d. Shift key

****

SL.NO:1323 **SUBJECT CODE:17CSES05**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

PROGRAMMING IN PYTHON

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	How tuple can return multiple values?
2	What is output formatting?
3	What are the different methods in list?
4	What is queue?
5	What are the types of parameter in range?
6	What is the use of break statement?
7	Define Lambda function in python
8	What is meant by Generator Expression
9	What is meant by try finally clause?
10	How to open a file using python?

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Organize the directory concept in python.

OR

b. Organize the variables, keywords & identifiers in python

12 a. Choose the different special operators in detail.

OR

b. Construct the tuple values to create, access, remove and update python program.

13 a. Make use of list, tuple, dictionary and set concepts, compare and contrast.

OR

b. Make use of looping statements in detail.

14 a. Apply the functions of python in detail

OR

b. Make use of Recursion Function in detail

15 a. Choose the decorator functions in python

(P.T.O)

OR

b. Apply the user defined exception with an example.

16 a. Build the CSV file concept.

OR

b. Make use of the methods of tuple in detail.

17 a. Choose the different versions of Python.

OR

b. Identify the data type in Python.

18 a. Experiment with a program to find whether the given number is prime or not.

OR

b. What is meant by filter & map functions? Explain in detail

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Classify the sets in Python and explain.

OR

b. Explain the decorating function parameters with example.

20 a. Explain if, if- else and if-elif –else statement in python.

OR

b. Examine the JSON concept in detail.

*****

SL.NO:1323

SL.NO:1315 **SUBJECT CODE:17CSES07**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

DATA STRUCTURES AND OBJECT ORIENTED PROGRAMMING

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 List out the various accesses specifies available in C++?
2 Define insertion and extraction operator.
3 Define virtual function.
4 Define Tree ADT.
5 Define a full binary tree.
6 How to calculate out degree of a graph?
7 Trace the quick sort for the following list of numbers 86, 55, 75, 32, 58.
8 What is the use of keyword operator?
9 Difference between Stack and Queue
10 State the difference between internal and external sorting.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Explain and sort the following numbers using quick sort:
10, 22, 14, 17, 21, 85, 51, 54, 32, 67.

OR

b. Define member function and give example program for defining member function inside the class.

12 a. Write a C++ program to illustrate the concept of passing objects as function arguments.

OR

b. Write a program to perform addition of two objects using operator keyword

13 a. Define constructor. Write down the significance of using the constructors. Explain with the sample program.

OR

b. How to access private static member function? Explain with an example program.

P.T.O

14 a. Explain about various types of inheritance with an example program.

OR

b. Write a C++ program to implement the concept of hybrid inheritance

15 a. Discuss about array implementation of stack in detail.

OR

b. Write an algorithm for push and pop operation in stack

16 a. Write an algorithm for rear and front operation in queue

OR

b. Describe about left child right sibling data structures for trees.

17 a. Describe the graph traversals with an example.

OR

b. Illustrate the terminologies of trees with examples.

18 a. Explain and sort the following numbers using shell sort:
22, 14, 17, 21, 85, 51, 54, 32, 67.

OR

b. Write down the merge sort algorithm and give its worst case, best case and Average case analysis.

Answer ALL questions
PART-C (2 x 15 = 30)

19 a. Define overloading. Write a C++ program for unary operator overloading.

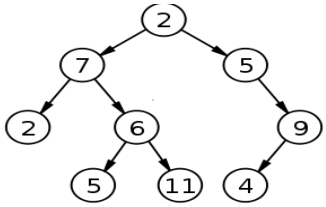
OR

b. Write down the operators that cannot be overloaded. Write a C++ program for binary operator overloading.

20 a. Describe in detail about linked list implementation of stack.

OR

b. Write the inorder, preorder and postorder traversals for the tree given below.



*****

SL.NO:1314 **SUBJECT CODE:17CSCC06**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

DESIGN AND ANALYSIS OF ALGORITHM

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Classify Time Complexity and Space Complexity in algorithms.
2 Examine how to estimate the running time T(n) of a problem?
3 Model an algorithm to find the shortest path from every node to every other node in a graph G. What is the strategy you followed?
4 Show how many binary search trees can be formed with 'n' keys.
5 Define recurrence. What are the 3 ways in which recurrence is implemented?
6 Identify worst case complexity of binary search?
7 Define NP-completeness with an example.
8 List out some well –known problems that are NP-complete when expressed as decision problems?
9 Write the role of dynamic programming?
10 Differentiate between NP complete and NP Hard.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Infer on a general review on Math needed for algorithm.

OR

b. Solve the following recurrence relations

$$T(n) = \begin{cases} 2T(n/2)+2 & n>2 \\ 1 & n=2 \\ 0 & n=1 \end{cases}$$

12 a. Show the asymptotic notations used for best case ,average case and worst case analysis of algorithms and apply an algorithm for finding maximum element of an array perform best , worst and average case complexity with appropriate order notations

OR

b. Show the intermediate steps when the numbers **123, 23, 1, 43, 54, 36, 75, 34** are sorted using merge sort.

P.T.O

13 a. Show Prim's Algorithm to construct a minimum spanning tree.

OR

b. Solve single source shortest distance problem with suitable algorithm

14 a. Illustrate on finding the shortest paths in a Graph using Dynamic programming.

OR

b. Solve the coin change problem using dynamic programming approach.

15 a. Determine the ways to find binomial coefficient. Derive its complexity. Give example.

OR

b. Define backtracking and demonstrate why backtracking is defined as a default procedure of last resort for solving problems.

16 a. Illustrate in detail about the Travelling Sales Person problem with sample input elements

OR

b. Design the algorithm for Chain matrix multiplication with suitable example

17 a. Summarize the properties of Computational Complexity with example.

OR

b. Differentiate Time and Space complexity estimation.

18 a. Contrast the number of key comparisons made in merge and quick sort.

OR

b. Explain about heuristic algorithm with example.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Illustrate on Greedy Algorithm for finding the shortest path in a Graph.

OR

b. Illustrate on dynamic programming with algorithm.

20 a. Measure the time complexities of quick sort and merge sort with an example

OR

b. Describe in detail about Divide And Conquer Method with example

*****

SL.NO:1296 **SUBJECT CODE:17CSCC18**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

RICH INTERNET APPLICATION

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	List the advantages of connection oriented service.
2	Draw the diagram for JSP life cycle
3	what Data transfer?
4	What is mean by event and give the types?
5	List out the element of multimedia.
6	Give short notes on smart Card.
7	Briefly explain the Traditional web application vs AJAX application
8	How Generic servlet are used?
9	Define JSP.
10	Define record set and list out its methods?

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Explain. (1) ActiveX control states. (2)ActiveX control container

OR

b. Write the program for styles collection.

12 a. Explain detailed about XML components.

OR

b. Define java script and its scripting advantages & disadvantages.

13 a. Explain Web server. Differentiate between the IIS Web servers and Apache web server.

OR

b. Write short notes on XML Schema.

14 a. Write the HTML program on displaying Image.

OR

b. Explain the following i. Name spaces ii. Vocabularies

15 a. What is a key? and explain how to access a database from Active Server Page.

p.t.o

OR

b. Draw and explain the TCP/IP protocol Architecture.

16 a. Explain in detail about History of the WWW

OR

b. Differentiate between Block level and Text level Formatting.

17 a. Briefly explain about DHTML.

OR

b. Compare Data binding and Data control.

18 a. Explain Servlet architecture:

OR

b. Explain the following (1) Get and (2) Post request

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Describe briefly about Active and Java Server Pages .

OR

b. Explain the Java Script Programming and explain with example.

20 a. Explain the concept of Protocols and Applications

OR

b. Explain briefly about retrieving data from Internet

*****

SL.NO:1296

SL.NO:1297 **SUBJECT CODE:17CSCC33**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

PROBLEM SOLVING USING COMPUTERS

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Describe Information.
2 List the symbolic execution of program verification.
3 Explain the algorithm for reversing the digits of an integer.
4 Show the methods for sorting by exchange.
5 Define variables in C.
6 Recite String
7 Define call by reference
8 Explain an algorithm for generating prime number
9 Describe the types of Constants in C
10 Discuss precedence rule and associativity rule

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Categorize the branching and looping statements.

OR

b. Illustrate the algorithm for array order reversal.

12 a. Examine the concept involved in implementation of algorithm.

OR

b. Predict the concept of analysis of an algorithm

13 a. Use a C program to perform the following conversions.
(i) Binary code to Gray code
(ii) Gray code to binary code
(iii)BCD to Hexadecimal
(iv)Decimal to Octal

OR

b. Apply an algorithm for sorting by insertion.

p.t.o

14 a. Determine a program to use various relational operators and display their return values.

OR

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

15 a. Determine a algorithm for longest monotone subsequence.

OR

b. Create the characteristics of modular programming.

16 a. Evaluate the greatest common divisor.

OR

b. Compare binary search and hash search.

17 a. Assess an set of N students examination marks (in the range 0 to 100) make a count of the numbers of students that obtained each possible marks.(Array counting)

OR

b. Demonstrate the use of computing system.

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

OR

b. Identify the operator Precedence.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Analyze the user defined function with an example program in C.

OR

b. Examine in detail about arguments.

20 a. Measure the linear search and binary search algorithm.

OR

b. Compare and Contrast program testing and program verification

*****

SL.NO: 1289 **SUBJECT CODE:17MABS14**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMMON TO CSE , ARTIFICIAL INTELLIGENCE & CYBER SECURITY

NUMERICAL METHODS AND NUMBER THEORY

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Use Trapezoidal rule to find the area of the curve between x axis and the lines $x=2$ and $x=5$ when a curve passes through $(2,\ 8)$, $(3,\ 27)$, $(4,\ 64)$ and $(5,\ 125)$.

2 Use Romberg's method to find I if $I_1 = 0.775, I_2 = 0.7828$

3 Define transcendental equation

4 Name two iterative methods to solve a system of algebraic equations

5 Write Newton's Backward Interpolation Formula

6 State fundamental theorem of arithmetic

7 State Fermat's little theorem

8 Explain the iteration method

9 Find the quotient and the remainder when
a. 207 is divided by 15
b. -23 is divided by 5.

10 Verify that $(p-1)! \equiv -1 (\mathrm{mod}\ p)$ where $p=5$, without using Wilson's theorem.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Use Newton - Raphson method, find the real root of $x \log_{10} x = 1.2$ correct to 4 decimal places

OR

(p.t.o)

b. Solve the following system of equations by Gauss Elimination method

$x+y+z=9$
$2x-3y+4z=13$
$3x+4y+5z=40$

12 a. Apply Gauss Jordan method to find inverse of a matrix $\begin{bmatrix} 2 & 1 & 1 \\ 3 & 2 & 3 \\ 1 & 4 & 9 \end{bmatrix}$

OR

b. Use Newton's Divided difference formula ,find u(3), given u(1)= -26,u(2)=12,u(4)=256 and u(6)=844

13 a. Use Newton's forward interpolation formula, find the value of $\text{Sin } 47°$ given that $\text{Sin } 45° = 0.7071$, $\text{Sin } 50° = 0.7660$, $\text{Sin } 55° = 0.8192$, and $\text{Sin } 60° = 0.8660$.

OR

b. Use Newton's Forward Interpolation Formula, find y at x=5.

x	4	6	8	10
y	1	3	8	10

14 a. Apply Lagrange's formula inversely, to obtain the root of the equation $f(x)=0$ given that $f(0)=-4$, $f(1)=1$, $f(3)=29$ and $f(4)=52$.

OR

b. Use (i) Trapezoidal rule (ii) Simpson's one third rule, evaluate $\int_0^1 xe^x dx$ from the following data.

x	0	0.25	0.5	0.75	1
$y=xe^x$	0	0.321	0.824	1.588	2.718

Compare your result with actual value.

15 a. Apply Simpson's $\frac{1}{3}$ and $\frac{3}{8}$ rule by dividing interval into 6 equal parts, evaluate $\int_0^6 \frac{dx}{1+x^2}$

OR

b. Use Romberg's method, compute $I = \int_0^1 \frac{dx}{1+x^2}$ correct to 3 decimal places. Hence find the value of π.

16 a. Use inclusion-exclusion principle, find the number of positive integers ≤ 3000 and divisible by 3, 5 or 7

OR

b. Apply Base-b representation theorem, express 3014 in base eight and $3ABC_{sixteen}$ in base ten

17 a. Use Euclidean algorithm, find $gcd\,(2076,1776)$

OR

b. Use Chinese remainder theorem, solve $x \equiv 1(\mathrm{mod}\,3)$, $x \equiv 2(\mathrm{mod}\,5)$ and $x \equiv 3(\mathrm{mod}\,7)$

18 a. Apply Fermat's Little theorem, show that $2^{341} \equiv 2(\mathrm{mod}\,341)$.

OR

b. Use Euler's theorem, find the remainder when 199^{2020} is divided by 28

Answer ALL questions
PART-C (2 x 15 = 30)

19 a. Analyze the Fermat's Little theorem is true even for a composite integer.
Use Fermat's Little theorem, prove that $4^{13,332} \equiv 16 \pmod{13,331}$.

OR

b. Analyze the problem and find the last nonzero digit (from the left) in the decimal value of $234!$.

20 a. Use Gauss - Jordan method, find the inverse of a matrix $\begin{pmatrix} 1 & 3 & 7 \\ 4 & 2 & 3 \\ 1 & 2 & 1 \end{pmatrix}$

OR

b. Use Gaussian two point and three point formulae to evaluate $I = \int_0^1 \frac{dt}{1+t}$.

Find a boundary for the error in three point formula and compare it with true error

*****

SL.NO: 1289

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING
MOBILE APPLICATION DEVELOPMENT

Time: Three hours Maximum: 100 Marks

Answer **ALL** questions

PART – A (100 x 1 = 100 Marks)

1. The entire mobility panorama can be classified into

   a) Logical

   b) Physical eco system

   c) both a&b

   d) none of these

2. CDMA stands for

   a) Code division multiple access

   b) Common development multiple access

   c) Code development access

   d) Code development multiple access

3. WAP stands for

   a) Wireless application program

   b) Wireless access program

   c) Wireless access protocol

   d) Wireless application protocol

4. Which design can be used to reduce the energy consumption of the embedded system?
   a. Simulator
   b. Compiler
   c. Emulator
   d. Debugger

5. Android also use c,_____&_____as supporting language

a) c++,ruby b) python,c++ c) Ruby,python d) none of these

6. IDE stands for

a) Internet development environment

b) Integrated Differential environment

c) Integral development environment

d) Integrated development environment

7. Which of these is the SDK tool?

a) monkey b) Zipalign c) both a and b d) none of these

8. _____is powerful tools to debug apps

a) Proguard b) DDMS c) Sqlite3 d) aapt

9. GPS stands for

A) Global position system b) Global protection system

c) Global protocol system d) Good protocol system

10. DDMS stands for

a) Dalivk debug monitor server b) Data development mobile server

c) Digital data mobile server d) None of these

11. ADB stands for

a) Activity development bugging b) Android debug bridge

c) Android development bridge d) None of these

(p.t.o)

12. Which of these is the platform tools

a) sqlite 3 b) MKSdcard c) zipalign d) all of these

13. Android emulator is

a) used to launch and test the apps b) used to facilitates connection

c) both a and b d) None of these

14. Consumer mobility compresses mobility solutions such as_____

a) Social network, Games b) Vendors&partners

c) Customer d) Suppliers

15. Enterprise mobility is focus towards_____

a) Binding b) Vendors & partners c) Shopping d) Games

16. The physical ecosystem of mobility encomposes_____keys

a) Five b) Six c) Four d) Three

17. The components middleware and protocols act as a glue between _____

a) Physical ecosystem b) Mobility &enterprise components

c) Mobile devices d) Operating system

18. Mobility Platforms are more popularly known as _____

a) Mobile operating system b) Mobile communication

c) Application programming interface d) Development framework

19. Mobile web application typically developed using web technologies such as_____

a) Google play b) Application store c) HTML file d) Access mechanism

20. Using_____mobile application will be downloaded

a) Google play App's b) Mobile Devices

c) Access mechanism d) Operating system

21. An android app uses interface typically comprises components such as:

a)art work b)screen layout

c) events d) all of these

22. Image files, icon files, XML files are the component of:

a) programming component b)logical component

c) non programming components d)none of these.

23. API stands for

a) application programming interface b) android program interface

c) application process interface d) applet programming interface

24. States which is not in User Interface

a. Ideal state

b. Blank state

c. Loading state

d. Clear state

25. Which of these is the state of activity in app user interface?

a) stopped b) paused

c) both a &b d) Destroyed

26. In which state of activity the data is invisible but not destroyed

a) destroyed b) paused

c) stopped d) none of these

27. Which of these activity state with highest priority and never tries to kill it.

a) active b) paused

c) stopped d) destroyed

28. How many keys of life cycle methods of activity states

a) 3 b) 4

c) 5 d) 6

29. Which of these key is using in between of stopped and destroyed states

a) on Stop() b) on Destroy()

c) on Create() d) on Pause()

30. Which of these key is using in between of Active and paused states

a) on Stop() b) on Destroy()

c) on Create() d) on Pause()

31. Which of these key is using in between of paused and stopped states

a) on Stop() b) on Destroy()

c) on Create() d) on Pause()

32. How many keys are using in between of active and destroyed states

a) 2 b) 3

c) 4 d) 2

33. Layout resource provides a _____ for an Activity.

a) typically blueprint b) relative blueprint

c) visual blueprint d) resource blueprint

34. Android provides a mechanism to maintain string resources in ----------

a) UML b)ML

c) WML d)XML

35. ---------- can be reused across the app codebase.

a) image resources b) layout resources

c) string resources d)none

36. The most commonly used string resources are;

a) string constants b) string xml

c) Both a& b d) none of these

37. ------- is a string assigned to key and declared in the string resource file

a) string constants b) string xml

c) string array d) string resource

38. To Achieve Performance,
   a. Understand the language
   b. Understand the target device
   c. Understand the tools
   d. All of the above

39. The individual string in the array are declared using the----------

a) <resource> b) <string array>

c) </resource> d) <item>

40. The string resource is further extracted using the ----------

a) <string-array> b) <item>

c) <get string> d) none

41. The android graphics is categorized into:
   a) 2
   b) 4
   c) 3
   d) None

42._____ means using device's Grapical processing unit to render an app's UI.
   a) Drawables
   b) Canvas
   c) Open GL
   d) Hardware acceleration

43. _____ is defined as the number of pixels per unit area of a screen.
   a) Screen
   b) Display
   c) Screen density
   d) View port

44.Android broadly categorizes the screen density into:
   a) 4
   b) 3
   c) 5
   d) 2

45.The meaning of xhdpi is
   a) High
   b) Low
   c) Very high
   d) Medium

46. A _____ is a visual resource that is referred that can be drawn 2D image.
   a) Pixel
   b) Draw able
   c) Ldpi
   d) Xhdpi

47._____ animation referred to as simplest draw able animation.
   a) Frame-by-frame animation
   b) Transition animation
   c) Android animation
   d) None

48._____ is using to perform tweened animation on a screen.
   a) Frame-by-frame animation
   b) Transition animation
   c) Android animation
   d) View animation

49.A tweened animation helps achieving simple transformation of a view:
   a) Position
   b) Rotation
   c) Size
   d) All of these

50.Property animation is a ____ API available in android that allows animating any property of an object.
   a) Frame-by-frame animation
   b) Sophisticated animation
   c) Android animation
   d) View animation

51.An animating the background color of a layout is not possible using view animation, but can be accomplished using _____
   a) Property animation
   b) Sophisticated animation
   c) Android animation
   d) View animation

52.The ObjectAnimator class provides factory methods such as:

a) onInt()
b) offlost()
c) ofobject()
d) all of these

53. The interpolator being used by the _____

a) ObjectAnimator
b) Greenbot Imageview
c) ColorAnimator
d) None

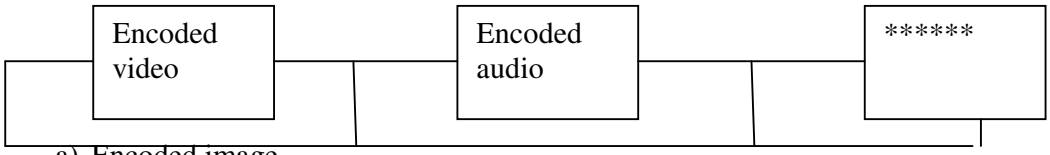
54.AVC stands for

a) Android video coding
b) Advanced video coding
c) Audio visual coding
d) Audio video coding

55.AAC stands for

a) Advanced audio coding
b) Android audio coding
c) Audio android coding
d) Audio advanced coding

56.. What is *****?



a) Encoded image
b) Meta data
c) Image
d) None

57. The _____ method is used to set the data source and the type of audio.

a) Set data()
b) Set data type()
c) Set audio type()
d) All of these.

58.The media player object's life cycle method release() state is

a) Prepared
b) Initialized
c) Paused
d) End

59.The media player object's life cycle method set data source() state is

a) Prepared
b) Initialized
c) Paused
d) End

60.The in-app mechanism gives more _____ to a developer to handle media capture.

a) Control
b) Multimedia
c) Flexibility
d) Control & flexibility

61. What is the other name of threads

a) Run able
b) Creation
c) Counter
d) Block able

62.An async task has to deal with _____.

a) Three key aspects
b) Four key aspects
c) One key aspects
d) Two key aspects

63.In asynctask class provides two key callback methods:

a) doInBackground& displayValue
b) doInBackground& onprogressUpdate
c) displayValue & onprogressUpdate
d) None

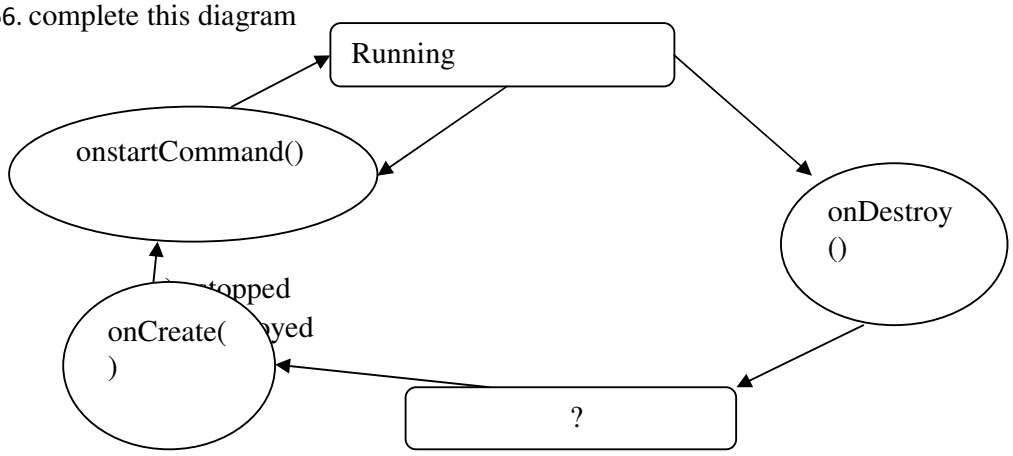
64.RSS stands for

a) Rich site service
b) Rich service site
c) Rich site summary
d) Rich summary site

65.Android provides _____ which internally take care of pushing a long running task onto a separate thread.

a) IntentService
b) Intentsite
c) webServicehitter
d) none

66. complete this diagram



67. Intent service is a sub class of the _____ class.

a) Destroy
b) Super
c) Service
d) Create

68.Android provides _____&_____ apps to implement telephony and sms related functionality.

a) Tetephony manager & sms manager
b) Notification manager& sms manager
c) Telephony manager & network manager
d) Telephony manager & system manager

69.Flite used to persist _____ .

a) Unstructured data
b) Structured data
c) Primitive data
d) Primary data

70.The shared preference application will contain two component.

a) Preference setting activity & sms sender
b) setting activity& sender
c) Both a & b
d) None

71. In mobile logical architecture what will be at the first place?

a) Native data access
b) native data storage
c) Apps functionality
d) Apps user interface.

72.In enterprise logical architecture what will be at first place?

a) Data layer
b) Business layer
c) Service layer
d) T.V. guide data

73.How many layers are there in mobile architecture?

a. 3
b. 6
c. 4
d. 5

74.In Android architecture _____ lies under libraries

a. Media Framework
b. wifi driver
c. window manager
d. contacts

75. MDM stands for

a) Mobile development management.
b) Mobile development marketing.
c) Mobile device management
d) Mobile device marketing.

76. MAM stands for
   a) Mobile Application management
   b) Mobile Android Management
   c) Mobile access memory
   d) Mobile access management.

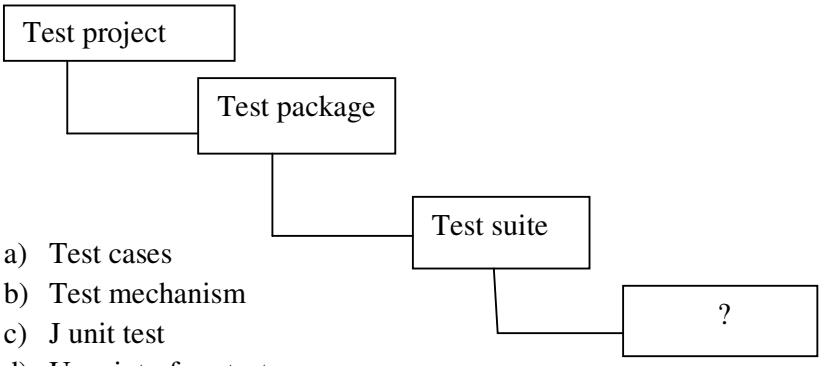
77. In enterprise logical architecture phase divided into
   a) 3
   b) 4
   c) 2
   d) 5

78.Bring your own device (BYOD) phenomenon is a factor behind _____
   a) Mobile application management
   b) Mobile development management
   c) Mobile device management
   d) None

79.In enterprise logical architecture what are all the components we have in service layer.
   a) Channel list service provider, T.V. guide service provider
   b) Chennal list service, t.v. Guide service
   c) Native data storage, native data access
   d) Chennal list data, T.V. guist data.

80. Logical component of android application _____
   a) Activity
   b) Service
   c) DDMS
   d) ADP

81. Complete the diagram.



   a) Test cases
   b) Test mechanism
   c) J unit test
   d) User interface test

82. Android j unit frame work is used to perform_____ of individual android application component.
   a) Unit test
   b) Integration test
   c) White box test
   d) Black box test

83.The test criteria define _____ condition for a specific test case.
   a) Success
   b) Failure
   c) Both a& b
   d) None

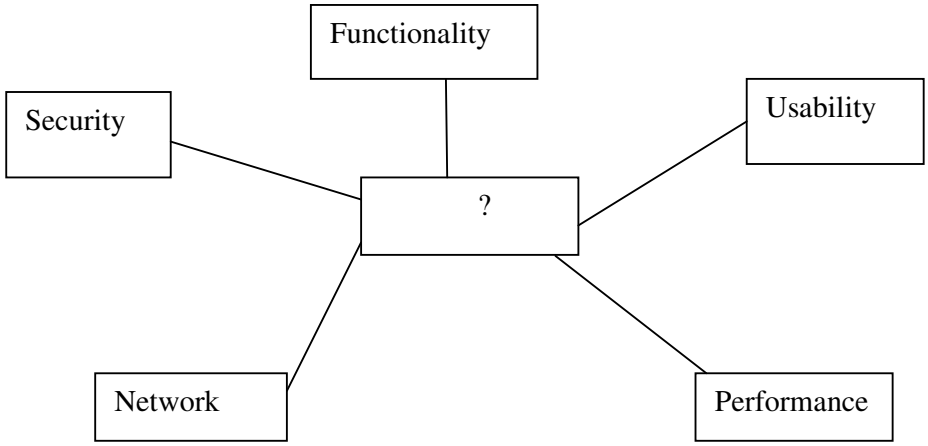
84.We can create a test project with a test case class_____

a) TestCounterService
b) TestControlService
c) OnstartCommand()
d) Testcreate()

85.MIME stands for

a) Multipurpose internet method extensions.
b) Multipurpose internet mail extensions.
c) Multi program internal method extensions.
d) Multipurpose integrated method extensions.

86. Complete the diagram



a) Service
b) Content provider
c) App testing landscape
d) None

87. _____ of an app is a black-box testing to ensure that the app is easy to understand and use.

a) Usability testing
b) Performance testing
c) Network testing
d) Security testing

88._____ accesses the impact of network bandwidth on the performance of an app.

a) Usability testing
b) Performance testing
c) Network testing
d) Security testing

89._____ ensures that the app is fortified from common app security vulnerabilities.

a) Usability testing
b) Performance testing
c) Network testing
d) Security testing

90. How many steps are there for publishing the apps.
    a) 3
    b) 4
    c) 6
    d) 7

91. What is the first step for publishing the apps.
    a) Decide pricing model
    b) Sanitize the apps.
    c) Create promotional material.
    d) Revisit app manifest.

92. What is the last step for publishing the apps.
    a) Decide pricing model
    b) Sanitize the apps.
    c) Create promotional material.
    d) Revisit app manifest.

93. _____ requires setting the version and specifying the API requirement of the app.
    a) Configuration
    b) Groundwork
    c) Packing
    d) Distribution

94. EULA stands for
    a) End user legal agency.
    b) End user license agency.
    c) End user license agreement.
    d) End user local agreement.

95. The version code is used by app update service to send _____ update.
    a) Version name
    b) Version model
    c) In-the-market
    d) On-the-air

96. An android app version is specified in its android manifest file using the _____
    a) Version name
    b) Version model
    c) Version configuration
    d) None

97. The _____ attribute specifies the lowest platform version of android on which the app can be installed.
    a) Target sdk version
    b) Target wdk version
    c) Target code version
    d) Min sdk version

98. The android app is needed to be packaged as a signed
    a) .jdk
    b) .apk
    c) .sdk
    d) None

99.In android platform version what is the 8^{th} level of API.

a) Android bada
b) Android ice cream sandwich
c) Android froyo
d) Android jelly bean

100.The functionality testing is advisable to use the tools as:

a) Money talk tool
b) Familiar icon tools
c) Screen transitions tool
d) All of these

(Sl.No. 1278)

SL.NO:1271 **SUBJECT CODE:17CSCC08**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

COMPUTER NETWORKS

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	Define the term Network.
2	Recall OSI Layers.
3	Describe about FDMA.
4	Recite S, I and U frames.
5	Describe about PDU
6	Recall segmentation.
7	Label the advantages of using UDP over TCP.
8	Name four factors needed for a secure network.
9	List delivery and forwarding in a network.
10	Differentitate connection oriented and connectionless protocol.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a.	Examine in detail circuit switching and its working.
	OR
b.	llustrate the concepts of Routers.
12 a.	Examine the concept of routing, forwarding and delivery of packets.
	OR
b.	Illustrate various Techniques to improve Quality of service (QoS).
13 a.	Explain in detail IMAP and POP3 protocols.
	OR
b.	Examine the functions of SMTP.
14 a.	Explain in detail about Network Topologies with diagrams.
	OR

(P.T.O)

b. Restate the classifications of transmission media.

15 a. Summerize on CSMA/CD and its uses.

OR

b. Restate the concept of Bluetooth with example.

16 a. Discuss in detail about Bridges.

OR

b. Summarize Distance vector routing with example.

17 a. Paraphrase on the following:
i) DVMRP. ii) PIM

OR

b. Discuss in detail Quality of Service.

18 a. Describe in detail about DNS

OR

b. With a neat sketch elborate on the function of SNMP.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Explain about the Shortest Path Algorithm.

OR

b. Draw and explain TCP paket format.

20 a. Paraphrase on the following:
i.Define OSI Model,ii.Functions and protocols,iii.Services of each layer

OR

b. Describe in detail about
i)IMAP ii)POP3 iii)SMTP

*****

SL.NO:1263 **SUBJECT CODE:17CSEC39**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

ELE- CLOUD COMPUTING

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	What for the Zoho Planner is used?
2	Will the cloud provide document format compatibility? Give reasons.
3	Name a few cloud service development tools.
4	What is Hadoop?
5	Write notes on “Jiffle”.
6	What is Bla-Bla list?
7	What is g.ho.st?
8	What is a web conference?
9	How group collaboration is achieved in cloud?
10	What is collaborating on financial statements?

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Discovering cloud services development services and tools”-Discuss in detail.

OR

b. Discuss about exploring online scheduling applications.

12 a. Explain how schedules and task management is done using cloud.

OR

b. Explain how web mail services are evaluated

13 a. With a neat diagram, explain the cloud computing architecture in detail.

OR

b. Narrate on cloud storage briefly.

14 a. Discuss about the users who benefits out of cloud computing.

OR

b. Explain the advantages of cloud service development.

15 a. Discuss about Amazon’s web services.

p.t.o

OR

b. Discuss in detail about cloud computing for the family.

16 a. Explain how email communications are centralized.

OR

b. Discuss about “Collaborating on budgets”.

17 a. Explain about Collaborating on event management in detail.

OR

b. ”Collaborating on project management”-Explain.

18 a. Explain about collaborating on groupware in detail.

OR

b. Explain about evaluating wikis for collaboration.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. How centralized storage facilities collaboration and how multiple computers work together, explain with short history

OR

b. How do you use cloud computing for Collaborating on TO-DO lists Discuss briefly.

20 a. How do you collaborate Cloud Computing about the Huddle and Nexo. Explain Briefly.

OR

b. Discuss about what you understand from Event Management Application.

*****

SL.NO:1262 **SUBJECT CODE:17CSEC36**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

ELE-SOFTWARE TESTING

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	Tell about Metric.
2	Compare black box and white box testing.
3	Tell about Errors. Give an example of error.
4	Recall Test data set.
5	Name the challenges in unit test
6	Recall the areas covered during recovery testing
7	Define Test Plan
8	List the use of V-model in testing
9	Define test automation
10	Describe Usage profiles

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Analyze the tester's role in a Software Development Organization

OR

b. Analyze the Need for levels of testing

12 a. Recommend the Reporting Test Results with an example

OR

b. Show why testing in metrics and analyze about Productivity metrics

13 a. Build a Developer / Tester support for developing a defect repository

OR

b. Examine the goals, procedures and functions of Integration Test

14 a. Show the expression to Calculate defect density and defect removal rate? Determine the ways to improve these rates for a better Quality product

OR

b. Defend the test planning is so important for developing a repeatable and managed testing process

p.t.o

15 a. Assess the role played by the managers in the test group

OR

b. Discuss in detail information about the Software Testing Principles

16 a. Restate about the class as testable unit

OR

b. Describe Origins of defects with neat diagram

17 a. Discuss on the following techniques
a) Cause and effect graphing (5 Marks)
b) State transition testing (5 Marks)

OR

b. Explain about Unit Test Planning

18 a. Describe about various types of test automation

OR

b. Paraphrase on the test tool selection procedure

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Classify the different process activities of software testing in detail

OR

b. Examine the metrics/parameters to be considered for evaluating the software quality

20 a. Tabulate on the top-down and bottom-up approaches in integration testing with the merits and limitation of these approaches

OR

b. Discuss the components of review plans

*****

SL.NO:1262

SL.NO:1253 **SUBJECT CODE:17CSEC30**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

ELECTIVE - UNIX INTERNALS

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	Differentiate between interrupt and exception
2	Draw the structure of a buffer header.
3	Define mounting file system.
4	Determine the 4 major data structure to support low level memory management and demand paging.
5	Draw the table of swapping a process into memory.
6	State the content of the buffer header.
7	List out the types of pipes and its uses
8	Define the demand paging policy
9	What are the different entries of a region table?
10	Mention some of the parameters that the system administrators specify for installation dependent.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11	a.	Describe in detail about assumption about hardware
		OR
	b.	Write short notes on LSEEK and its parameters
12	a.	Write down the algorithm for opening and closing a device from driver interfaces
		OR
	b.	What are the various Operating System Services provided by the kernel?
13	a.	How are Disk blocks Read and written.
		OR
	b.	Write short notes on creat() and lseek()

P.T.O

14 a. Determine the procedure and steps in context switch

OR

b. Discuss in detail about terminal drivers.

15 a. Construct a C Program for reading and writing into a unnamed pipe

OR

b. Write and explain the algorithm for pipe() system call.

16 a. Differtiate between the parameters of Disk drivers and Terminal drivers

OR

b. Compare the structure and procedure on swapping process out with swapping process in

17 a. Define Page faults. Judge the steps and algorithms in page faults.

OR

b. Explain the process state transitions diagram with an example.

18 a. Describe in details about the directory with their layout.

OR

b. Briefly explain about two memory management policies

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Analyze the all system calls in driver interfaces in I/O sub system

OR

b. How to exam us about the Organization of buffer header.

20 a. Construct the program for
(i) process creation
(ii) Parent and Child sharing in file

OR

b. Develop the algorithm for allocating and releasing a buffer in detail .

*****

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMMON TO CSE AND IT

ELECTIVE : - MOBILE APPLICATION DEVELOPMENT

(Candidates admitted under 2017 Regulations-SCBCS)

Time: Three hours Maximum: 100 Marks

Answer **ALL** questions

PART – A (100 x 1 = 100 Marks)

1. WAP stands for
   a) Wireless application program b) Wireless access program
   c) Wireless access protocol d) Wireless application protocol

2. Which design can be used to reduce the energy consumption of the embedded system?
   a. Simulator b. Compiler c. Emulator d. Debugger

3. IDE stands for
   a) Internet development environment b) Integrated Differential environment
   c) Integral development environment d) Integrated development environment

4. _____is powerful tools to debug apps
   a) Proguard b) DDMS c) Sqlite3 d) aapt

5. DDMS stands for
   a) Dalivk debug monitor server b) Data development mobile server
   c) Digital data mobile server d)None of these

6. Android emulator is
   a) used to launch and test the apps b) used to facilitates connection
   c) both a and b d) None of these

7. Enterprise mobility is focus towards_____
   a) Binding b) Vendors & partners c) Shopping d) Games

8. The physical ecosystem of mobility encomposes_____keys
   a) Five b) Six c) Four d) Three

9. Mobility Platforms are more popularly known as _____
   a) Mobile operating system b) Mobile communication
   c) Application programming interface d) Development framework

10. Using_____mobile application will be downloaded
    a) Google play App's b) Mobile Devices
    c) Access mechanism d) Operating system

11. Which design allows the reuse of the software and the hardware components?
    a. Memory Design b. Input Design
    c. Platform – based Design d. Peripheral Design

12. Version 4.1 consists of which application____
    a) Jelly Bean b) Froyo c) Cupcake d) Honey comb

13. Which of the following is not an application in android architecture?
    a. Home b. Contacts c. SSL d. Browser

14. If you want share the data across the all applications ,you should go for?
    a)Shared Preferences b)Internal Storage
    c) SQLite Databases d)content provider

15.) Layouts in android?
    a)Frame Layout b)Linear Layout c)Relative Layout
    d)Table Layout e)All of the above

16. Which are the screen densities in Android?
    a) low density b)medium density c)high density
    d) extra high density e)All of the above

17. Can an application be started on power up?
    a)NO b)Yes c)Error d)it's depend on condition

18. What is .apk extension?
    a) In Android in Stable for Android package file
    b) In this Package file containing all of the files to related for a single Android application.
    c) In this file itself is a compressed collection of an AndroidManifest.xml file
    d) All of Above

19. Which one is NOT related to fragment class?
    a)DialogFragment b)ListFragment c)PreferenceFragment
    d)CursorFragmentAndroid is using in real senario is

20. What are the Direct subclasses of Activity?
    a) AccountAuthenticatorActivity b) ActivityGroup
    c) ExpandableListActivity d) All the above

21. An android app uses interface typically comprises components such as:
    a)art work b)screen layout
    c) events d) all of these

22. States which is not in User Interface
    a. Ideal state b. Blank state c. Loading state d. Clear state

23. Which of these key is using in between of stopped and destroyed states
    a) on Stop() b) on Destroy()
    c) on Create() d) on Pause()

24. Which of these key is using in between of Active and paused states
    a) on Stop() b) on Destroy()
    c) on Create() d) on Pause()

25. Which of these key is using in between of paused and stopped states
    a) on Stop() b) on Destroy()
    c) on Create() d) on Pause()

26. Layout resource provides a _____ for an Activity.
    a) typically blueprint b) relative blueprint
    c) visual blueprint d) resource blueprint

27. Android provides a mechanism to maintain string resources in ----------
    a) UML b)ML c) WML d)XML

28. The most commonly used string resources are;
    a) string constants b) string xml
    c) Both a& b d) none of these

29. To Achieve Performance,
    a. Understand the language b. Understand the target device
    c. Understand the tools d. All of the above

30. The string resource is further extracted using the ----------
    a) <string-array> b) <item>
    c) <get string> d) none

31. Each view in Android is -------
    a) event b) source c) event source d) visual data

32. ORB stands for
    a. Object Request Browser b. Object Request Broker
    c. Online Request Browser d. Online Request Broker

33. Event source is
    a) The call back method that responds to the event
    b) the object generated by the view
    c) The view on which user performs an action.
    d) the interface associated with the view that listens to the event

34. The Event listener is
    a) the call back method that responds to the event
    b) the object generated by the view
    c) the view on which user performs an action.
    d) the interface associated with the view that listens to the event

35. “ Button “ is the example of
a) Event source b) event object c) Event listener d) Event handler

36. “On Click Listener” is the example of
a) Event source b) event object c) Event listener d) Event handler

37. “ on Click()”is the example of
a) Event source b) event object c) Event listener d) Event handler

38. Type of Layout in android
a)Frame Layout b)Linear Layout c)Table Layout d) All of the above

39. Type of Dialog classes in android?
a) AlertDialog b) DatePickerDialog c) TimePickerDialog d) All of the above

40. To achieve quality constraint Modifiability is _____
a. Develop as single unit
b. Increase as hybrid units
c. Decrease as single unit
d. Develop as Multiple units

41. _____ means using device’s Grapical processing unit to render an app’s UI.
a) Drawables
b) Canvas
c) Open GL
d) Hardware acceleration

42. The meaning of xhdpi is
a) High b) Low c) Very high d) Medium

43. _____ animation referred to as simplest draw able animation.
a) Frame-by-frame animation
b) Transition animation
c) Android animation
d) None

44. Property animation is a ____ API available in android that allows animating any property of an object.
a) Frame-by-frame animation
b) Sophisticated animation
c) Android animation
d) View animation

45. The Object Animator class provides factory methods such as:
a) onInt() b) offlost() c) ofobject() d)all of these

46. The interpolator being used by the _____
a) ObjectAnimator
b) Greenbot Imageview
c) ColorAnimator
d) None

47. AVC stands for
a) Android video coding b) Advanced video coding
b) Audio visual coding d) Audio video coding

48. AAC stands for
a) Advanced audio coding b) Android audio coding
c) Audio android coding d) Audio advanced coding

49. The media player object's life cycle method release() state is
a) Prepared b) Initialized c) Paused d) End

50. The media player object's life cycle method set data source() state is
a) Prepared b) Initialized c) Paused d) End

51. The in-app mechanism gives more _____ to a developer to handle media capture.
a) Control b) Multimedia c) Flexibility d) Control & flexibility

52. The media recorder object's life cycle method set video source() state is
a) Prepared b) Initialized c) Paused d) End

53. The media recorder object's life cycle method start() state is
a) Prepared b) Paused c) Recording d) Initialized

54. Disadvantage of cloud computing _____
a. Works in Mobile data only b. Can able to work in offline
c. Works in wifi data only d. Needs internet facility always

55. Software as services can be referred as
a. on- command server b. on-demand service
c. on-demand server d. on-command service

56. Custom are provided with ----object to draw its UI.
a)canvas b) activity c)corner d) none

57. Paas stands for
a. Platform as a service b. Program as a source
c. Program as a service d. Platform as a source

58. To achieve playback of media elements from
a)raw resources b)native file system c) both a& b d) none

59. Position sensors are
a) proximity sensor b) orientation sensor c) magnetometer d) all of these

60. --------used to detect events such as tilt and rotate.
a) Accelerometer b) Gravity sensor c) light sensor d) Gyroscope

61. What is the other name of threads
a) Run able b) Creation c) Counter d) Block able

62. An async task has to deal with _____.
a) Three key aspects b) Four key aspects
c) One key aspects d) Two key aspects

63. RSS stands for
a) Rich site service b) Rich service site
c) Rich site summary d) Rich summary site

64. Intent service is a sub class of the _____ class.
a) Destroy b) Super c) Service d) Create

65. Flite used to persist _____ .
a) Unstructured data b) Structured data
c) Primitive data d) Primary data

66. MDM stands for
a) Mobile development management. b) Mobile development marketing.
c) Mobile device management d) Mobile device marketing

67. Bring your own device (BYOD) phenomenon is a factor behind _____
a) Mobile application management b) Mobile development management
c) Mobile device management d) None

68. Service is used for executing----------tasks in the background.
a)long-running b)short-running c)continuous d)all of the above

69. Upon installation the----------runs the test case methods against the app under test.
a) InstrumentationTestRunner b) CounterService
c) mServiceCreated d) none of the above

70. Functionality testing is advisable to automate using tools such as----------
a) divice specific invention b) divice sampling
c) MonkeyTalk d) none of the above

71. ---------- of an app is also a black box testing that ensures responsiveness of the app under varying conditions
a) network testing b) security testing
c) unit testing d) performance testing

72. Robotium tests perceive the application under test as----------
a)white box b)unit test c)black box d)network test

73. A----------collects a result of executing test case
a)TestResult b)TestSuite c)TestFailure d)none of these

74. A software testing technique where the internal working of the item being tested is not known by the tester is called----------
a)white box testing b)unit testing c)network testing d)black box testing

75. The MonkeyTalk community edition ----------is the culmination of gorilla logic's five years of creating open source automated testing tools.
a) 3.0 b)1.0 c)2.0 d)4.0

76. MonkeyTalk is used as automated testing tool because of its
a) reusability b) increased coverage c) repeatability d) all the above

77. Requirements for MonkeyTalk are
a) eclipse b) Android SDK c) MonkeyTalk IDE
d) Source code of the application

78.)----------is the use of special software to control the execution of tests.
a) test automation b) MonkeyTalk c) robotium d) none of these

79. A testing framework that uses programming interface to the application to validate the behavior under test is called
a) code-driven testing b) API driven testing c) GUI testing d) network testing

80. Test automation can be made cost effective in long term ,especially when used repeatedly in----------
a)API driven testing b)GUI testing c)unit testing d)regression testing

81. Android j unit frame work is used to perform_____ of individual android application component.
a) Unit test b) Integration test c) White box test d) Black box test

82. We can create a test project with a test case class_____
a) TestCounterService b) TestControlService
c) OnstartCommand() d) Testcreate()

83. _____ of an app is a black-box testing to ensure that the app is easy to understand and use.
a) Usability testing b) Performance testing
c) Network testing d) Security testing

84. _____ ensures that the app is fortified from common app security vulnerabilities.
a) Usability testing b) Performance testing
c) Network testing d) Security testing

85. What is the first step for publishing the apps.
a) Decide pricing model b) Sanitize the apps.
c) Create promotional material. d) Revisit app manifest

86. _____ requires setting the version and specifying the API requirement of the app.
a) Configuration b) Groundwork c) Packing d) Distribution

87. The version code is used by app update service to send _____ update.
a) Version name b) Version model c) In-the-market d) On-the-air

88. The _____ attribute specifies the lowest platform version of android on which the app can be installed.
a) Target sdk version b) Target wdk version c) Target code version d) Min sdk version

89. In android platform version what is the 8th level of API.
a) Android bada b) Android ice cream sandwich
c) Android froyo d) Android jelly bean

90. What is the correct sequence:
a) Groundwork, packing, configuration, distribution.
b) Groundwork, packing, distribution, configuration
c) Groundwork, configuration, packing, distribution
d) None

91. ----------the app essentially removes the development-time debris.
a) sanitizing b) cross-check c) revisiting d) finalize

92. ----------must be well written and contain all important features of the app
a) legal agreements b) legal files c) artifacts d) description text

93. The ----------is a string that signifies the app version visible to the end user on app stores and devices.
a)versionName b)versionCode c)both a&b d)none of these

94. IOS stands for _____
a. ipen operating system b. iphone open system
c. iphone operating system d. ipen open system

95. To distribute an app online,it has to be signed by the----------to ensure its authenticity.
a)developer b)organization c)developer/organization d)none of these

96. A----------choose to publish the app.
a)user b)developer c)organization d) developer/organization

97. App stores support ----------of apps in paid pricing model.
a) direct monetization b) indirect monetization
c) both a&b d) none of these

98. The----------attribute specifies the API version on which the app was implemented and tested.
a)min sdk version b)target sdk version c)version code d)version name

99. ----------is variation of stop motion consisting of the animation of photographs and other non drawn flat visual graphic material.
a)cel animation b)graphic animation c)direct manipulation animation d)all of these

100. Android provides ---------- API to implement telephony related functionalities.
a)sms manager b)telephony manager c)both a&b d)none of these

*****

SL.NO:1246 **SUBJECT CODE:17CSES06**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

PROGRAMMING IN C

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Recall the various types of operators in C.

2 List out the different types of mathematical functions in C.

3 List out the various types function available in C.

4 Name the types of storage classes.

5 Write down the syntax of if statement.

6 Differentiate between break and continue statement.

7 Define a structure.

8 Show the difference between Structure from Array.

9 Tell about dynamic memory allocation.

10 Show, how to open a file in C.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Briefly explain about the different types of looping statements.

OR

b. Using while loop write C program to check the given integer value is ‘odd’ or ‘even’.

12 a. Write a C program, to print first 10 natural numbers using while loop.

OR

b. Using arrays, write a C program to calculate average of 20 integer numbers.

13 a. State the difference between structure and union. Write a program to implement the concept of structures?

OR

b. Define a structure variable book which contains elements of name, price and pages in the data type of char, float and int respectively. Write C program to create a list of records.

P.T.O

14 a. Write a C program to copy the contents of one file into another file.

OR

b. Discuss the structure of C program with an example program

15 a. Discuss about the constants, expressions and statements in 'C'.

OR

b. Explain Relational operators with suitable example.

16 a. Briefly explain Single character input/output functions:- getch( ), getchar( ), getche( ) and putchar( ).

OR

b. Explain about the String Arrays and its manipulation in detail.

17 a. Discuss about user defined function? Give an example program in C

OR

b. Explain in detail about Pass by Value and Pass by reference.

18 a. Discuss about the following
i) Call by value. ii) Call by reference.

OR

b. Discuss about C pre-processors directives in detail.

Answer ALL questions
PART-C (2 x 15 = 30)

19 a. Write a C program
A) To find the sum of 5 numbers. B) To find the simple interest.

OR

b. Write C program to create student record by using structures?

20 a. Discuss the types of storage classes with an example program.

OR

b. Discuss the following:-
a) malloc() . b) malloc() . c) free() . d) realloc().

*****

SL.NO:1245 **SUBJECT CODE:17CSCC11**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

COMPILER DESIGN

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Illustrate the DAG for a:=b*-c+b*-c

2 List out the different phases of a compiler?

3 Define assembler.

4 Define top down parsing.

5 Discuss about terminal with example

6 Define code generations

7 Name the techniques used in Loop optimization.

8 Explain phrase level error recovery?

9 Differentiate star closure & positive closure.

10 Discuss about heap allocation

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Determine and Check whether the following grammar is a LL (1) grammar.
S->iEtS/iEtSeS/a
E->b

OR

b. Demonstrate syntax tree and postfix notation for the following expression (a+(b*c))↑d-e/(f+g)

12 a. Demonstrate the DAG for the following basic block
d=b*c
e=a+b
b=b*c
a=e-d

OR

b. Explain about lexical analysis with example.

P.T.O

13 a. Discuss about the following
   a. Transition diagram for identifier
   b. Transition diagram for relational operators

OR

b. Explain in detail about various cousins of compiler and list out various types of compilers.

14 a. Explain about context free grammar

OR

b. Explain in detail about LR(k) parser.

15 a. Explain in detail about intermediate code representations.

OR

b. Discuss about the following
   1. flow of control optimizations
   2. Algebraic simplification
   3. Redundant instruction elimination
   4. Reduction in strength

16 a. Explain about peephole optimization.

OR

b. Explain in detail about basic types of error

17 a. Explain the classification of compiler time error and runtime error

OR

b. Explain about a non recursive predictive parsing

18 a. Explain in detail about three address codes.

OR

b. Explain in detail about syntax error and semantic error

Answer ALL questions
PART-C (2 x 15 = 30)

19 a. Explain in detail about intermediate code generation. Implement the stages to convert the source no intermediate code?

OR

b. Explain in detail about various compiler construction tools and functions of Lexical analyzer.

20 a. Explain in detail about code optimization.

OR

b. Explain in detail about LR parser

*****

SL.NO:1235 **SUBJECT CODE:17CSCC10**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

OBJECT ORIENTED ANALYSIS AND DESIGN

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	Recall what is Aggregation?
2	Illustrate a Sequence diagram with an example.
3	Show how to choose Initial Domain Object?
4	Show what is Responsibility Driven Design?
5	List the three strategies to find Conceptual Classes.
6	Determine how to name in association in UML?
7	Recite Define logical architecture.
8	Identify UML Operations.
9	Define Implementation model.
10	Show the guidelines for contract.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Use an example to explain UML Package diagram

OR

b. Infer on Object diagram in terms of i) Definition ii) Notations iii) Uses iv) Steps to draw Object diagram

12 a. Analyse various types of relationships in UML Modelling

OR

b. Explain Information Expert with an example.

13 a. Demonstrate Low Coupling with an example.

OR

b. Brief Outline on Adapter Pattern with a diagram.

14 a. Generate a design pattern with a Singleton Pattern concept.

OR

b. Paraphrase on methods to find Association using Common Association List.

p.t.o

15 a. Illustrate i) Class Hierarchies ii) Subclass – Conformance with a neat diagram

OR

b. Brief outline on i) Guidelines for identifying composition ii) Benefits of showing composition

16 a. Summarize on Logical Architecture and Package diagram in detail.

OR

b. Demonstrate how i) Reply/Return representation in Sequence diagram ii) new instance representation in Sequence diagram.

17 a. Infer an example on how interaction diagrams are used to model the dynamic aspects of a system.

OR

b. Evaluate the relationship between interaction and class diagrams.

18 a. Analyse the implications of i) Inheritance in OO testing ii) Polymorphism in OO Testing iii) Composition and Encapsulation

OR

b. Evaluate the merits and demerits of a) Methods as Units & Classes as Units in OO Testing b) Issues with OO Testing

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Explain about Use Case diagram in terms of i) Definition ii) Steps to draw Use Case diagram iii) Applications of Use Case diagram

OR

b. Examine behavioral pattern with diagram.

20 a. Summarize on Inter Layer and Intra package diagram

OR

b. Create a neat diagram for the concept of Class Testing

*****

SL.NO:1235

SL.NO:1224 **SUBJECT CODE:17CSEC19**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

ELECTIVE - MOBILE COMPUTING

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Classify Multicast Routing Protocols.

2 What are the two important functions to be executed for call setup in a PLMN?

3 Which one do you think is the most efficient and why?

4 Derive an expression for the error in the measured location of a node due to the errors in the measured range.

5 List the Advantages and disadvantages of Infrared WLAN technology

6 Express the role of DNS address in DHCP.

7 State Shannon theorem.

8 Describe about MAC Protocol.

9 What are the goals of Hiper LAN?

10 Give the role of agent solicitation message. When it is used?

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. What are the various WLAN Standards and Compare them

OR

b. Explain the use of a Mobile Node and corresponding node.

12 a. Explain the various taxonomy of MAC protocols in detail.

OR

b. Explain in detail about the motivation for specialized MAC.

13 a. Explain the following:
(i) Random Assignment Schemes
(ii) Reservation-based schemes

OR

b.
Derive a lower bound on the bandwidth requirement for assigning channels in a cellular mobile network with a single demand on each of the constituent nodes of the network.

(p.t.o)

14 a. Describe a method by which the CAP with non-homogeneous demand can be partitioned into a sequence of smaller sub problems where each sub problem has a homogeneous demand from a subset of nodes of the network.

OR

b. Suppose Algorithm A can solve the CAP with the homogeneous demand of a single channel. Describe an algorithm to solve the CAP with non-homogeneous demands by using Algorithm A.

15 a. Describe an algorithm for range estimation of a mobile node and also compute the time complexity of your algorithm.

OR

b. Explain the physical layer functionalities of WLAN

16 a. Explain the MAC Management Sublayer of IEEE 802.11 standard or explain how

OR

b. Demonstrate the operation of DHCP with a neat diagram and explain its protocol architecture.

17 a. Generalize the working mechanism of Agent discovery.

OR

b. Explain path loss and fading in detail.

18 a. Explain the design issues in adhoc network?

OR

b. List and explain the issues in designing a MAC protocol for ad hoc wireless networks.

Answer ALL questions
PART-C (2 x 15 = 30)

19 a. Analyze the challenges and functions of wireless transmission.

OR

b. Interpret the two MAC sublayers defined by IEEE 802.11 standard and explain

20 a. Classify and explain adhoc wireless network based on routing topology

OR

b. Describe Route optimization in detail.

*****

SL.NO:1204 **SUBJECT CODE:17CSCC14**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEMS

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	Mention the steps for constructive induction algorithm.
2	Define Artificial Intelligence
3	What are the phases involved in designing a problem solving agent?
4	Define iterative deepening search.
5	Define Propositional Logic.
6	Define Unification.
7	Define Prior Probability.
8	Define Explanation-Based Learning.
9	How Information Retrieval system can be characterized?
10	Differentiate ‘bottom-up parsing’ and ‘top-down parsing’.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Illustrate the concept of the Bayesian learning and its example.

OR

b. List the PEAS for the following Agent Types with table.

12 a. What are the constraints to be considered while implementing an Information Retrieval system? Explain in detail

OR

b. Describe about the history of AI.

13 a. Explain the various environment types and its properties?

OR

b. Explain in detail about Hill-climbing search

14 a. Briefly Explain about the Greedy best-first search.

OR

b. Explain the Iterative deepening depth-first search and Bidirectional search.

p.t.o

15 a. Explain about the syntax and semantics used for first order logic.

OR

b. Explain briefly about the backward chaining with example?

16 a. Discuss in detail Mental Events and objects with example

OR

b. Describe about the concept of Resolution

17 a. Describe about the various approaches in ILP and its uses.

OR

b. Explain about the fundamentals of language in detail.

18 a. Explain Probabilistic context free grammar in detail with example

OR

b. Explain Information extraction with example

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Explain in detail dynamic Bayesian networks with example.

OR

b. Briefly Explain about the eight queens problem and toy problem.

20 a. Explain about the types of Quantifiers.

OR

b. Explain the concept of Learning probabilities for machine translation with example

*****

SL.NO:1198 **SUBJECT CODE:17CSCC15**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

C# AND .NET APPLICATION DEVELOPMENT

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Show how to create the proxy.
2 Identify the differences between the C# and java.
3 List the restrictions of static methods.
4 Recall an event.
5 Recall Break mode.
6 List out the ways of killing threads.
7 Tell about normalization.
8 List the advantages of ADO.NET model.
9 Tell about web form life cycle.
10 Discuss about C# server socket.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Show how does an array of ArrayList class differ from an array of Array class?

OR

b. Use a C# program to demonstrate the List concept.

12 a. Use a C# program to show XML file manipulation in C#.

OR

b. Using a diagram to compare connected and disconnected modes of ADO.Net

13 a. Define validation control in ASP.Net.

OR

b. Demonstrate how to use AJAX in ASP .NET?Explain with suitable examples.

14 a. Discuss the characteristics of C#.

OR

b. Restate CLR activities for executing a program.

15 a. Describe the architecture of .NET frame work . p.t.o

OR

b. Explain C# modifier/keyword
i)New ,ii)Static,iii) Virtual,iv)abstract,v)override,vi)sealed,vii)Extern

16 a. Explain the Collections in C# with suitable examples.

OR

b. Discuss about read, write, modify, delete elements in C# list.

17 a. Restate about Tracing and events in C# with suitable examples

OR

b. Paraphrase on Connection and Command object in ADO.Net.

18 a. Describe the importance of web.config and global.asax files.

OR

b. Define Authentication and explain all the authentication modes?

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Use a C# program to implements class, objects, reference and parameter in a single program

OR

b. Use a C# program to explain static and non-static method using Threadstart class

20 a. Summarize in detail about
i) C# thread life cycle
ii)Thread classes and methods (any 6)
iii) Example program

OR

b. Paraphrase on the following:
i) Describe in detail about various operators available in C#.
ii) Explain with example structures and enumerations.

*****

SL.NO:1198

SL.NO:1189 **SUBJECT CODE:17CSCC04**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

COMPUTER ARCHITECTURE

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Define Computer Hardware.
2 List any three standard I/O interface.
3 List the types of microinstructions available.
4 Recite the role of cache memory in pipeline.
5 List the classification of the Optical Media.
6 Define asynchronous bus.
7 Define parallel processing.
8 Define coarse grained multithreading.
9 Discuss how data hazard can be prevented in pipelining
10 Discuss DMA.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Classify the memory hierarchy in terms of speed, size and cost.

OR

b. Show with a neat sketch, explain about the MAR, MDR, and the connection between the processor and the memory.

12 a. Show I/O processors and Bus arbitration techniques.

OR

b. Discuss about Assembly language – Assembler directives, Mnemonics, Basic I/O operations

13 a. Discuss about the various generations of Computer.

OR

b. Describe in detail about the Hardware control unit

14 a. Paraphrase on the different wired controllers.

OR

b. Interpret on special registers in a typical computer? Explain the purposes in detail.

p.t.o

15 a. Discuss with a neat diagram the internal organization of bit cells in a memory chip.

OR

b. Restate in detail about associative memory.

16 a. Explain about Synchronous DRAM technology in detail.

OR

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

17 a. Interpret in detail about Programmed I/O and interrupts.

OR

b. Discuss the instruction level parallelism.

18 a. Discuss the concept of cache coherence, describe the MESI protocol.

OR

b. Explain about
a. Super pipelining b. pipelining c. pipeline throughput
d. Interleaved memory

Answer ALL questions
PART-C (2 x 15 = 30)

19 a. Consider a magnetic disk drive with 8 surfaces, 512 tracks per surface, and 64 sectors per track. Sector size is 1 KB. The average seek time is 8 ms, the track-to-track access time is 1.5 ms, and the drive rotates at 3600 rpm. Successive tracks in a cylinder can be read without head movement.
a. Calculate the disk capacity?
b. Solve the average access time? Assume this file is stored in successive sectors and tracks of successive cylinders, starting at sector 0, track 0, of cylinder.
c. Examine the time required to transfer a 5-MB file.
d. Determine the burst transfer rate?

OR

b. Explain the various Instruction types.

20 a. Your ALU can add its two input registers, and it can logically complement the bits of either input register, but it cannot subtract. Numbers are to be stored in two's complement representation. Summarize the micro-operations your control unit must perform to cause a subtraction.

OR

b. Discuss the design of a typical input or output interface

*****

SL.NO:1176 **SUBJECT CODE:17CSCC17**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

CYBER SECURITY

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 State the concepts behind windows token.

2 What is DDOS attack?

3 What is SQL injection attack?

4 What is reflective DLL Injection?

5 What is format string vulnerabilities

6 State about windows Security Principles.

7 What is cross site scripting?

8 What is Hypervisor?

9 State the types of root kits.

10 Write about DNS amplification attack.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Discuss about the following:i) Packet filtering firewalls.ii) Application gateway firewalls

OR

b. Give in detail about various fraud techniques.

12 a. Discuss in detail about various security problems in social Engineering.

OR

b. Explain Public Key Encryption Model

13 a. Define attack. Discuss major types of attacks.

OR

b. Discuss in details about ant forensics.

14 a. What is SQL injection attack? How to prevent it.

OR

b. Explain DLL Injection Technique in detail.

P.T.O

15 a. Discuss in detail about rootkits.

OR

b. Explain the types of IDPS with a neat diagram.

16 a. Give a detailed description about firewalls and its types with diagrams.

OR

b. Discuss why attackers use proxies and elaborate about the various types of proxies.

17 a. Discuss about a) Dictionary attack b) Brute force attack

OR

b. What are the features involved in DNS amplification attack?

18 a. Explain self replication malicious code.

OR

b. List the types of attacks in cryptosystems with detailed descriptions.

Answer ALL questions
PART-C (2 x 15 = 30)

19 a. Compare different types of Firewalls

OR

b. Compare the IDPS types

20 a. Explain the tools used for steganography

OR

b. Explain the various types of bit coin attacks.

*****

SL.NO:1176

SL.NO:1170 **SUBJECT CODE:17MBHS04**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMMON TO BTE,EEE,PHARMA , CSE & MECH

TOTAL QUALITY MANAGEMENT

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 List down the any four advantages of fish-bone diagram.

2 Why is FMEA important?

3 Mention any four features of check sheet.

4 State the responsibilities of Management Representative for implementing quality systems.

5 List any four characteristics of a quality policy statement.

6 Define the term “parameter” in statistics.

7 Define the term maintenance.

8 Define the term “PDSA”.

9 Write short notes on product benchmarking.

10 Give a note on environmental policy.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Explain the roles and responsibility of quality council & senior management for implementing quality in an organisation.

OR

b. Outline the benefits and pitfalls of benchmarking.

12 a. Explain, in what way, the concept of ISO 14000 differs from ISO 9000 series of quality system.

OR

b. Discuss in detail about the dimensions of quality with your own example.

13 a. Enumerate the cost of quality and discuss its components in detail with respect to the service based industry.

OR

b. Discuss the important elements to achieve customer/supplier partnering relationship.

P.T.O

14 a. Write notes on:

(a) Differentiate matrix diagram and matrix data analysis diagram.

(b) Differentiate tree diagram and decision tree diagram.

OR

b. The following table shows the number of point defects on the surface of a bus body on August 2019.

Body No.	No. of defects		Body No.	No. of defects
1	13		11	17
2	15		12	11
3	19		13	7
4	8		14	11
5	6		15	14
6	17		16	6
7	7		17	16
8	9		18	10
9	3		19	2
10	23		20	6

a) Compute the value of $\overline{C}$ and its control limits.

b) Draw C – chart

c) Compute value of $\overline{C}$ and control limits for the future use, if you deem it necessary.

15 a. Describe the term quality statements with suitable illustrations for service organisation.

OR

b. Is customer complaint necessary for an Organization? If yes, list the various tools used for collecting customer complaints.

16 a. Is quality management an issue only for management? Do you agree or not. Justify your answer.

OR

b. Describe the Trilogy Cycle of Joseph Juran with neat diagram.

17 a. Define quality audit. enlighten the features and types of quality audit

OR

b. What is meant by Operating Characteristics (OC) Curve? Explain it with the neat diagram.

P.T.O

18 a. Summarize the advantages and limitations of benchmarking.

OR

b. What are the objectives of implementing TPM? Also describe in detail the concept of TPM.

Answer ALL questions
PART-C (2 x 15 = 30)

19 a. Describe seven new tools of quality management with neat diagram of each.

OR

b. Elaborate the Japanese 5S concept as applicable to services and manufacturing company.

20 a. Write the step by step procedure for implementing FMEA of a product.

OR

b. Describe the various elements of ISO 9000 systems.

*****

SL.NO:1170

SL.NO:1165 **SUBJECT CODE:17MABS01**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
HUMANITIES & SCIENCES

ENGINEERING MATHEMATICS

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Obtain the characteristic equation of $\begin{pmatrix} 2 & -3 & 1 \\ 3 & 1 & 3 \\ -5 & 2 & -4 \end{pmatrix}$

2 Define orthogonal matrices.

3 Define evolute.

4 Find the centre of curvature of the curve $y = x^2$ at the origin.

5 If $u = x^2y^3$ where $x = \log t$ and $y = e^t$ Find $\frac{du}{dt}$

6 Examine the maximum and minimum values of $3x^2 - y^2 + x^3$

7 Integrate $\int_0^1 \int_1^2 x(x+y)dydx.$

8 Integrate $\int_0^{\pi/2} \int_0^{\pi/2} \sin(\theta+\phi)d\theta d\phi$

9 Prove that $\nabla\left(r^n\right) = nr^{n-2}\vec{r}$

10 State Stoke's theorem

(p.t.o)

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Find the Eigen values and Eigenvectors of the matrix $\begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 1 \\ 0 & 1 & 1 \end{pmatrix}$.

OR

b. Obtain the Eigen values and Eigenvector of the matrix $\begin{pmatrix} -2 & 2 & -3 \\ 2 & 1 & -6 \\ -1 & -2 & 0 \end{pmatrix}$

12 a. Obtain the equation to the circle of curvature of the curve $xy = c^2$ at (c, c).

OR

b. Prove that the radius of curvature at any point of the cycloid $x = a(\theta + \sin\theta); y = a(1 - \cos\theta)$ is $4a\cos\frac{\theta}{2}$

13 a. Find the maximum and minimum values of the function $x^3y^2(1-x-y)$

OR

b. (i) If $u = \sin^{-1}\frac{x}{y} + \tan^{-1}\frac{x}{y}$, then find the value of $x\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y}$

(ii) Find $\frac{du}{dt}$ as a total derivative and verify the result by the direct substitution of $u = x^2 + y^2 + z^2$ when $x = e^{2t}, y = e^{2t}\cos 3t$, and $z = e^{2t}\sin 3t$

14 a. Integrate $\int_0^a \int_0^{\sqrt{a^2-x^2}} \int_0^{\sqrt{a^2-x^2-y^2}} \frac{dz\,dy\,dx}{\sqrt{a^2-x^2-y^2-z^2}}$

OR

b. Obtain the area enclosed by the parabola $y^2 = 4ax$, $x-$axis and the latus rectum of the parabola.

15 a. If $\vec{F} = x^2\vec{i} + xy\vec{j}$ evaluate $\int \vec{F}.d\vec{r}$ from (0, 0) to (1, 1) along the line y=x

OR

b. Obtain the values of a and b so that the surfaces $ax^3 - by^2z = (a+3)x^2$ and $4x^2y - z^3 = 11$ may cut orthogonally at $(2,-1,-3)$

16 a. Find the volume bounded by the cylinder $x^2 + y^2 = 4$ and the planes $y + z = 4$ and $z = 0$.

OR

b. For the given curve $x = a\cos\theta, y = b\sin\theta$ Find ρ at $\left(\frac{a}{\sqrt{2}}, \frac{b}{\sqrt{2}}\right)$

17 a. Obtain the equation to the circle of curvature of the curve $xy = c^2$ at (c, c).

OR

b. Prove that the radius of curvature at any point of the cycloid $x = a(\theta + \sin\theta); y = a(1-\cos\theta)$ is $4a\cos\frac{\theta}{2}$

18 a. Prove that $\nabla^2(r^n) = n(n+1)r^{n-2}$ where $\vec{r} = x\vec{i} + y\vec{j} + z\vec{k}$ and $r = |\vec{r}|$

OR

b. For the curve $x^3 + y^3 = 2$ find the co-ordinates of the centre of curvature at the point (1, 1)

Answer ALL questions
PART-C (2 x 15 = 30)

19 a. Diagonalise the matrix $A = \begin{bmatrix} 1 & 1 & 3 \\ 1 & 5 & 1 \\ 3 & 1 & 1 \end{bmatrix}$ and hence find A^5

OR

b. Obtain the equation of the evolute of the curve $x^{2/3} + y^{2/3} = a^{2/3}$

20 a. Determine the value of $\int_0^1 \int_0^{x^2} (x^2 + y^2)\, dydx$

OR

b. Change the order of integration in $\int_0^a \int_y^a \frac{x^2}{\sqrt{x^2 + y^2}} dxdy$ and then evaluate it.

*****

SL.NO:1165

SL.NO:1156 **SUBJECT CODE:17CSCC13**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

DATA WAREHOUSING AND DATA MINING

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	Define fact table.
2	Define OLTP.
3	Define frequent itemset.
4	Describe the different classifications of Association rule mining.
5	Describe Tree pruning methods.
6	What are facts?
7	What is a scatter plot?
8	How is association rules mined from large databases?
9	Define DB Minier.
10	State text indexing techniques

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Explain the architecture of data mining system.

OR

b. Explain the major issues in data mining.

12 a. Explain analytical characterization in detail.

OR

b. Explain class comparison methods in detail.

13 a. Explain data mining query language in detail.

OR

b. List out the difference between OLTP and OLAP.

14 a. Explain mining Multi-dimensional Boolean association rules from transactional databases.

OR

b. Explain apriori algorithm.

p.t.o

15 a. Discuss the approaches foe mining multi-level and multi-dimensional association rules from the transactional databases. Give relevant example.

OR

b. Explain the issues regarding classification and prediction.

16 a. Explain Bayesian classification.

OR

b. Explain the mining of time series and sequence data.

17 a. Explain spatial data mining techniques.

OR

b. i) Generalize the Bayes theorem of posterior probability and explain the working of a Bayesian classifier with an example.
Formulate rule based classification techniques.

18 a. Write and explain the algorithm for mining frequent item sets with candidate generation. Give relevant example.

OR

b. Write down and explain some applications of data mining.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. (i).Explain the steps in building a datawarehouse.
(ii).Analyze the information needed to support DBMS schemas for Decision support.

OR

b. Explain the Model-based method of clustering?

20 a. Diagrammatically illustrate and discuss the following preprocessing techniques:
(i) Data cleaning (ii) Data Integration
(iii) Data transformation (iv) Data reduction

OR

b. (i).Describe the steps involved in Knowledge discovery in databases(KDD).
(ii).Draw the diagram and Describe the architecture of data mining system.

*****

SL.NO:1143 **SUBJECT CODE:17CSSE06**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

ELECTIVE - ETHICAL HACKING

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	How to block content on the interest?
2	Define hard hat hacker.
3	Write down the types of hacking?
4	Define passive information gathering
5	What do you mean by banner grabbing?
6	What is website watcher?
7	What do you mean TCP
8	Define mobile hacking.
9	State hacking law?
10	Explain the penetration testing service level agreements.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Conclude advantages, disadvantages and purpose of Ethical hacking

OR

b. Why you need ARP Poisoning? Explain in detail about ARP Poisoning

12 a. What is Rainbow attack? How is it carried out? Explain.

OR

b. Demonstrate Honeypot setup in clear manner

13 a. Discuss in detail about DOS Attack

OR

b. Examine in detail about SQL Mapping

14 a. Focus the significant of Botnets

OR

P.T.O

b. What is penetration testing? Do you judge why it is required?

15 a. What is network security assessment?

OR

b. Differentiate Ethical hacking and non Ethical hacking

16 a. What are the different techniques to crack passwords? Explain.

OR

b. Explain Ethical Hacking Enumeration

17 a. How can DNS domain names, IP address information and enumerating information about hosts on publicly available networks be used for penetration testing?

OR

b. Point out the phases of penetration testing and discuss in clear manner

18 a. Explain in detail the post attack phase of penetration testing.

OR

b. Explain wireless assessment and testing.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Write a notes on web applications technology?

OR

b. What is net stumbler? How do you locate the unsecured wireless using net stumbler/ mini-stumbler?

20 a. Describe how to use social media to build personal profile

OR

b. Explain in detail about TCP-IP Hijacking

*****

SL.NO:1143

SL.NO:1142 **SUBJECT CODE:17CSEC09**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

ELECTIVE - ETHICAL HACKING

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Differentiate Ethical hacking with non ethical hacking

2 What is IP and MAC address?

3 List out the reason for having so many Security Issues

4 What is meant by IP spoofing?

5 Write about the concept of unblocking applications.

6 Write the impacts of web server attacks.

7 List out Snipping tools

8 What is DNS poisoning?

9 Write a note on firewall Engineering

10 Define Caching

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. What is the reason for having so many security issues

OR

b. What is ARP Spoofing? Explain the working functionalities of ARP Spoofing

12 a. How is denial of service simulated?

OR

b. Discuss the overview of Ethical hacking

13 a. What are the pre-requisites for system hacking? What are the steps for hacking a system? Explain in detail.

OR

b. What is salting? Note the uses of salting and explain that.

P.T.O

14 a. Mention the use of Brute Force Attack and express in details.

OR

b. What is application security assessment? Explain.

15 a. Illustrate insertion attack?

OR

b. Explain in detail the motivation behind Ethical Hacking

16 a. Associate the different type of Ethical hacking projects

OR

b. Explain Ethical Hacking Enumeration

17 a. Mention the use of Brute Force Attack and express in details.

OR

b. Explain in about attacking applications logic?

18 a. Explain packet filtering firewall and proxy server firewall.

OR

b. Illustrate penetration testing of network filtering devices.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Distinguish and explain briefly about wireless network sniffing and spoofing.

OR

b. What are different types of firewalls? Explain in detail.

20 a. Describe Ethical hacking Terminologies

OR

b. Explain in detail about DNS poisoning in detail?

*****

SL.NO:1124 **SUBJECT CODE:17CSCC09**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

JAVA PROGRAMMING

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 State the advantages of Inheritance.
2 Differentiate between method overloading and method overriding.
3 List out the various types of streams present in java.
4 Explain different way of using thread.
5 Define Abstraction.
6 How is Java more secured than other languages?
7 Write down the significance of Java Byte Array Output Stream Class.
8 List out various types of event handling classes in java.
9 Write down the function of Java JCheckBox.
10 How can we create a thread?

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. What is dynamic binding? Explain with example program.

OR

b. Write a java program to find the largest number in an array.

12 a. Write a Java program to implement the concept of parameterized constructor.

OR

b. What do you mean by immutable string in java. Explain with an example program.

13 a. Write a Java program to move an object from one place to other by using graphics class in applets.

OR

b. Write a Java program using Frames to display the Menu list includes different subject options.

14 a. Construct menu list using AWT Button Class with ActionListener( ).

OR

b. Wrtie a java program using swing to select the food items in an menu by using JCheckBox.

p.t.o

15 a. With a neat diagram explain the thread states.

OR

b. Write a program to establish UDP connection for dending and receiving datagram.

16 a. Define constructor. How objects are constructed?

OR

b. Explain the concept of arrays in Java with an example program.

17 a. Write short notes on:-
a) inner class b) anonymous class

OR

b. Explain with an example program to try, throw and catch block in exception handling.

18 a. Write short notes on the following:
a) JTable class b) JTextArea class c) JButton class d) JLabel

OR

b. Write short notes on
a) Executors b) Synchronizers

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Write a java program to sort an array and to search an element in an array.

OR

b. Explain about layout management available in Java with an example program.

20 a. Write Short notes on:-
a) Data Abstraction b) Data Encapsulation c) Inheritance d) Polymorphism

OR

b. Explain in detail about the Model-View-Controller design pattern

*****

SL.NO:1119 **SUBJECT CODE:17PHBS05**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMMON TO ALL

SMART MATERIALS

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Demonstrate, how the Metallic glasses can be used for transformer core materials?

2 Explain briefly about transformation temperature in SMA.

3 Distinguish between Type I and Type II Superconductors.

4 Interpret unit cell.

5 Demonstrate top-down and bottom-up approach for producing nanoparticles.

6 Interpret any two techniques for the synthesis of nanophase materials.

7 Explain briefly about top-down approach.

8 Describe coercivity and retentivity.

9 Explain briefly about soft magnetic materials.

10 Identify the reason, why the superconductor exhibits the property of diamagnetism?

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Categorize metallic glasses? Give examples. Mention the properties of metallic glasses.

OR

b. Draw the unit cells of SC, BCC, FCC and HCP structures

12 a. Examine the effects of temperature, magnetic field and current on the superconductivity.

OR

b. Schedule the following for SC, BCC, FCC and HCP structures

13 a. Explain the properties of diamagnetic materials with neat diagram.

OR

b. Explain two characteristics of SMA with neat diagrams.

14 a. Explain the properties of Ni-Ti alloy.

p.t.o

OR

b. Express the outline of magnetic and electrical properties of metallic glasses. Mention any two applications of metallic glasses.

15 a. Describe the following (i) unit cell (ii) coordination number (iii) nearest neighbour distance (iv) packing factor

OR

b. Explain the advantages, disadvantages and applications of ball milling method.

16 a. Explain Carbon Nano Tubes? How are they classified? Explain.

OR

b. Explain in detail about any one of the methods of fabrication of CNT.

17 a. Differentiate the properties of dia, para and ferromagnetic materials

OR

b. Discuss the properties of superconductors.

18 a. Describe about Type – I super conductor. Write down its characteristics.

OR

b. Discuss Isotope Effect and Meissner effect.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Categorize hard and soft magnetic materials? Mention their applications.

OR

b. Generalize the properties of metallic glasses.

20 a. Illustrate sol-gel method of preparing nanophase materials and mention its advantages.

OR

b. Illustrate hysteresis on the basis of domain theory.

*****

S.No.1118 **SUB CODE:17PCBS02**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E.DEGREE EXAMINATIONS- FEB - 2022
COMMON TO ALL
PHYSICAL SCIENCES

(Candidates admitted under 2017 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 Tell about population inversion.
2 Schedule any two applications of laser in industrial field.
3 Report about step index fiber.
4 Tell about the characteristics of graded index multimode fiber.
5 Interpret about X-ray Fluoroscopy.

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. Recognize the following terms: population inversion, pumping process and laser action.

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

OR

b. Express the characteristics of penetrant.

Answer ALL questions

PART-C (1 x 16 = 16)

8 a. Demonstrate the construction and working of semiconductor laser with necessary diagram.

OR

b. Illustrate the working of X-ray radiography.

*****

P.T.O

PART A - ENGINEERING CHEMISTRY

(Candidates admitted under 2017 Regulations-SCBCS)

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

Answer **ALL** questions

Part-A (5 x 2 =10 Marks)

1 Brief the terms electrolytic and electrochemical cell.
2 What is helmholtz's electrical double layer?
3 Show the structure of EDTA and Ca-EDTA complex.
4 Mention the causes of boiler corrosion
5 Write a note on solar energy

Answer **Any FIVE** questions

Part-B (2 x12 =24 Marks)

6 a. Explain standard electrode potential in detail.

OR

b. Calculate the emf of the cell Mg/Mg^{2+} $//Cd^{2+}$ (aq) /Cd(s) at 25^0C where, $[Cd^{2+}]$=0.7M, $[Mg^{2+}]$ =1.0M and E^0cell =1.97 V.

7 a. Discuss in detail dry corrosion with mechanism.

OR

b. Describe producer gas in detail.

Answer ALL questions

PART-C (1 x 16 = 16)

8 a. Explain the working principle of H_2-O_2 fuel cell with reactions.

OR

b. Elaborate the non-conventional energy sources.

*****

S.No.1118

SL.NO: 1113 **SUBJECT CODE:17CSCC05**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

SOFTWARE ENGINEERING

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Examine the common activities in design process?
2 Recite software process
3 Show the diagram of Software Engineering layers.
4 Identify the drawbacks of spiral model?
5 List out the commonly used architectural styles.
6 Tell about the contents of HIPO diagrams.
7 Show how do we define Software Quality?
8 List out the tasks of SCM?
9 Recall Base line criteria in SCM?
10 Explain the attributes of a “good “test?

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Examine with a neat diagram for: a) packing robot control system b) CASE toolset architecture

OR

b. Use a neat diagram to demonstrate on Change control.

12 a. Tell about the following design concepts
a. Data abstraction b. Refinement
c. Modularity d. Information Hiding

OR

b. Describe the following:
a) Configuration Status Accounting b) Participants of SCM Process

13 a. Tabulate the various SCM Tools.

OR

b. Differentiate between Myths and Reality of Software with examples for each.

(p.t.o)

14 a. Discuss on COCOMO model in detail.

OR

b. Explain with a neat diagram explain about waterfall life cycle model.

15 a. Summarize on make/buy decision in detail

OR

b. Paraphrase on UI design process in detail.

16 a. Restate the multiple variants of Software Design.

OR

b. Discuss about mapping requirements into software architecture

17 a. Discuss about test case design with suitable examples

OR

b. Summarize on ISO 9126 Software Quality Model.

18 a. Explain about major SCM task and it's important.

OR

b. Summarize the following
a. SCM Repository b. SCM Process

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Illustrate a program for determining the Previous date. Its input is a triple of day, month and year with the values in the range
$1 \leq \text{month} \leq 12$
$1 \leq \text{day} \leq 31$
$1900 \leq \text{year} \leq 2025$
The possible outputs would be Previous date or invalid input date. Design the boundary value test cases.

OR

b. Software does not wear out, Explain in detail.

20 a. Draw a DFD for Supermarket Application, specify the entities interacting with the system. Describe the working of the system by mentioning the assumptions made.

OR

b. Discuss the importance of SCM plan

*****

SL.NO: 1113

S.No.1104 SUB.CODE:17CSPI04

VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM
(Deemed to be University)
BE DEGREE EXAMINATION – FEB-2022
Eighth Semester
BUSINESS INTELLIGENCE AND ITS APPLICATIONS

Three Hours Maximum: 100 marks

I. Answer ALL Questions (100 x 1 = 100)

1 What are databases that support OLTP?
A) OLAP
B) OLTP
C) A database
D) An operational database

2 What is the manipulation of information to support decision making?
A) OLAP
B) OLTP
C) A database
D) An operational database

3 What do data warehouses support?
A) OLAP
B) OLTP
C) OLAP and OLTP
D) Operational databases

4 Which data administration function periodically backs up information contained in a database?
A) Concurrency control facilities
B) Reorganization facilities
C) Backup and recovery facilities
D) Security management facilities

5 Which term describes each two-dimensional table or file in the relational model?
A) Database
B) Relational database
C) Data warehouse
D) None of the above

6 16. A data dictionary identifies all of the following, except:
A) Field names
B) Field types
C) Field formats
D) Field values

7 What is a field that uniquely describes each record?
A) Foreign key
B) Primary key
C) Composite key
D) None of the above

(p.t.o)

8 What do integrity constraint rules help you ensure?
A) Quantity of the information
B) Quantity of the data
C) Quality of the information
D) All of the above

9 Which of the following is a data manipulation tool?
A) Report generator
B) Query-by-example tool
C) Structure query language
D) All of the above

10 Which of the following are included in data-mining tools?
A) Query-and-reporting tools
B) Intelligent agents
C) Multidimensional analysis tools
D) All of the above

11 Which data-mining tool helps you apply various mathematical models to the information stored in a data warehouse to discover new information?
A) Intelligent agents
B) Query-and-reporting tools
C) Multidimensional analysis tools
D) None of the above

12 A database that supports OLTP is often called a(n) _____ database.
A) OLTP
B) Operational
C) Production
D) Working

13 Which of the following is a reason that businesses create data warehouses?
A) the necessary information may be located in operational databases but organized in a way not conducive to answering business reports
B) querying operational databases for the information needed by business reports may slow the databases down drastically
C) all of the above

14 We have been given access to the company's operational data, and have been asked to produce a report. We discover that some of the data we need are in an SQL server database while other needed data are in a separate Oracle database. This is an example of _____ .
A) dirty data
B) inconsistent data
C) non-integrated data
D) a "wrong format" problem

15 A goal of data mining includes which of the following?
A) To explain some observed event or condition
B) To confirm that data exists
C) To analyze data for expected relationships
D) To create a new data ware

16 A star schema has what type of relationship between a dimension and fact table?
A) Many-to-many
B) One-to-one
C) One-to-many
D) All of the above.

17 A goal of data mining includes which of the following?
A. To explain some observed event or condition
B. To confirm that data exists
C. To analyze data for expected relationships
D. To create a new data warehouse

18 Data scrubbing is which of the following?
A. A process to reject data from the data warehouse and to create the necessary indexes
B. A process to load the data in the data warehouse and to create the necessary indexes
C. A process to upgrade the quality of data after it is moved into a data warehouse
D. A process to upgrade the quality of data before it is moved into a data warehouse

19 Which of the following are not examples of OLAP?
A) ERP
B) CRM
C) SCM
D) KDD

20 _____ is a common word for anything real about which we want to store data.
a) Entity b) Abstract c) Cardinality d) Categories

21 What are the Types of Data Model ?
a) Conceptual , Logical, Physical
b) Entity, Attribute, Cardinality of Relationship
c) Conceptual, Logical
d) Product, Territory, Category

22 The _____ Model is Designed by identifying the various entities.
a) Physical Model b) Conceptual Model c) Logical Model d) Entity Model

23 Physical data model will be different for different _____.
a) MYSQL b) DB2 c) Oracle d) RDBMS

24 Adding _____ facts does not result in any number.
a) Ratio b) Average c) Factless d) Textual

25 A_____ dimension is a data that is in dimension temperament but is present in a fact table.
a) Four b) Three c) Degenerate d) Multiple

26 A single dimension that is expressed differentially in a fact table with the usage of views is called a _____.
a) Role- playing Dimension b) Multi dimension c) Hybrid Dimension d) Two dimension

(p.t.o)

27 Star Schema consist of a large central table with _____ .
a) Redundancy b) no redundancy c)small redundancy d)Higher redundancy

28 Data scrubbing is which of the following?
a) A process to reject data from the data warehouse and to create the necessary indexes
b) A process to load the data in the data warehouse and to create the necessary indexes
c) A process to upgrade the quality of data after it is moved into a data warehouse
d) A process to upgrade the quality of data before it is moved into a data warehouse

29 The extract process is which of the following?
a) Capturing all of the data contained in various operational systems
b) Capturing a subset of the data contained in various operational systems
c) Capturing all of the data contained in various decision support systems
d) Capturing a subset of the data contained in various decision support systems

30 Business metric are
a) Subject oriented b) concept oriented c) object oriented d) result oriented

31 A snowflake schema is which of the following types of tables?
a) Fact b) Dimension c) Helper d) All of the above

32 Dimensional modeling is intuitive to business uses and delivers _____
a)slow query performance b)good quality c)fast query performance
d)all of the above

33 _____ is a feature of a conceptual data model.
a)it identifies all the attributes for each entity
b)it specifies the foreign key
c)normalization of entities is performed at this stage
d)it does not support the specification of the primary key

34 Entity relationship model makes use of _____ design technique.
a)de-normalization b)third normal form c)one normal form d)two normal form

35 Which is not a salient attribute of a good metric?
a) Unit of measure b)frequency c)priority d)discount

36 The needs of the organization that BI supports in the meetings of SAP are?
A. Reliability and scalability B. Sales and Marketing C. Analytics and Reporting D. Consistency and Reliability

37 The tool which is one of the key strengths of BI solution is to provide a robust front-end that allows users to view and analyze data in a dashboard view is ?
A. ETL tool B. Scalability C. Cloud computing D. Reporting tool

38 In Business Intelligence some typical enterprise resource planning system comprise of ?

39 PaaS stands for ?
A. platform-as a service B. platform –as-a-security C. platform-as-a system
D. None of the above

40 A balanced scorecard is a _____
a) Data marts b) Data metric c)Business performance measurement
d) Business performance method

41 An entity could have _____attributes.
a)single b)multiple c)double d)none

42 Diagrammatic representation of the data and the relationship between different entities is_____
a)dimensional table b)data model c)fact table d)schemas

43 Which may cause the physical data model to be quite different from the logical data model.
a)foreign key b)primary key c)physical consideration d)table specification

44 Entity relationship model makes use of _____ design technique.
a)de-normalization b)third normal form c)one normal form d)two normal form

45 _____is the first step towards building the data warehouse.
a)data model b)fact table c)meta data d)dimensional modeling

46 Measurements are usually _____ called _____
a)numerical values, facts
b)context, facts
c)context, dimension
d)numerical values, dimension

47 Hierarchy attributes consist of different levels which roll up from _____ to _____
a)parent to child b)child to sub child c)child to parent d)parent to parent

48 _____dimensions attributes for a record change slowly over time rather than on a regular basis.
a)rapidly changing dimension b)role playing dimension c)junk dimension d)slowly changing dimension

49 Fast changing dimension can be handled by breaking of a fast changing dimension into one or more separate dimension known as_____
a)slow dimension b)junk dimension c)mini dimension d)degenerate dimension

50 _____is an ideal data model for OLTP(On Line Transaction Process)
a)E-R model b)data model c)meta data model d)dimensional model

51 _____ is a process of selecting a business process for which the dimensional model will be designed.
a)identifying the grain b)requirements gathering c)identifying the dimensions d)designing the dimension model

52 The second phase of the dimensional modeling life cycle is_____
a)requirement gathering b)identify the facts c)identify the dimension d)identify the grain

53 _____is defined as the detailed level of information stored in the table.
a)granularity b)grain c)product d)schema

54 Which features of fact table will help you to identify the fact tables.
a)The fact table will mostly contain numeric and additive value
b)It contains at least two foreign keys
c)It usually comprises vast number of records
d)all the above

(p.t.o)

55 _____consists of a composite set of indicators used to address the overall health of business operation.
a)data b)index c)indicators d)measure

56 Which test is used for ensuring metric relevance to business
a) Smart b) specific c) measurable d) time bound

57 KPIs refers to
a) Knowledge Performance Indicators b) Key Performance Indicators
c) Key Primary Indicator d) Key Perfect Indicator

58 Which indicator reflects the possibility of achieving the target?
a) Lag indicator b) lead indicator c) both a and b d) none

59 Dimension that is shared between more than one fact tables is called
a) Role playing dimension b) junk dimension c) degenerate dimension d) conformed dimension

60 what is the use of enterprise reporting?
A) To provide business transparency and analysis performance
B) To clean data for standardizing rules.
C) To focus to present data in standard format
D) None of the above

61 What are the types of enterprise reporting?
A) Unstructured data reports, structured data reports, semi-structured data reports
B) Schemas, Graph based data models, XML
C) Tabular reports, Matrix reports, List reports, chart reports, Gauge reports
D) None of above

62 dashboards mainly help in
A) better tracking
B) better modelling
C) proactive listening
D) none of these

63 One of the chief benefits of dashboard is _____
1. Accountability
2. Undetected problems
3. Better analysis of performance
A) 1. Only
B) Both 1 & 2
C) Both 1 & 3
D) None of the above

(p.t.o)

64 Types of dashboards
1) Enterprise dashboard
2) Divisional dashboard
3) Customer support dashboard
a) 1)
b) 2)
c) 1,2 and 3
d) None of the above

65 Scorecard commonly use
a) Symbols and icons
b) Facts
c) Hardware
d) None of the above

66 what are the steps required for designing the balanced scorecard
1) clarify and translate vision and strategy
2) communicate and link strategic objectives and measures
3) plan ,set target and align strategic initiatives
4) enhance strategic feedback and learning
a) 1 and 2
b) 1 only
c) All the above
d) None of the above

67 the balanced scorecard is designed to identify _____
a) Financial measures only
b) Non financial measures only
c) Financial and non financial measures
d) None of the above

68 Users of balanced scorecard are _____
a) Managers
b) Executives
c) Clerks
d) None of the above

69 what is KPI?
a) Key planning indicator
b) Key performance index
c) Key performance indicator
d) Key planning index

70 The scorecard include the measures of _____as well as process that will drive the decide outcomes for the future.
a) Decide outcomes
b) Undecided outcomes
c) a and b
d) None of the above

(p.t.o)

71 1) Balanced scorecard clarifies the vision of an organisation
2) Balanced scorecard is a query data
a) First statement True only
b) Second statement True only
c) Both are false
d) Both are true

72 The essence of conversion rate optimization is to get a _____
a) Minority of visitors
b) Majority of visitors
c) Executives
d) None of the above

73 _____ provides business transparency.
a) data metrics
b) query
c) Enterprise reporting
d) None of the above

74 _____ perspective addresses the question of how shareholders view the firm
a) Strategy map
b) Initiatives
c) Scorecard
d) Finance

75 _____is what the organisations do to achieve their targets and thereby their objectives.
a) Strategy map
b) Initiatives
c) Scorecard
d) Finance

76 A balanced scorecard is a _____
b) Data marts
c) Data metric
d) Business performance measurement
e) Business performance method

77 Performance analysis is used for
a) Uncover opportunities in organisation
b) For creation of data metrics
c) Divisional reports
d) None of the above

78 Expand BSC
a) Business security cord
b) Balanced scorecard
c) Backend security card
d) None of above

79 Data of dashboards are _____
a) Summarized
b) Detailed
c) Inconsistent
d) None of the above

80 _____ provides tactical guidance in business
a) Dashboard
b) Scorecard
c) Finance
d) None of the above

81 Ability to stay in contact with others even when travelling or away from office / home?
A. 21x7 connectivity B. 24x17 connectivity C. 12x7 connectivity D. 24x7 connectivity

82 The information is transmitted wirelessly to mobile devices and it also generally involves third –party members in the network, data security is called ?
A. Telecome Security B. Transmission Security C. Technical Security D. Transverse Security

83 The source Data stay on centralized servers rather than on individual mobile devices is called?
A. Data Security B. Data Server C. Device Security D. Device Support

84 The ever –improving data management practices and through new technologies that together comprise what is now called ?
A. SSD B. SDS C. DSS D. DDS

85 The decision initiated by the end – user gives inputs through the mobile device and can ask for information from a central server –based system is called ?
A. push reporting B. Pull reporting C. Push recording D. Pull recording

86 ETL stands for ?
A. Extract Transform Load B. Entity Transmission Load C. Enterprise Transformation Load
D. Extract Transmission Load

87 ROI stands for ?
A. Rights On their Inventory B. Revenue On their Inventory C. Return On their Investment
D. Return Of the Intrest

88 Benifits of using cloud computing are ?
A. cost reduction B. pay per use C. portability D. All the above

89 Daas stands for ?
A. data-as-a-security B. definition -as-a-service C. data-as-a-service D. design –and-a-security

90 Cloud BI provides a lot of data warehousing options to its customers such as Saas,
A. DaaS B. PaaS C. IaaS D. all the above

91 Device maturity, End-user expectation, Connectivity are the three major expectation from the adoption of ?
A. Mobile BI technology B. Cloud computing C. Data security
D. Mobile Device Application

92 Exception and alerts , push reporting ,pull reporting are the three usage models of ?
A. ERP B. MBI C. ETL D. CRM

93 In Business Intelligence some typical enterprise resource planning system comprise of ?
A. Financial Management B. Order Management C. Purchase Management D. All the above

94 Among the vendors SAP was one such vendor which came out with SAP Business Warehouse in the year ?
A. 1997 B. 1991 C. 1987 D.1995

95 MCOS stands for ?
A. Multilevel Component Of System B. Multiple Components One System
C. Multiple Component One Source D. None of the above

96 In the dealing with social customers social CRM requires ?
A. choice and preferences B. conversations and relationship
C. philosophy and business strategy D. Platform and business rules

97 The tool which is one of the key strengths of BI solution is to provide a robust front-end that allows users to view and analyze data in a dashboard view is ?
A. ETL tool B. Scalability C. Cloud computing D.Reporting tool

98 The components of an extended enterprise of BI comprise ?
A. Partners and Investors B. Vendors and Suppliers C. Mobile Access
D. All the above

99 To further enhance the ERP package with BI capabilities ,SAP came up with ?
A. SAP Business Warehouse B. BI solutions C. CRM System
D. ETL tool

100 Give the expansion of SSL is ?
A. Service Sockets Layer B. Secure Security Layer C. System Sockets Layer
D. Secure Sockets Layer

SL.NO:1081 **SUBJECT CODE:17CSCC16**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

CLOUD COMPUTING

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Mention the collaborative features of Facebook.
2 What is a web service?
3 Name the three sizes of virtual services of Amazon.
4 How is contact lists collaborated?
5 What is Google Calendar?
6 How is workflow management done?
7 What is a web based desktop?
8 Write notes on Google talk.
9 How the cost conscious IT departments get benefitted out of cloud?
10 What is yugma?

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Explain briefly about the other cloud service development tools available.

OR

b. Discuss about exploring online scheduling applications.

12 a. Explain about creating groups on social networks in detail.

OR

b. Explain how web mail services are evaluated

13 a. Discuss about the history of cloud computing.

OR

b. Narrate on cloud storage briefly.

14 a. Discuss about the users who benefits out of cloud computing.

OR

b. What is the need for developing web applications? Discuss in detail.

15 a. Discuss about Amazon’s web services.

p.t.o

OR

b. Explain in detail about Google App engine.

16 a. Write brief notes on “Sports team schedules”.

OR

b. Discuss about “Collaborating on budgets”.

17 a. Explain about Collaborating on event management in detail.

OR

b. Discuss about collaborating on contact management.

18 a. Explain about collaborating on groupware in detail.

OR

b. Explain about evaluating blogs for collaboration.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. How centralized storage facilities collaboration and how multiple computers work together, explain with short history

OR

b. Explore in detail about CRM Applications.

20 a. Explain Briefly How do you store and share files in cloud computing.

OR

b. Explain in detail about how a typical family can use cloud-based tools to help and improve the communications between family members.

*****

SL.NO:1074 **SUBJECT CODE:17CSEC43**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

ELE-PROBLEM SOLVING USING COMPUTERS

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	Show an algorithm for raising a number to a larger number.
2	Show that the schematic mechanism for computers addition process.
3	Label any two concepts of fundamental algorithm.
4	Recall array partitioning
5	Tell about keyword
6	Label the decision making and looping statements.
7	Where to initialize pointer variable?
8	Associate an algorithm for smallest divisor of an integer.
9	Discuss about pointer to pointer
10	Explain the types of function

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Categorize the branching and looping statements.

OR

b. Illustrate the use of C program for array of structures.

12 a. Examine the concept involved in implementation of algorithm.

OR

b. Apply the concept of reversing the digits of an integer.

13 a. Demonstrate the problem, algorithm development and algorithm description for two-way merge.

OR

b. Apply an algorithm for sorting by insertion.

14 a. Determine a program to use various relational operators and display their return values.

OR (p.t.o)

b. Experiment with detail about array handling in one dimension & two dimensions.

15 a. Determine a algorithm for longest monotone subsequence.

OR

b. Generate an algorithm for sorting by partitioning.

16 a. Design the String manipulation functions

OR

b. Evaluate a C program for the following a)Constant b)Variables c) Keywords d)Data types

17 a. Assess an set of N students examination marks (in the range 0 to 100) make a count of the numbers of students that obtained each possible marks.(Array counting)

OR

b. Demonstrate the use of computing system.

18 a. Experiment the concept of pseudo random numbers.

OR

b. Identify the operator Precedence.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Analyse a algorithm to compute n factorial (n!) for an integer

OR

b. Demonstrate a C program to explain the concept of structure within structure.

20 a. Measure the linear search and binary search algorithm.

OR

b. Demonstrate the algorithm of design.

*****

SL.NO:1073 **SUBJECT CODE:17CSEC38**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

ELE -INTERNET OF THINGS

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	Difference between Iaas and Paas.
2	Compare product development and automation
3	Define supervisory control and data acquisition.
4	Formulate the various communication protocols used in PLC?
5	Formulate the features of Modbus and give the object types.
6	What is Mobile Cloud Computing?
7	Name the three strategic categories within the IoT ecosystem.
8	Define Semantic Web
9	What are all categories in Wired Networks ?
10	What is meant by RFID?

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11	a.	Briefly Explain Communication Middleware.
		OR
	b.	Differentiate Network layer and APS layer.
12	a.	Evaluate the key features of Communications Models
		OR
	b.	Draw the Cloud of Things Architecture and brief note about it.
13	a.	Define Cloud Providers and Explain briefly about their Systems.
		OR
	b.	What is meant by informational cascades and explain it in details.
14	a.	Explain about Software Agent in Internet of Things.
		OR
	b.	Discuss in detail about Cascading behaviour in Networks.
15	a.	Write detailed note on Population model.

p.t.o

OR

b. Explain in detail about the Smarter Planet and Smart Buildings

16 a. List the Protocol standardization of IoT and give the current status of standardization.

OR

b. Give the importance of BACNet protocol in detail

17 a. Briefly Explain M2M protocols for the Internet of Things.

OR

b. Draw and Explain the Unified Multitier WoT Architecture.

18 a. Briefly explain Integrated Billing Solutions in the Internet of Things

OR

b. Why we need gateway clustering?

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Describe in detail about SCADA protocol with example.

OR

b. Explain in detail about the Data Management.

20 a. Explain the function of Data Validation.

OR

b. What is the need of Network? And Explain in detail the LAN and WAN.

*****

SL.NO:1073

SL.NO:1072 **SUBJECT CODE:17CSCC19**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

INTERNET OF THINGS

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	Define IoT middleware (Internet of Things middleware).
2	Why do we need IoT security?
3	What are the Four pillars of IoT.
4	Compare standardization with innovation in IoT.
5	Formulate the features of Modbus and give the object types.
6	Name some of the Grid middleware.
7	Evaluate the Network Effect in IoT?
8	Define Semantic Web
9	Describe the function of distribution management system.
10	Examine the use of Hadoop in Cloud computing.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11	a.	Explain in detail about Securing the Internet of Things.
		OR
	b.	Draw and Explain in detail about Zigbee Architecture.
12	a.	Draw the Cloud of Things Architecture and brief note about it.
		OR
	b.	Briefly explain Smart Grid.
13	a.	Give the importance of Cloud Standards and its Standardization Efforts.
		OR
	b.	Describe in detail about The Network Effect.
14	a.	Describe 5 reasons to choose synchronisation.
		OR
	b.	Discuss in detail about Cascading behaviour in Networks.
15	a.	Explain briefly about the application Electrical Vehicle Charging.

p.t.o

OR

b. Write a brief notes on Functional requirements of an iot platform

16 a. Describe in detail about Platform Middleware for WoT

OR

b. Explain four Pillars of IoT and how they are inter-connected with each other?.

17 a. Describe the architecture of SCADA and RFID Protocols in detail.

OR

b. List the advantages and disadvantages of Unified data standards.

18 a. Explain the Role of the Internet of Things for Increased Autonomy and Agility in Collaborative Production Environments.

OR

b. Why we need gateway clustering?

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Describe in detail about SCADA protocol with example.

OR

b. What is the difference between a wireless sensor network (WSN) and the Internet of Things(IoT) network?

20 a. Explain the function of Data Validation.

OR

b. How does IoT influence the development of smart cities?

*****

SL.NO:1072

SL.NO:1082 **SUBJECT CODE:17CSEC41**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

ELE -JAVA PROGRAMMING

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 State the difference between superclass and subclass?
2 Differentiate between method overloading and method overriding.
3 State the advantages of using exception handling.
4 What are the different states of a thread?
5 Definr UDP Client and Server.
6 Differentiate between method overloading and method overriding?
7 What is the significance of final keyword. Give its syntax.
8 Lisout various types of event handling classes in java.
9 State the difference between Button and Jbutton
10 How can we create a thread?

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Compare and Contrast between Java with C++.

OR

b. Write a java program to find the largest number in an array.

12 a. Write a Java program to implement the concept of default constructor.

OR

b. What do you mean by immutable string in java. Explain with an example program.

13 a. Write a Java program to create Java Console. Explain with an example program how to read the password using Console?

OR

b. Write a java program to display the string in a Frame when a button is clicked?

14 a. Construct menu list using AWT Button Class with ActionListener( ).

OR

b. Write a java program to create Username and Password by using JPasswordField with ActionListener event.

p.t.o

15 a. Write a java program that prints numbers from 1 to 10 line by line after every 5 seconds by using thread concept.

OR

b. Briefly explain about Socket programming in detail.

16 a. Define constructor. How objects are constructed?

OR

b. Explain the concept of arrays in Java with an example program.

17 a. Discuss in detail about Java Documentation with an example.

OR

b. Write a java program to implement the concept of Border Layout.

18 a. Define Thread. Briefly explain about the concept of multithreding in detail.

OR

b.
Write short notes on
a) Executors
b) Synchronizers

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Write a java program to
a) Compare between two strings.
b) To search a word inside a string

OR

b. Explain thread synchronization with examples.

20 a. Write down the significance of using java bean. Give an example program.

OR

b. What are the various properties of a thread? Discuss in detail.

*****

SL.NO:1059 **SUBJECT CODE:17CSCC12**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

ADVANCED JAVA PROGRAMMING

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Select the alternatives of Common gateway Interface (CGI).

2 Find the Error in following code and correct it.
Throws Ioexception
Int code = integer.parseint();

3 Construct a program for following file operations
a) count the number of words,
b) count the number of lines and
c) count the number of characters

4 Summarize the procedures of Interfaces, Classes, and Exceptions available in the ***java.lang.reflect*** package.

5 Write any four advantages of Swing components

6 Show the imporatant methods used in Generic Servlet.

7 Identify the use of Driver Manager class.

8 Define session bean? Write the steps followed in writing a session bean?

9 Mention the functions of <jsp:include> and <jsp:forward> .

10 Explain in detail J2EE and its features.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Distinguish between RMI and CORBA.

OR

b. Compare the procedures of JAR, RAR files.

12 a. Sketch the CORBA architecture programming models with all levels

OR

b. Sketch and compare the Life cycles of Applet and Servlet.

(p.t.o)

13 a. How to connect a database into Java application? Explain it with simple application.

OR

b. Construct the CORBA server and client programming and mapping the following:
• Hello.idl • HelloClient.java
• HelloServer.java • HelloServant.java

14 a. Create a client / server application using RMI in Java to perform the following functions. 1) RMI Interface creation 2) RMI Implementation #) Stub and Skeleton 4)Crreate Client 5)Create Server

OR

b. Discuss the applications of CORBA programming model in distributed environment

15 a. Define Socket? List out various operation performed by socket.

OR

b. What is a multicast socket?

16 a. List the four parts of the JMS application.

OR

b. What are the options supported by the Java 2D API.

17 a. What are the components of Java Media Framework?

OR

b. How to create a Stateful Session Bean Class

18 a. Show the APIs provided by the EJB container

OR

b. Explain the step by step creating the applet program.

Answer ALL questions
PART-C (2 x 15 = 30)

19 a. Distinguish between Readers and Writers in Java with various syntaxes of classes.

OR

b. Justify the mechanism of byte code interpretation in detail.

20 a. Identify the types of multimedia applications

OR

b. Describe the methods used to establish JNI in Java.

*****

SL.NO:1156 **SUBJECT CODE:17CSEC28**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

SOFTWARE QUALITY MANAGEMENT

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 What are the seven criteria for good metrics?
2 Define software quality.
3 List out the Teams and Responsibilities.
4 Draw the Documents Documentation plan worksheet.
5 Define Defect removal efficiency (DRE).
6 What are reliability models?
7 Mention the SPC techniques and its purposes.
8 What are the survey methods of Customer satisfaction?
9 What are the five levels of SEI-CMM?
10 Define Lines of Code.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Write short notes on Defect Prevention process.

OR

b. Explain walkthrough process and audit process.

12 a. Explain in detail the Cyclomatic Complexity.

OR

b. Explain the complexity metrics and its models.

13 a. Explain in detail about the Rayleigh model.

OR

b. Explain the Reliability Growth models.

14 a. Explain the Procedural description template and Action items

OR

b. Briefly explain structure metrics.

15 a. Write short notes on principles of Rayleigh model framework

OR p.t.o

2

b. Write the types of White box technique?

16 a. Explain in detail about the CASE tools.

OR

b. List out the Gilb's attributes with its sub attribute.

17 a. Explain in detail the Quality tasks and responsibilities.

OR

b. Explain in detail the CMM Compatibility of Reviews and audits.

18 a. Explain in detail the elements of QMS.

OR

b. Explain the Rayleigh model framework.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Explain the Defect Prevention Process.

OR

b. Explain the Reliability models.

20 a. What is not included in prevention costs?Explain.

OR

b. Give the schematic hierarchical view of software quality. Explain.

*****

SL.NO:1156

SL.NO:1057 **SUBJECT CODE:17CSEC44**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

DATABASE MANAGEMENT SYSTEMS

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Recall the functions of a database administrator.
2 List the syntax & use of the relational algebraic operations.
3 Identify the pitfalls in relational database design?
4 Define Boyce codd normal form
5 Recite functional dependency?
6 Name the two methods for dealing deadlock problem.
7 Tabulate ordered index? Give an example.
8 When does collision occur?
9 Differentiate procedural and non procedural language.
10 Discuss primary index and secondary index.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Illustrate the three schema architecture of database systems

OR

b. Show the algorithms to compute the following joins
   i. Nested-loop join
   ii. Block nested-loop join
   iii. Indexed nested-loop join
   iv. Merge join

12 a. Show with a neat sketch, explain the basic steps involved in Query Processing.

OR

b. Describe the following:
i.Role of database administrator in controlling database access through DCL commond.
ii.Data independence and its types.

13 a. Describe in detail about the relational model.

OR

b. Discuss about join query and its types with example.

14 a. Summarize on DML commands with example

OR

b. Describe about Domain & Tuple Relational Calculus in detail?

15 a. Paraphrase on Boyce-Codd normal form with example.

OR

b. Restate
i. Dependency Preservation
ii.Join Dependencies

16 a. Explain the various states of transaction with neat sketch.

OR

b. Describe the following
i.First normal form
ii. Second normal form

17 a. Paraphrase on lock based concurrency control protocol.

OR

b. Summarize on Serializability in database transaction management

18 a. Describe a hash file organization.

OR

b. Paraphrase on various types of storage media.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Apply an E-R model and construct an E-R Diagram for banking transaction

OR

b. How does database file differed from flat file? List the various views data with an example.

20 a. Paraphrase the concept of Embedded SQL and Dynamic SQL?

OR

b. Discuss the various methods used to prevent the deadlock

*****

S.No. 1044 17CSEC03

VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM
(Deemed to be University)
BE DEGREE EXAMINATION –FEB- 2022
Eighth Semester
ELECTIVE - IV: BIG DATA AND ANALYTICS

Three Hours Maximum: 100 marks

I. Answer ALL Questions (100 x 1 = 100)

1 The DML operations provide the required ease with _____
a. Data input b. Storage c. Process d. All the above

2 _____helps store and predict the relationship between to variables
a. Association rule mining b. Regression analysis c. Collaborative filtering d. All the above

3 POST is_____
a. Part-Of-Speech Tagging b. Post-Of-Speech Tagging
c. Part-On-Speech Tagging d. Part-Of-Speech Test

4 The key characteristics of data_____
a.Composition b.condition c.context d.all of these

5 WWW and IOT have led to an onslauaght of
a.Structured b.unstructured c.both a&b d.none of these

6 External data resideing outside an organization firewall is
a.public web b.private web c.protected web d.none of these

7 _____ data flows can be higly inconsistence with periodic peaks
a.variability b.volatility c.validity d.veracity

8 CRM stands for
a.Customer Relationship Management b.Consumer Relationship Management c.None of these

9 Big data is
a.High volume b.High velocity c.high variety d.All of these

10 Internal and External data sources are a.Machine log data b. Social media c.business apps d.all of these

11 Data storage are a.SQL b.MS SQL c.All of these d.None of these

12 Text analytics include task such as a.Text categorization b.Text clustering c.Both of these d.None of these

13 Human generated sources are a.Social media data b.call data records c.Web server logs d.Sensors

14 JSON is popularized by webservices developed utilizing the a.Representational state transfer b.Recompilation state transfer c.

15 JSON is used to transmit data between
A.Server and webapps b.Client&server c.Server to Server d.None of these

16 Semi structured data is also reffered to as Describing structure b.Self Describing Structure c.Distributing structure d.All of these

17 In regression analysis,the variables which are used to predict the values are reffered to as
a.Dependent variable b.Independent variable c.Both a&b d.None of these

18 _____ a Garter analyst coined the term,'Big data'
a.Doug Laney b.Hal Varian c.Tim berners d.All of these

19 _____Characteristic of data explains the spikes in data
a.Volatility b.Veracity c.variability d.velocity _

20 _____primarily is slicing and dicing of data to help with basic business insights.
a. Basic analytics b. Operationalized analytics c. Advanced analytics d. Monetized

21 _____ is the extracting knowledge from data.
a. Data science b. Meta data c. Communication d. All of these

22 The technology expertise is good knowledge in
a.Database b. Programming c. Visualization d. All of these

23 In-database processing is called as _____-
a. In-business analysts b. In-memory analysts c. In-data analysts d. None

24 there are number of user-friendly _____available in market today.
a. Business tools b. Analytics tools c. data tools d. All of these

25 What is partition tolerant in bigdata?
a) Take care of Hardware failures b. Take care of software failures c. Both a & b d. None

26 The _____technology helps query data that resides in a computers randon access memory rather han data stored on physical system.
a. a. In-business analytics b. In-memory analytics c. In-data analytics d. None

27 Eventual consistency is a consistency model used in distributed computing to achieve high_____
a. Schema b. Security c.Availability d. Consistency

28 Leveraging analytics to improve _____
a. Operational b. Tactical c. Strategic d. All of these

29 NoSQL databases are
a. Non relational b. Relational c. Fixed d. Cluster

30 ACID properties stands
a. Atomicity Consistency Isolation Durability b. Atomicity Constant Isolation Durability
c. Atomicity Consistency Isolation Data d. Atomicity Cassandra Isolation Durability

31 _____has no support for acid properties of transactions.
a. SQL b. NewSQL c. NoSQL d. None

32 MongoDB is _____and _____
a.Consistent and Partition tolerant b. Available and Partition tolerant c. Consistent and Available tolerant d. None

33 _____is a combination service for distributed applications.
a. Ambari b. Hive c. Zookeeper d. Sqoop

34 _____is a workflow scheduler system to manage Apache Hadoop jobs.
a. Ambari b. Hive c. Zookeeper d. Oozie

35 _____supports structured data storage for large tables.
a. HDFS b. Hbase c. Hive d. Pig

36 Amazon web services hold out a comprehensive, end to end portfolio of cloud computing services to help anaging_____
a. Big data b. Large data C. Disk data d. Cloud data

37 NoSQL database are
a. Non-relational b. Open source c. Distributive d. All of these

38 _____ used in predictive and prescriptive modelling
a. Basic analytics b. Operationalized analytics c. Advanced analytics d. Monetized analytics

39 _____support the futuristic decision making by the use of data mining & text mining.
a. Reactive – Business Intelligence b. Reactive – Big data Analytics
c. Proactive – Analytics d. Proactive – Big data Analytics

40 Hadoop written in which language? a. JAVA b. c c. c++ d. .NET

41 Hadoop supports _____ data formats.
a.Structured b. Semi-Structured c. Unstructured d. all of these.

42 n Hadoop data is processed in _____
a. Parallel b. Distributed. C. Both a & b d. None

43 ameNode uses to _____record every transaction.
a. NameLog b. EditLog c. DataLog d. NumLog

44 DataNode is responsible for_____ file operation.
a. Read b.Write c. Read/Write d. None

45 Global Resource Manager distributes _____among Applications
a. Resources b. Containers c. Consistency d. All of these

46 Application is a _____submitted framework.
a. Job b. Wok d. Memory d. All of these

47 The _____maintains the file system Namespace.
a. DataNode b. Secondary NameNode c. NameNode d. LinearNode

48 Receipt of a heartbeat implies that the _____is functioning properly.
a. DataNode b. Secondary NameNode c. NameNode d. LinearNode

49 Pig is a
a. Data flow language b. Import export tool c. Scheduling engine d. Shuffler

50 Which eco system project is ideal for use when we have multiple MapReduce and Pig program to run in sequence?
a. Oozie b. Hive c. Pig d. Sqoop

51 _____traditional IT company is the largest Big data vendor in the world.
a. IBM b. Infosys c. Oracle d. Microsoft

52 _____is Splunk's new product to search, access and report on Hadoop datasets.
a. Hunk b. Google c. Hbase d. Sqoop

53 "hadoop fs-ls /" will show the contents for the HDFS _____ directory
a.Root b. Sub c. Parent node d. Child node

54 The key distinctions of Hadoop
a. Accessible b. Robust c. Scalable d. All of these

55 There is a single _____ per slave node.
a. TaskTraker b. JobTracker c. Blockreport d. Reducer

56 _____keeps track of how your files are broken down into file blocks, which node store those locks and the overall health of the distributed file system.
a.DataNode b. NameNode c. MasterNode d.SlaveNode

57 Hadoop runs on large clusters of _____
a. Commodity Machines b. Business Machine c. Traditional Machines d. All of these.

58 HDFS Components_____
a. Storage component b. Distributes across several nodes
c. Natively redundant d. All of these

59 Version of Hadoop _____ a. Hadoop 2.0 b. Hadoop 3.0 c. Hadoop 4.0 d. Hadoop 5.0

60 Mongo DB is a. Non-volatile b. NOSQL c.Cross platform d. All the above

61 Mongo shall have automatically generate the unique identifier with the size of bytes
a). 4 2 3 3 b). 3 2 3 4 c). 4 3 2 3 d). 3 4 3 2

62 It is reduces the amount of data that each shared needs to store and manage
A. Replication b.Mirroring c. Sharing d. Cluster

63 It is good with complex data structure and comfortable with linux , mac os , Solving and indows
a. Oracle b. RDBMS c.mongoDB d.All the above

64 It is the big competitor for mongoDB it allow only static queries
a. Traditional RDBMS b. JSON c. BSON d.couch DB

65 Mongo export command used to export
a. CSV b.TSV c.a & b d. None of these

66 Mongo Db database stores its data is
a. documents b. Collections c. record d. output

67 Mongo DB uses these schemas
a. dynamic b. mapped c. multi statement d. All of the above

68 '$sunset' is used with
a. Insert b. Update c. Delete d. Truncate

69 Mongo DB is
a. RBDBMS b. Object oriented DBMS c.Documented oriented DBMS d. Key value store

70 Core mongo DB operations are
a. Create, Select, Update, Delete b. Create, Read, Update, Delete
c. Create, Read, Update, Drop d.Create, Select, Update, Drop

71 CQL data types in bits int Bigint double float
a. 64 32 64 64 IEEE,FP b.32 64 64 IEEE,FP 32 IEEE,FP c.32 64 32IEEE,FP 64 IEEE,FP d.None of these

72 Each map task is broken into a. Shuffle b. Sort c. output format d. None of these

73 Each map task is broken into a. Record render b. Combiner c. Partitioner d.All the above

74 The generated output of the intermediate data is passed to the reducer it is from
a. Combiner class b. Reducer class c. Input class d.output class

75 Combiner is also known as a. key b. Collection c. local reducer d. mapper

76 In Hive,view support is available in version from 0.6 views are purely _____ object
a. Container b. Logical c. Table c. Create

77 Hive data units contains the
a. Tables b. Partitions c. Clusters d. All the above

78 Meta Store consists of the a. Meta store service b. Database c. Anoly d. Both a & b

79 Meta store contains____ of the Hive tables
a. Record b. Collections c. System Catalog d.Key value store

80 Which of the following is data flow language
a.Pig live b.pig Engine c.pig latin d.pig fly

81 Which statement is correct statement
A: pig can process any kinds of data statement B:pig can process only structured data
a).A is correct, B is wrong b).B is correct,A is wrong
c).Both A&B are correct d). Both A&B are wrong

82 How many modes are there in running pig
a.3 b.4 c.1 d.2

83 The syntax to accessing local file system
a.Pig hadoop file name b. Pig call file name c. Pig-X filename d. Pig filename

84 Action: A = Load '/pigdemo/student.tsv' as (roll no:int,gpa:float)
B = Limit A.3; Dump B;
From the above pig command, identify the process of dump
a.Load b.Store c.Display d.Locate

85 Which of the following is word count in pif
a.Word count b. For each c.Count d. lines

86 Can pig provides facility to integrate Perl or phyto script
a. Yes b. Sometimes c. No d. a&b are correct

87 _____,_____are execution modes of pig
a. local modes ,map reduce mode b. local mode , batch mode
c. map reduce , batch mode d. batch , internal time mode

88 _____and_____are case sensitive in pig
a. Fields & Records b. Records & Aliases c. Fields & Aliases d. Values & Aliases

89 _____,_____,_____ are Complex data Types of Pig
a. Bag , Tuple , Map b. int , tuple , map c. int , float , double d. int , bag , map

90 A: ORDER BY is used for storing
B: ORDER BY is used for splitting
a. A & B is correct b. B is correct c. A is correct ,B is wrong d. B is correct A is wrong

91 Jasper report is completely written in a. C b. C++ c. Java d. C & C++

92 From where can we accessed data a. JDBC b. XML c. CSV d. All of the above

93 Jasper Report is easy for
a. C developers b. .NET developers c. Java developers d. PHP developers

94 Consider the following (John , 12)
a. Record b. Map c. Tuple d. Piggy bank

95 Map represents a. key b. value c. mapping d. key/value

96 Which is the NULL operator a. NULL b. Not NULL c. is NULL d. a&b

97 Which is not comparison operator a. == b. != c. <= d. %

98 Which of the following command is used to show values to keys used in Pig ?
a. set b. declare c. display d. All of the mentioned

99 Which of the following command can be used for debugging ?
a. exec b. execute c. error d. throw

100 _____ are scanned in the order they are specified on the command line.
a. Command line parameters b. Parameter files
c. Declare and default preprocessors d. Both parameter files and command line parameters

*****

S.No. 1044 17CSEC03

VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM
(Deemed to be University)
BE DEGREE EXAMINATION –FEB- 2022
Eighth Semester
ELECTIVE - IV: BIG DATA AND ANALYTICS

Three Hours Maximum: 100 marks

I. Answer ALL Questions (100 x 1 = 100)

1 The DML operations provide the required ease with _____
a. Data input b. Storage c. Process d. All the above

2 _____helps store and predict the relationship between to variables
a. Association rule mining b. Regression analysis c. Collaborative filtering d. All the above

3 POST is_____
a. Part-Of-Speech Tagging b. Post-Of-Speech Tagging
c. Part-On-Speech Tagging d. Part-Of-Speech Test

4 The key characteristics of data_____
a.Composition b.condition c.context d.all of these

5 WWW and IOT have led to an onslauaght of
a.Structured b.unstructured c.both a&b d.none of these

6 External data resideing outside an organization firewall is
a.public web b.private web c.protected web d.none of these

7 _____ data flows can be higly inconsistence with periodic peaks
a.variability b.volatility c.validity d.veracity

8 CRM stands for
a.Customer Relationship Management b.Consumer Relationship Management c.None of these

9 Big data is
a.High volume b.High velocity c.high variety d.All of these

10 Internal and External data sources are a.Machine log data b. Social media c.business apps d.all of these

11 Data storage are a.SQL b.MS SQL c.All of these d.None of these

12 Text analytics include task such as a.Text categorization b.Text clustering c.Both of these d.None of these

13 Human generated sources are a.Social media data b.call data records c.Web server logs d.Sensors

14 JSON is popularized by webservices developed utilizing the a.Representational state transfer b.Recompilation state transfer c.

15 JSON is used to transmit data between
A.Server and webapps b.Client&server c.Server to Server d.None of these

16 Semi structured data is also reffered to as Describing structure b.Self Describing Structure c.Distributing structure d.All of these

17 In regression analysis,the variables which are used to predict the values are reffered to as
a.Dependent variable b.Independent variable c.Both a&b d.None of these

18 _____ a Garter analyst coined the term,'Big data'
a.Doug Laney b.Hal Varian c.Tim berners d.All of these

19 _____Characteristic of data explains the spikes in data
a.Volatility b.Veracity c.variability d.velocity _

20 _____primarily is slicing and dicing of data to help with basic business insights.
a. Basic analytics b. Operationalized analytics c. Advanced analytics d. Monetized

21 _____ is the extracting knowledge from data.
a. Data science b. Meta data c. Communication d. All of these

22 The technology expertise is good knowledge in
a.Database b. Programming c. Visualization d. All of these

23 In-database processing is called as _____-
a. In-business analysts b. In-memory analysts c. In-data analysts d. None

24 there are number of user-friendly _____available in market today.
a. Business tools b. Analytics tools c. data tools d. All of these

25 What is partition tolerant in bigdata?
a) Take care of Hardware failures b. Take care of software failures c. Both a & b d. None

26 The _____technology helps query data that resides in a computers randon access memory rather han data stored on physical system.
a. a. In-business analytics b. In-memory analytics c. In-data analytics d. None

27 Eventual consistency is a consistency model used in distributed computing to achieve high_____
a. Schema b. Security c.Availability d. Consistency

28 Leveraging analytics to improve _____
a. Operational b. Tactical c. Strategic d. All of these

29 NoSQL databases are
a. Non relational b. Relational c. Fixed d. Cluster

30 ACID properties stands
a. Atomicity Consistency Isolation Durability b. Atomicity Constant Isolation Durability
c. Atomicity Consistency Isolation Data d. Atomicity Cassandra Isolation Durability

31 _____has no support for acid properties of transactions.
a. SQL b. NewSQL c. NoSQL d. None

32 MongoDB is _____and _____
a.Consistent and Partition tolerant b. Available and Partition tolerant c. Consistent and Available tolerant d. None

33 _____is a combination service for distributed applications.
a. Ambari b. Hive c. Zookeeper d. Sqoop

34 _____is a workflow scheduler system to manage Apache Hadoop jobs.
a. Ambari b. Hive c. Zookeeper d. Oozie

35 _____supports structured data storage for large tables.
a. HDFS b. Hbase c. Hive d. Pig

36 Amazon web services hold out a comprehensive, end to end portfolio of cloud computing services to help anaging_____
a. Big data b. Large data C. Disk data d. Cloud data

37 NoSQL database are
a. Non-relational b. Open source c. Distributive d. All of these

38 _____ used in predictive and prescriptive modelling
a. Basic analytics b. Operationalized analytics c. Advanced analytics d. Monetized analytics

39 _____support the futuristic decision making by the use of data mining & text mining.
a. Reactive – Business Intelligence b. Reactive – Big data Analytics
c. Proactive – Analytics d. Proactive – Big data Analytics

40 Hadoop written in which language? a. JAVA b. c c. c++ d. .NET

41 Hadoop supports _____ data formats.
a.Structured b. Semi-Structured c. Unstructured d. all of these.

42 n Hadoop data is processed in _____
a. Parallel b. Distributed. C. Both a & b d. None

43 ameNode uses to _____record every transaction.
a. NameLog b. EditLog c. DataLog d. NumLog

44 DataNode is responsible for_____ file operation.
a. Read b.Write c. Read/Write d. None

45 Global Resource Manager distributes _____among Applications
a. Resources b. Containers c. Consistency d. All of these

46 Application is a _____submitted framework.
a. Job b. Wok d. Memory d. All of these

47 The _____maintains the file system Namespace.
a. DataNode b. Secondary NameNode c. NameNode d. LinearNode

48 Receipt of a heartbeat implies that the _____is functioning properly.
a. DataNode b. Secondary NameNode c. NameNode d. LinearNode

49 Pig is a
a. Data flow language b. Import export tool c. Scheduling engine d. Shuffler

50 Which eco system project is ideal for use when we have multiple MapReduce and Pig program to run in sequence?
a. Oozie b. Hive c. Pig d. Sqoop

51 _____traditional IT company is the largest Big data vendor in the world.
a. IBM b. Infosys c. Oracle d. Microsoft

52 _____is Splunk's new product to search, access and report on Hadoop datasets.
a. Hunk b. Google c. Hbase d. Sqoop

53 "hadoop fs-ls /" will show the contents for the HDFS _____ directory
a.Root b. Sub c. Parent node d. Child node

54 The key distinctions of Hadoop
a. Accessible b. Robust c. Scalable d. All of these

55 There is a single _____ per slave node.
a. TaskTraker b. JobTracker c. Blockreport d. Reducer

56 _____keeps track of how your files are broken down into file blocks, which node store those locks and the overall health of the distributed file system.
a.DataNode b. NameNode c. MasterNode d.SlaveNode

57 Hadoop runs on large clusters of _____
a. Commodity Machines b. Business Machine c. Traditional Machines d. All of these.

58 HDFS Components_____
a. Storage component b. Distributes across several nodes
c. Natively redundant d. All of these

59 Version of Hadoop _____ a. Hadoop 2.0 b. Hadoop 3.0 c. Hadoop 4.0 d. Hadoop 5.0

60 Mongo DB is a. Non-volatile b. NOSQL c.Cross platform d. All the above

61 Mongo shall have automatically generate the unique identifier with the size of bytes
a). 4 2 3 3 b). 3 2 3 4 c). 4 3 2 3 d). 3 4 3 2

62 It is reduces the amount of data that each shared needs to store and manage
A. Replication b.Mirroring c. Sharing d. Cluster

63 It is good with complex data structure and comfortable with linux , mac os , Solving and indows
a. Oracle b. RDBMS c.mongoDB d.All the above

64 It is the big competitor for mongoDB it allow only static queries
a. Traditional RDBMS b. JSON c. BSON d.couch DB

65 Mongo export command used to export
a. CSV b.TSV c.a & b d. None of these

66 Mongo Db database stores its data is
a. documents b. Collections c. record d. output

67 Mongo DB uses these schemas
a. dynamic b. mapped c. multi statement d. All of the above

68 '$sunset' is used with
a. Insert b. Update c. Delete d. Truncate

69 Mongo DB is
a. RBDBMS b. Object oriented DBMS c.Documented oriented DBMS d. Key value store

70 Core mongo DB operations are
a. Create, Select, Update, Delete b. Create, Read, Update, Delete
c. Create, Read, Update, Drop d.Create, Select, Update, Drop

71 CQL data types in bits int Bigint double float
a. 64 32 64 64 IEEE,FP b.32 64 64 IEEE,FP 32 IEEE,FP c.32 64 32IEEE,FP 64 IEEE,FP d.None of these

72 Each map task is broken into a. Shuffle b. Sort c. output format d. None of these

73 Each map task is broken into a. Record render b. Combiner c. Partitioner d.All the above

74 The generated output of the intermediate data is passed to the reducer it is from
a. Combiner class b. Reducer class c. Input class d.output class

75 Combiner is also known as a. key b. Collection c. local reducer d. mapper

76 In Hive,view support is available in version from 0.6 views are purely _____ object
a. Container b. Logical c. Table c. Create

77 Hive data units contains the
a. Tables b. Partitions c. Clusters d. All the above

78 Meta Store consists of the a. Meta store service b. Database c. Anoly d. Both a & b

79 Meta store contains____ of the Hive tables
a. Record b. Collections c. System Catalog d.Key value store

80 Which of the following is data flow language
a.Pig live b.pig Engine c.pig latin d.pig fly

81 Which statement is correct statement
A: pig can process any kinds of data statement B:pig can process only structured data
a).A is correct, B is wrong b).B is correct,A is wrong
c).Both A&B are correct d). Both A&B are wrong

82 How many modes are there in running pig
a.3 b.4 c.1 d.2

83 The syntax to accessing local file system
a.Pig hadoop file name b. Pig call file name c. Pig-X filename d. Pig filename

84 Action: A = Load '/pigdemo/student.tsv' as (roll no:int,gpa:float)
B = Limit A.3; Dump B;
From the above pig command, identify the process of dump
a.Load b.Store c.Display d.Locate

85 Which of the following is word count in pif
a.Word count b. For each c.Count d. lines

86 Can pig provides facility to integrate Perl or phyto script
a. Yes b. Sometimes c. No d. a&b are correct

87 _____,_____are execution modes of pig
a. local modes ,map reduce mode b. local mode , batch mode
c. map reduce , batch mode d. batch , internal time mode

88 _____and_____are case sensitive in pig
a. Fields & Records b. Records & Aliases c. Fields & Aliases d. Values & Aliases

89 _____,_____,_____ are Complex data Types of Pig
a. Bag , Tuple , Map b. int , tuple , map c. int , float , double d. int , bag , map

90 A: ORDER BY is used for storing
B: ORDER BY is used for splitting
a. A & B is correct b. B is correct c. A is correct ,B is wrong d. B is correct A is wrong

91 Jasper report is completely written in a. C b. C++ c. Java d. C & C++

92 From where can we accessed data a. JDBC b. XML c. CSV d. All of the above

93 Jasper Report is easy for
a. C developers b. .NET developers c. Java developers d. PHP developers

94 Consider the following (John , 12)
a. Record b. Map c. Tuple d. Piggy bank

95 Map represents a. key b. value c. mapping d. key/value

96 Which is the NULL operator a. NULL b. Not NULL c. is NULL d. a&b

97 Which is not comparison operator a. == b. != c. <= d. %

98 Which of the following command is used to show values to keys used in Pig ?
a. set b. declare c. display d. All of the mentioned

99 Which of the following command can be used for debugging ?
a. exec b. execute c. error d. throw

100 _____ are scanned in the order they are specified on the command line.
a. Command line parameters b. Parameter files
c. Declare and default preprocessors d. Both parameter files and command line parameters

*****

SL.NO:1022 **SUBJECT CODE:17CSEC27**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB - 2022
COMPUTER SCIENCE AND ENGINEERING

ELE-SOFT COMPUTING

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Define Descent Methods.
2 Draw a diagram to show the feasible descent direction.
3 Write the three functions used in multilayer perceptrons
4 Explain non-linear rule.
5 State the concept of color recipe prediction
6 State fuzzy if then rules with example.
7 What is fitness in genetic algorithm?
8 What are the applications of neural networks?
9 What are the three conceptual components of the basic structure of a fuzzy inference system?
10 Narrate on stage adaptive network?

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Write down the ten properties of fuzzy sets

OR

b. How to construct membership function with three types of membership function.

12 a. What is nural network and how it is framed with small application

OR

b. Write about fuzzy Reasoning with example

13 a. Describe in detail about random search

OR

b. Write about tandem search in real tiem problem.

14 a. What is Hebbian learning , explain

OR

b. Explain about automobile fuel efficiency.

p.t.o

15 a. Write short notes on knowledge embedded structures.

OR

b. What is Tsukamoto fuzzy model explain in detail

16 a. Write short notes on genetic algorithm

OR

b. Explain in detail about Multilayer Perceptrons

17 a. Write about Competitive Learning Networks with diagram

OR

b. Write short note on Coactive Neuro Fuzzy Modeling

18 a. Explain inverse kinematics problem

OR

b. Write short notes on Input space partitioning

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. How genetic strategies is apply in automobile fuel efficiency

OR

b. Explain about automobile fuel efficiency

20 a. Write short notes on (a)Genetic algorithm (b)cross over point (c)Mutation (d) annealing schedule

OR

b. Write the simulation results of the ANFIS architecture.

*****

SL.NO:1022

SL.NO:1009 **SUBJECT CODE:17CSEC42**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB - 2022
ELECTRICAL AND ELECTRONICS ENGINEERING

ELECTIVE-DATA STRUCTURES

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	Analyze in what way Open Addressing resolves collision?
2	List the operations of queue.
3	Recall double ended queue.
4	Quote on threaded binary trees.
5	List the main use of heap.
6	Define on splay tree.
7	When does Collision occur in hashing?.
8	Recall how is cycle formed in a graph.
9	Show how to calculate out degree of a graph.
10	Paraphrase the condition for queue full and 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 the implementation of Linked List (Insertion and Deletion) operations using C program

12 a. What is a Binary Search Tree (BST)? Apply BST for the following sequence of numbers 45, 36, 76, 23, 89, 115, 98, 39, 41, 56, 69, 48
Traverse the tree in Preorder, Inorder and Postorder.

OR

b. Model a BST for the following sequence of numbers. 45,32,90,34,68,72,15,24,30,66,11,50,10
Traverse the BST created in Preorder, Inorder and Postorder.

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

OR

b. Demonstrate the Double rotation with suitable example.

p.t.o

14 a. Define Hashing and show how do collisions happen during hashing?

OR

b. Summarize on the graph traversals with an example.

15 a. Discuss about array implementation of stack in detail.

OR

b. Describe about the radix sort in detail.

16 a. Explain the concept of binary tree with an example.

OR

b. Explain the deletion operations of B-Trees in detail with an example.

17 a. Define the term “Binary heap”. Describe the process of insertion and deletion of elements in binary heap with an example.

OR

b. Paraphrase on the separate chaining collision resolution technique in detail.

18 a. Describe Dynamic equivalence problem.

OR

b. Describe Prim’s algorithm with an example.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Illustrate the concept of circular queue in detail.

OR

b. Illustrate with an example the concept of full binary tree and complete binary tree

20 a. Demonstrate Prim’s algorithm with an example.

OR

b. Restate on the various types of tree traversals with examples for each.

*****

SL.NO:1009 **SUBJECT CODE:17CSCC01**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB - 2022
COMPUTER SCIENCE AND ENGINEERING

DATA STRUCTURES

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1	Determine In a tree, which node is regarded as the 'root'?
2	Show why is Stack ADT called as a LIFO/FILO data structure?
3	Recite what is an expression tree.
4	Quote on how to find the height of a tree.
5	Recite AVL tree.
6	List the different types of Rotation in AVL Tree
7	Define Hash Function.
8	List the operations of set ADT.
9	Recite weighted graph.
10	Restate on why is a Queue ADT called as FIFO data structure?

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Analyze the need for smart union algorithms

OR

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

12 a. Model an algorithm for rear and front operation in queue.

OR

b. Model a BST for the following sequence of numbers. 45,32,90,34,68,72,15,24,30,66,11,50,10 Traverse the BST created in Preorder, Inorder and Postorder.

13 a. Model a min heap tree for the following 5,2,6,7,1,3,8,9,4.

OR

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

p.t.o

14 a. Model a 11 item hash table resulting from hashing the keys: 12, 44, 13, 88,23, 94, 11, 39, 20, 16 and 5 using the hash function h(i) = (2i+5) mod 11

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. Describe about the radix sort in detail.

16 a. Explain the concept of binary tree with an example.

OR

b. Discuss about the construction of expression tree with an example.

17 a. Describe in detail about splay trees giving example for each rotation.

OR

b. Describe about different hashing functions with examples.

18 a. Explain topological sort with an example.

OR

b. Describe Prim's algorithm with an example.

Answer ALL questions

PART-C (2 x 15 = 30)

19 a. Show an algorithm for finding solution to the Tower's of Hanoi problem. Explain the working of your algorithm (with 4 disks) with diagrams

OR

b. Demonstrate path compression in detail.

20 a. Describe in detail about linked list implementation of stack.

OR

b. Paraphrase on the basic data structure for Disjoint Set ADT

*****

SL NO:10001 **SUBJECT CODE:17CSCC02**

VINAYAKA MISSIONS RESEARCH FOUNDATION
(Deemed to be University)
B.E./ B.TECH DEGREE EXAMINATIONS- FEB -2022
COMPUTER SCIENCE AND ENGINEERING

OBJECT ORIENTED PROGRAMMING

Time : Three Hours Maximum Marks:100 Marks

Answer **ALL** questions

Part-A (10 x 2 =20 Marks)

1 Illustrate notes the syntax for constructor and destructor.
2 Destructors can be
3 List out the characteristics of member function.
4 Describe the significance of copy constructor.
5 Define Inheritance.
6 Outline the guidelines for exception handling.
7 Explain the default constructor.
8 Describe how to declare a friend function.
9 Outline the properties of pure virtual function.
10 Explain about uncaught exception.

Answer **Any FIVE** questions

Part-B (5 x10 =50 Marks)

11 a. Write a C++ program to declare private member function and access it using public member function.

OR

b. How to access the private data of a class by using friend function.

12 a. Show with an example program how to implement the concept of overloading in template function.

OR

b. Describe the various types of modes used for opening a file. Give an example program.

13 a. How to open and read a text file in C++? Explain with example.

OR

b. Write a C++ program to implement the concept of passing objects as function arguments.

14 a. Write a C++ program to define a constructor and initialize the class data member variables with constants.

p.t.o

OR

b. Execute the concept function overloading to calculate the square of an integer and float number

15 a. Construct a C++ program to for overloading an assignment "=" operator.

OR

b. Write a C++ program to implement the concept of hierarchical inheritance.

16 a. Show with an example program to update the contents of a file.

OR

b. Illustrate about the concept of parameterized constructor with an example program.

17 a. Discuss in detail on the following concepts
i. Access specifier ii. Message passing iii. Reusability

OR

b. Illustrate the concept of class template with an example program.

18 a. State the difference between single, multilevel and hybrid inheritance? Explain with an example program.

OR

b. Explain about various types of String handling functions with an example program.

Answer ALL questions
PART-C (2 x 15 = 30)

19 a. Write a program to pass an object with reference to the constructor. Declare and initialize the other objects by using the constructor

OR

b. Discuss in detail about the ambiguity problem in multipath inheritance. Write a C++ program to implement the concept of virtual function and explain in detail how it eradicates the problem occur in multipath inheritance.

20 a. Declare a class of vehicle. Let derived class be two-wheeler, three-wheeler and four wheeler. Display the properties of each type of vehicle using member function of the classes.

OR

b. Write short notes for the following with an example program
a. Private specifier b. Public specifier c. Protected specifier

*****