

SWAMY VIVEKANANDA RURAL PRE-UNIVERSITY COLLEGE

Chandapura, Anekal Tq., Bengaluru-99

II PUC SECOND TEST, JULY - 2019

Time: 60 Mins

SUB: COMPUTER SCIENCE

Max. Marks: 25

I Answer the following questions.

1X6=6

1. Write the syntax to access the members of the class.
2. Why function overloading is also called as compile time polymorphism.
3. What is linked list.
4. Define a binary tree.
5. What is a Graph.
6. Why do we need a scope resolution operator?

II Answer any five of the following questions.

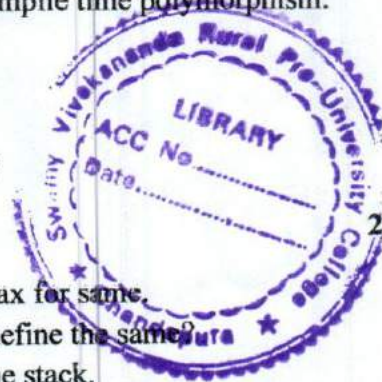
2X5=10

7. Define classes and objects. Give general syntax for same.
8. What are access specifiers and its types and define the same.
9. Write an algorithm to pop an element from the stack.
10. Define basic logic operations in Boolean algebra with truth table.
11. Write a C++ program to an inline function.
12. Write an algorithm to insert an element into a queue.

III. Answer any three of the following questions.

3X3=9

13. Define friend function and its characteristics with a programming example.
14. Write an algorithm to insert a node in a linked list at a given position.
15. Write a program to find the volume of cone and cube using the concepts of function overloading.
16. How do we define the member functions of the class? Explain with programming example.



PART - A

I Answer the following questions

1X8=8

1. Define Super Class.
2. Which operator is used to identify pointer variable?
3. Which gates are called as Universal gates?
4. State Indempotence law.
5. Why do we need a destructor?
6. Mention the duality principles.
7. Constructors are always defined in _____ section of a class.
8. What is a virtual base class?



PART - B

II Answer any five of the following questions

5X2=10

9. What is a Constructor? Give the general syntax.
10. Define Derived Class. Give the general syntax to derived class.
11. How to declare and define a pointer? Illustrate with an example.
12. Define Boolean expression and give an example.
13. Why do we need a copy constructor? Illustrate with a syntax and example.
14. Mention different types of memory allocations? Give the general syntax of operators used in memory allocations.
15. Define *free* and *self-referential* structure?

PART - C

III Answer any four of the following questions

4X3=12

16. Write a short note on visibility modes.
17. What is pointer arithmetic? Briefly explain with an example.
18. State and prove properties of 0's and 1's using algebraic method.
19. Write a C++ program to illustrate the concepts of destructors.
20. State and prove Involution law, Complementary law, and Commutative law.
21. Explain the types of Inheritance.

PART - D

IV Answer any four of the following questions

4X5=20

22. Solve using K-Maps for the following min term expression

$$F(W, X, Y, Z) = \sum (0, 1, 3, 5, 7, 9, 11, 13, 15, 14, 12, 8)$$

23. Write a C++ program to show the concepts of single level inheritance.

24. State and prove De Morgan's first theorem algebraically.

25. Explain any two types of invoking methods of parameterized constructors.

26. Define the following.

- a. this pointer b. memory leak c. abstract class d. constructor overloading

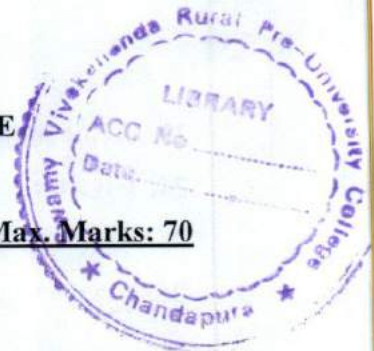
27. Give the relationship between pointer to object with an example.

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II PUC MID-TERM EXAMINATION, OCT - 2019

Time: 3Hr 15 Mins

SUB: COMPUTER SCIENCE

Max. Marks: 70



PART - A

I Answer the following questions

1X10=10

1. What is Data Bus?
2. Which basic gate is also called as an inverter?
3. Give an example for linear data structure.
4. What is the significance of scope resolution operator?
5. Mention any one advantage of pointer.
6. What is the purpose of new operator in C++?
7. Expand HTTP.
8. Define E-Commerce.
9. What is free hosting?
10. Write any one formatting HTML tag.

PART - B

II Answer any five of the following questions

2X5=10

11. Prove algebraically that $(X+X)(X+Y)=X$
12. Write the standard symbol and truth table for N-OR gate.
13. Write the syntax to define a default constructor. Give example.
14. Write any two member functions belonging to ofstream class.
15. Differentiate read() and write() member functions.
16. Define Dynamic binding.
17. What is Hybrid Inheritance?
18. Give any two difference between static and dynamic memory allocation.

PART - C

III Answer any five of the following questions

3X5=15

19. What are the functions of UPS? Mention different types of UPS.
20. Realise AND, OR and NOT using NAND gates.
21. Explain the various operations performed on Queues.
22. What is array of pointers? Give an example.

23. Define proprietary software and their types.
24. Give the services of E-commerce.
25. Write any three modes of opening files.
26. Write an algorithm to insert an element to queue.

PART - D

IV Answer any seven of the following questions

5X7=35

27. Solve using K-Maps for the following min term expression

$$F(W, X, Y, Z) = \sum (0, 1, 2, 3, 4, 6, 8, 10, 12, 14)$$

28. Write an algorithm for insertion sort.
29. What is linear data structure? Explain the operations performed on linear data structures.
30. Define object-oriented programming. Write the limitations of OOPs
31. Explain member functions in detail with an example.
32. Give the characteristics of friend functions.
33. Illustrate any two types of constructors with an example.
34. Explain the methods of opening of file in data file handling.
35. Write a note on IPR issues in India.
36. Write a C++ program to illustrate the copy constructor.
37. Define the following
 - a. Visibility mode
 - b. virtual base class
 - c. abstract class
 - d. free store
 - e. self-referential structure

SWAMY VIVEKANANDA RURAL PRE-UNIVERSITY COLLEGE

Chandapura, Anekal Tq., Bengaluru-99

II PUC FIRST PREPARATORY EXAMINATION, DEC - 2019

Time: 3Hr 15 Mins

SUB: COMPUTER SCIENCE

Max. Marks: 70



PART A

I Answer the following questions in a word or in a sentence each.

10x1=10

1. What is the use of SMPS?
2. Write a logic symbol for an inverter.
3. Define queue.
4. Name one condition for overloading a function.
5. What is a sub class?
6. Mention one condition of delete operator.
7. Expand ARPANET.
8. Define cookies.
9. Expand Floss.
10. What is web scripting?

PART B

II Answer any five of the following questions

5X2=10

11. Define minters and maxterms.
12. Give a general syntax to define a class and an object.
13. State and prove complimentary law.
14. Write a syntax and example for a copy constructor.
15. Write the member function belongs of stream class.
16. Explain insert command in sql with general syntax and an example
17. Write a short note on hub.
18. Write the disadvantages of OOPs.

PART C

III Answer any five of the following questions

5X3=15

19. What is a port. Write a short note on serial and parallel port.
20. Write the truth table and logic diagram for NAND gate.
21. Define the operations performed on linear data structure.
22. Differentiate static and dynamic representation of memory.
23. What is a data file? Define the types of files.
24. Explain the types of E-Commerce.
25. Explain the communication modes.
26. Write a short note on DHTML and XML.

PTO

PART D

IV Answer any seven of the following questions

7X5=35

27. Given the Boolean function $f(A, B, C, D) = \sum(1,3,4,5,6,7,9,11,12,13,14,15)$ reduce by using K-Map.
28. Write an algorithm for enqueue () and dequeue ().
29. Mention the characteristics of friend functions.
30. Explain the types of inheritance with example.
31. How parameterized constructors are invoked explain with a programming example.
32. Explain the network topologies in detail.
33. Explain any 5 components of mother board.
34. How do member functions are defined outside the class illustrate with syntax and programming example?
35. Write a C++ program to show the concepts of pointers and objects.
36. Explain the concepts of OOPs in detail.
37. Define the following terms
 - a. Tree
 - b. Graph
 - c. Binary Tree
 - d. Default constructors
 - e. Depth of a tree

SWAMY VIVEKANANDA RURAL PRE-UNIVERSITY COLLEGE

Chandapura, Anekal Tq., Bengaluru-81

II PUC SECOND - PREPARATORY EXAMINATION, JAN - 2020

Time: 3Hr 15 Mins

SUB: COMPUTER SCIENCE

Max. Marks: 70

PART - A

I Answer the following questions

1X10=10

1. What is meant by plug and play devices?
2. Mention different universal gates.
3. Define linked list.
4. Why do we need an access specifier?
5. What is the difference between: a. $X=\&Y$ b. $X=*Y$.
6. Define Tuple.
7. What is generalization.
8. Expand CDMA.
9. Who are hackers?
10. What is OSS?



PART - B

II Answer any five of the following questions

2X5=10

11. A truth table has output for each of these inputs.
a. ABCD=0011 b. ABCD=0101 c. ABCD=1000 Write the SOP Expression.
12. What is Minterm? Write the short hand notation of Minterms and Maxterms.
13. Define Data abstraction and Data Encapsulation.
14. Explain any two methods of invoking a parameterized constructor.
15. What is the difference between read and write?
16. Write a note on three schema architecture.
17. Classify various sql operators.
18. Write a short note on any two network securities.

PART - C

III Answer any five of the following questions

3X5=15

19. Explain the characteristics of Motherboard.
20. What is meant by proof by perfect induction method give an example.
21. Define types of queues.

22. Define new and delete operator with syntax and example.
23. Mention the methods of opening a file within C++ program. Discuss.
24. Explain logical three tier client-server architecture.
25. Explain any five criteria of OSS.
26. Give the features of DHTML.



PART - D

IV Answer any seven of the following questions

5X7=35

27. Solve using K-Maps for the following min term expression

$$F(A, B, C, D) = \sum (7, 9, 10, 11, 12, 13, 14, 15)$$

28. Write an algorithm for PUSH and POP
29. Write an algorithm for enqueue() and dequeue()
30. Write any three advantages, disadvantages, and applications of OOPs.
31. Write a general syntax of class and an object with a programming example.
32. Write a program to find the area of cube/rectangle/triangle using function overloading.
33. Explain default and copy constructors with a programming example.
34. Explain the visibility modes with respect to inheritance.
35. Explain normalization in detail.
36. Explain DBMS joins with example.
37. Give the measures for preventing virus.
