II PU COMPUTER SCIENCE – MODEL PAPER - 1

PART – A

Answer all the questions. Each question carries one mark. **1 x 20 = 20**

I Select the correct answer from the choices given: ***(Repeated answers will not be considered)***

1. Which among the following is the fastest memory in a computer that holds information?
   a) Register b) Cache
   c) Main memory d) RAM
2. The other name of Boolean algebra is _____
   a) Switching algebra b) Relational Algebra
   c) Digital Algebra d) None of the above
3. The other name of NOT gate is _____
   a) Neglect gate b) Inverter gate
   c) XOR gate d) XNOR gate
4. The data structure that allows the insertion, as well as the deletion from both the ends, are:
   a) String b) Linked List data structure
   c) Stack data structure d) Dequeue data structure
5. What is the other name used for functions inside a class?
   a) Member variables b) Member functions
   c) Class functions d) Class variables
6. Function cannot be overloaded when _____
   a) Function names are same b) Number of parameters are different
   c) Number of parameters are same d) Data types of parameters are different
7. The symbol used with constructor is _____
   a) $ b) &
   c) Delta c) ~
8. Base class is _____
   a) a sub class b) inherited class
   c) Main class d) First class
9. Which of the following is the correct way to declare a pointer?
   a) int *ptr b) int ptr
   c) int &ptr d) All of the above
10. _____is called information.
    a) Raw fact b) collection of data
    c) Unprocessed data d) Processed data
11. SQL is_____.
    a) Theoretical Language b) Procedural Language
    c) Structured Language d) Unstructured Language
12. FTP stands for _____
    a) Final Transistor Protocol b) File Transformation Protocol
    c) File Transfer Protocol d) File Transaction Protocol
13. Which of the following is not a type of network?
    a) LAN b) MAN
    c) PAN d) VAN
14. A software and coding which is freely available on internet is_____.
    a) Community Software b) Free Software
    c) Open-Source Software d) Unlicensed Software
15. HTML stands for _____
    a) Hyper Text Makeup Language b) Hyper Text Markup Language
    c) Hyper Text Marking Language d) Hyper Text Marker Language

II Fill in the blanks choosing the appropriate word/words from those given in brackets.
(Repeated answers will not be considered)
(Security, Redundancy, DBMS, Database, Table)

16. Collection of rows and columns is called as _____
17. _____is a collection of interrelated data.
18. Data duplication is called as_____.
19. _____is a software for creating and managing databases.
20. Protection of data is the_____.

PART – B

Answer any FOUR questions. Each question carries two marks. **2 x 4 = 8**

21. Prove $\overline{\overline{X}} = X$.
22. Define tautology and fallacy.
23. What is encapsulation? Give an example.
24. What is destructor? Give example for destructor.
25. Mention any two functions of ifstream and give their meaning.
26. Give any two advantages of database system.
27. Give the syntax and example for INSERT command in SQL.
28. Briefly explain circuit switching.

PART – C

Answer any FOUR questions. Each question carries three marks. **3 x 4 = 12**

29. Briefly explain any three types of mother board.
30. Write the logic diagram and the truth table for XOR gate.
31. Give the memory representation of stack data structure.
32. Mention any three advantages of pointers.
33. What is a data file? Differentiate between text and binary files.
34. Give the meaning for any three components of E-R diagram.
35. What is e-commerce? Explain any one type of e-commerce.
36. Explain any three table tags in HTML.

PART – D

Answer any SIX questions. Each question carries five marks. **5 x 6 = 30**

37. Give the Boolean function $F(A,B,C,D) = \Sigma(0,2,5,7,8,10,13,15)$.
    Reduce it by using Karnaugh map (K-Map).
38. Explain any five operations performed on primitive data structure.
39. Write an algorithm to delete a data element from an array.
40. Give the differences between procedural programming and object-oriented programming.
41. With an example explain member function inside the class definition.
42. What is a friend function? Mention the characteristics of a friend function.
43. What is a parameterized constructor? Mention the advantages of parameterized constructor.
44. What is inheritance? Explain any two types of inheritance.
45. Differentiate between manual and electronic data processing.
46. Explain CREATE and UPDATE commands in SQL.
47. Explain the following:
    i. SMS ii. E-mail iii. Voice mail iv. Chat v. Video conference

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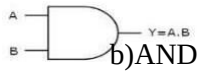
Model Question Paper-2
Second PUC Computer Science

Time: 3.15 Hours **Max marks: 70**

PART – A

Answer all the questions. Each question carries one mark. **1x20 = 20**

I. Select the correct answer from the choices given: (Repeated answers will not be considered)

1. CPU's working memory is _____
   a) Cache memory b) Register
   c) Primary memory d) Secondary memory
2. Minterm of $\bar{X}\ \bar{Y}$= _____
   a) m3 b) m2
   c) m1 d) m0
3. The standard symbol 

represnts_____
   a) OR gate b)AND gate
   c) NAND gate d) NOR gate
4. _____is an example for non-primitive data structure
   a) Integer b) Float
   c) Stack d) Pointer
5. Which access specifier is implicitly used in class?
   a) Private b) Public
   c) Protected d) Friend
6. _____is although not a member function has full access right to the private andprotected members of the class.
   a) Overloaded function b) Inline function
   c) Friend function d) Recursive function
7. In constructor, declaration of an object is followed by assignment operator, constructorname and argument list enclosed in parenthesis is_____
   a) Implicit call b) Explicit call
   c) Function call d) Initialized at the time of declaration using =
8. The class that inherits properties from another class is_____
   a) Base class b) Derived class
   c) Virtual class d) Abstract class
9. Which of the following is the address operator?a) :: b) .
   c) * d) &
10. Set of values for an attribute in that table is _____
    a) Tuple b) Entity
    c) Attribute d) Domain
11. Following is not a DDL command:
    a) Create b) Alter
    c) Drop d) Delete
12. A hardware device used to connect several computers together is_____
    a) Router b) Bridge
    c) Switch d) Hub
13. CDMA stands for _____
    a) Code Data Multiple Access
    b) Code Division Multiple Access
    c) Common Division Multiple Access
    d) Common Data Multiple Access
14. The Software that is neither open nor freely available is called is _____
    a) Free software b) Freeware
    c) Proprietary software d) Open source software
15. _____is a text-based markup language.
    a) HTML b) XML
    c) DHTML d) PHP

II. Fill in the blanks choosing the appropriate word/words from those givenin brackets.
(Repeated answers will not be considered)

(ISAM, Database, Data mining, Key, Schema)

16. _____is a collection of logically related data organized in a way that data canbe easily accessed, managed & updated.
17. _is a set of one or more columns whose combined values are unique amongall occurrences in a given table.
18. _____is the hybrid between sequential and direct access file organization.
19. Database objects that contain data govern or perform operation on data is _____
20. A technique which is concerned with the analysis & picking out relevant informationis called ___

PART – B

Answer any FOUR questions. Each question carries two marks. 2 x 4 = 8

21. Prove algebraically X (X + Y) = X22.State De Morgan's theorems.
23. Write a note on polymorphism. Give an example.
24. Write any two features of parameterized constructors.
25. Differentiate between seekg( ) and seekp( ).
26. What is a candidate key & alternate key (secondary key)?
27. Write the syntax & example for alter command.
28. List the different applications of networking.

PART – C

Answer any FOUR questions. Each question carries three marks. 3 x 4 = 12 29.Explain the different types of Motherboard.

30. Write the logic diagram and the truth table for XOR gate.
31. What are the advantages of arrays?
32. What is a pointer? Give the declaration and initialization of a pointer.
33. Mention different operations basic operation on binary file in C++.
34. Explain any three data types supported by DBMS.
35. Explain the technologies & services used in e-commerce.
36. What is web scripting? Mention the types.

PART – D

Answer any SIX questions. Each question carries five marks. 5 x 6 = 30 37. Given Boolean function F(A, B, C, D)= Σ(0,3,4,6,8,9,10,11,12,14).

Reduce the function F using K-map.

38. Explain the different operations performed on queue.
39. Write an algorithm to search an element in an array using binary search.
40. Write the advantages of object-oriented programming (OOP).
41. Explain how objects of a class can be defined with suitable example.
42. Explain inline functions with syntax and example.
43. Explain default constructor with syntax and example.
44. What is inheritance? Briefly explain multilevel and multiple inheritance.
45. Explain the applications of database system.
46. Explain any five character (text) built-in functions in SQL.
47. What is compute virus? Write the symptoms (characteristics) of computer

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Model Question Paper-3
Second PUC Computer Science

Time: 3.15 Hours **Max marks: 70**

PART – A

Answer all the questions. Each question carries one mark. **1x20 = 20**

I. Select the correct answer from the choices given: (Repeated answers will not be considered)

1. The CPU is fabricated as a single Integrated Circuit (IC) chip and is _____
   a) Motherboard b) Microprocessor
   c) Register d) Circuit board
2. Maxterm of X + Y + Z =
   a) M3 b) M2
   c) M1 d) M0
3. Standard symbol for XOR gate is _____
   a) + b) ⊕
   c) . d) x
4. _____is an ordered collection of items where the addition of newitems and the removal of an existing item always takes place at the same end.
   a) Queue b) Linked list
   c) Stack d) Tree
5. _____operator is used to define the member function outside the class.
   a) . b) ::
   c) * d) &
6. Function Overloading is also known as_____
   a) Compile time polymorphism b) Run time polymorphism.
   c) Compile time encapsulation d) Run time encapsulation
7. In constructor, the declaration of the object is followed by argument list enclosed inparentheses.
   a) Implicit call b) Explicit call
   c) Function call d) Initialized at the time of declaration using =
8. _____class prevent multiple copies of the base class being present in anobject derived from those objects.
   a) Base class b) Derived class
   c) Virtual base class d) Abstract class
9. _____is the collection of addresses.
   a) Array of objects b) Array of address
   c) Array of variables d) Array of pointers
10. A single entry in a table is _____
    a) Tuple b) Entity
    c) Attribute d) Domain
11. Following is not a DML command:
    a) Create b) Insert
    c) Update d) Delete
12. _____is an example for half duplex communication mode.
    a) Radio b) Television
    c) Walkie-Talkie d) Modern telephone system
13. _____is consists of a central node to which all other nodes are connectedby a single path.
    a) Bus topology b) Star topology.
    c) Ring topology d) Tree topology
14. URL stands for_
    a) Unique Resource Location b) Uniform Resource Location
    c) Unique Resource Locator d) Uniform Resource Locator
15. _____refers to web content that changes each time it is viewed
    a) HTML b) XML
    c) DHTML d) PHP

II. Fill in the blanks choosing the appropriate word/words from those givenin brackets. (Repeated answers will not be considered

(Physical data independence, Hierarchical data model, DBMS, One-tier architecture, ER Diagram)

16. _____allows creation, definition & manipulation of database.
17. _____is a visual representation of data that describes how data is related toeach other.
18. _____is an ability of a database to modify a schema definition at internal levelwithout affecting a schema in the next level.
19. _____organizes the data in a tree like structure in which each child node canhave only one parent node.
20. In_____, DBMS is the only entity where user directly sits on DBMS &uses it.

PART – B

Answer any FOUR questions. Each question carries two marks. 2 x 4 = 8

21. Prove that 1 + X = 1 using proof by perfect induction method.
22. Write any two basic postulates of Boolean algebra.
23. Write the disadvantages of object-oriented programming (OOP).
24. Write any two features of destructor.
25. Differentiate between tellg( ) and tellp( ).
26. What is the difference between serial & direct access file organization?
27. Write the syntax & example for drop command.
28. List the goals for networking.

PART – C

Answer any FOUR questions. Each question carries three marks. 3 x 4 = 12

29. What is a port? Explain serial port.
30. Write the logic diagram and the truth table for NAND gate.
31. What are the disadvantages of an arrays?
32. What is static memory allocation? Explain.
33. Mention the types of file. Explain any one.
34. Explain any three database users.
35. What are the advantages of e-commerce?
36. What is web hosting? Mention different types of web hosting.

PART – D

Answer any SIX questions. Each question carries five marks. 5 x 6 = 30

37. Given Boolean function F(A, B, C, D)= Σ(0, 4, 8, 9, 10, 11, 12, 13, 15) Reduce the function F using K-map.
38. Define: a. Root Node b. Leaf Node c. Height d. Depth e. Internal node.
39. Write an algorithm to insert a data element at the rear end of the queue.
40. Write a difference between procedural oriented programming & object-orientedprogramming (OOP).
41. Explain the class definition and declaration with syntax and example.
42. Define an inline function. Write the advantages & disadvantages of inline functions.
43. What is copy constructor? Explain with programming example.
44. What is single level inheritance? Explain with programming example.
45. Give the difference between manual & electronic file systems.
46. Explain the data types used in SQL.
47. Explain any five networking devices.

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Model Question Paper-4
Second PUC Computer Science

Time: 3.15 Hours Max marks: 70

PART – A

Answer all the questions. Each question carries one mark. 1x20 = 20

I. Select the correct answer from the choices given: (Repeated answers will not be considered)

1. The parallel port can transfer_____bit of data at a time.
   a) 1 b) 4
   c) 8 d) 16
2. The X+XY = X is _____
   a) Associative Law b) Involution law
   c) Complementarity law d) Absorption Law
3. A logic gate with only one input signal and one output signal but the output state isalways opposite of the input state is _____
   a) AND gate b) OR gate
   c) NOT gate d) NOR gate
4. _____is an example for linear data structure.
   a) Integer b) Linked list
   c) Graph. d) Tree
5. _____is an instance of a class.
   a) Access specifiers b) Data members
   c) Member functions d) Objects
6. The_____functions are compact function calls.
   a) Overloaded b) Inline
   c) Friend d) All of the above
7. The constructor must be declaring in_____section.
   a) Private b) Public
   c) Protected d) None of the above
8. _____is one that is not used to create objects.
   a) Sub class b) Derived class
   c) Virtual class d) Abstract class
9. _____operation can be performed on pointers.
   a) Addition of two pointers
   b) We can subtract one pointer from another pointer if both point tothe same array.
   c) Subtraction of one pointer from another pointer when they do not pointto the same array.
   d) Multiplication of two pointers
10. _____is a field in a one table that uniquely identifies the row of another table.
    a) Primary key b) Foreign key
    c) Candidate key d) Alternate key
11. Which command is used to modify an existing record in SQL?
    a) Update b) Change
    c) Modify d) Alter
12. A device that connects dissimilar networks is_____
    a) Router b) Bridge
    c) Gateway d) Hub
13. HTTP stands for_____
    a) Hypertext Transistor Protocol b) Hypertext Transfer Protocol
    c) Hypertest Transistor Protocol d) Hypertest Transfer Protocol
14. _____navigates though the world wide web(www) and displays web pages
    a) Web browser b) Website
    c) Web server d) URL
15. _____tag is used to create hyperlink.
    a) b) <a>
    c) <h1> d) <b>

II. Fill in the blanks choosing the appropriate word/words from those givenin brackets.
(Repeated answers will not be considered)

(Specialization, Metadata, Data integrity, Attribute, Relational data model)

16. Each column is identified by a distinct header is called_____
17. _____refers to the validity of data & it can be compromised in a number of ways
18. In_____, there are no physical links.
19. _is a top down approach in which one higher level entity can be brokendown into two lower level entities.
20. _is used to inform operators and uses of the data warehouses aboutits status.

PART – B

Answer any FOUR questions. Each question carries two marks. **2 x 4 = 8**

21. Prove algebraically X (X + Y) = X
22. What is minterm and maxterm?
23. Write any two applications of object-oriented programming (OOP).
24. Write any two features of destructor.
25. Mention the methods of opening file within C++ .
26. Mention the types of data independence.
27. Give the difference between char and varchar datatypes in SQL.
28. Name the different types of twisted pair cable.

PART – C

Answer any FOUR questions. Each question carries three marks. **3 x 4 = 12**

29. Explain the characteristics of motherboard.
30. Write the logic diagram and the truth table for OR gate.
31. What are the applications of an arrays?
32. What is array of pointers? Give an example.
33. Differentiate between ifstream class and ofstream class.
34. Give the different notations for E-R diagram
35. Write any three criteria of open source software.
36. Give the features of DHTML?

PART – D

Answer any SIX questions. Each question carries five marks. **5 x 6 = 30**

37. Given Boolean function F(A, B, C, D)= m0 + m1 + m2 + m3 + m4 + m5 + m8 + m9 + m10 + m11 + m13 + m15. Reduce the function F using K-map.
38. What is primitive data structure? Explain the different operations performed onprimitive data structure.
39. Write an algorithm to search an element in an array using linear search method.
40. Explain the different characteristics of OOP.
41. Explain how do we define member function inside the class definition. Giveexample.
42. Explain friend functions with example.
43. What is copy constructor? Explain with programming example.
44. What is visibility mode? What is its role with respect to inheritance?
45. Explain ISAM with example.
46. What is data definition language? Explain create and select commands in SQL.
47. Explain the applications of networking?

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Model Question Paper-5
Second PUC Computer Science

Time: 3.15 Hours **Max marks: 70**

PART – A

Answer all the questions. Each question carries one mark. **1x20 = 20**

I. Select the correct answer from the choices given: (Repeated answers will not be considered)

1. A slot which is used to connect modem and input devices is _____
   a) AGP slot b) PCI slot
   c) ISA slot d) Processor slot
2. According to Boolean law: X + 1 = _____
   a) 0 b) 1
   c) X d) $\overline{X}$
3. Universal gates are:
   a) AND and OR b)NAND and NOR
   c) XOR and XNOR d) None
4. A queue follows:
   a) LIFO b) FIFO
   c) Linear tree d) Ordered array
5. Data members are accessed only by the member functions, friends of the class andalso by the member functions derived from this class is_____
   a) Private b) Public
   c) Protected d) Friend
6. The inline function may not work some times for one of the following reasons:
   a) The inline function definition is too long or too complicated
   b) The inline function is recursive
   c) The inline function has looping constructs
   d) All of the above
7. A constructor that accepts_____parameters is called the default constructor.
   a) No b) One
   c) Two d) Three
8. The class whose properties are inherited by another class is_____
   a) Base class b) Derived class
   c) Virtual class d) Abstract class
9. Which of the following is the pointer operator?
   a) :: b) .
   c) * d) &
10. Each column is identified by a distinct header is _____
    a) Tuple b) Entity
    c) Attribute d) Domain
11. Which command is used to modify an existing table in SQL?
    a) Update b) Change
    c) Modify d) Alter
12. A set of rules and guidelines for communicating data is_____
    a) Protocol b) Packet
    c) Data gram d) Data channel
13. TCP/IP stands for _____
    a) Telephone control protocol/Internet protocol
    b) Transmission control protocol/Internet protocol
    c) Telephone control protocol/ International protocol
    d) Transmission control protocol/International protocol

14. The software whose source code is available to customers and it can be modifiedand redistributed without any limitations is _____

a) Free software b) Freeware
c) Shareware d) Open source software

15. _____provides an object-oriented view of a Web page and its elements.

a) HTML b) XML
c) DHTML d) PHP

II. Fill in the blanks choosing the appropriate word/words from those givenin brackets.
(Repeated answers will not be considered)

(Domain, Normalization, Aggregration, Data warehouse, Data processing)

16._____is series of actions or operations from input data to generate outputs.17.Set of values for an attribute in that table is called as_____

18. A process when relation between two entities is treated as a single entity iscalled_

19. The process of organizing the data in a database is called_____

20. A repository of an organization's electronically stored data is called _____

PART – B

Answer any FOUR questions. Each question carries two marks. 2 x 4 = 8

21. Prove that $XY+\bar{X}Y=X$.
22. State the principles of duality theorems.
23. Explain data encapsulation.
24. What is a destructor? Give its syntax.
25. Write the member functions belonging to ifstream class.26.Define primary key & foreign key.
27.Write the syntax & example for delete command.
28.Explain simplex communication mode.

PART – C

Answer any FOUR questions. Each question carries three marks. 3 x 4 = 12

29. Explain cache memory.
30. Write the logic diagram and the truth table for AND gate.
31. Write the memory representation two-dimensional arrays in row-major order.
32. What are the advantages of pointer?
33. Explain any three file modes.
34. Explain any three components of E-R diagram.
35. What is e-commerce? Explain types of e-commerce.
36. Explain the structure of HTML.

PART – D

Answer any SIX questions. Each question carries five marks. 5 x 6 = 30

37. Given Boolean function $F(A, B, C, D)=\Sigma(0,1,2,3,4,5,6,7,8,9,10,11)$.
Reduce the function F using K-map.
38. Explain the different operations performed on linear data structure.
39. Write an algorithm for push and pop operation in stack using array.
40. Write the applications of object oriented programming (OOP).
41. Explain the member functions outside a class with an example.
42. Discuss overloaded functions with syntax and example.
43. What is a constructor? Write the rules for writing a constructor function.
44. What is inheritance? What are the advantages of inheritance?
45. Explain the features of database system.
46. Explain the various group functions in SQL.
47. What is network? Mention different network goals.

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