

## P.G. MSC COMP. SCIENCE

1. Processor of all computers, whether Micro, Mini or Mainframe must have
  - (A) ALU
  - (B) Primary Storage
  - (C) Control unit
  - (D) All of the above
  
2. How many address lines are needed to address each memory location in a  $2048 \times 4$  memory chip?
  - (A) 10
  - (B) 11
  - (C) 8
  - (D) 12
  - (E) None of the above
  
3. Memory Unit is one part of
  - (A) Input Device
  - (B) Control Unit
  - (C) Output Device
  - (D) Central Processing Unit
  
4. Which major development led to the production of Micro Computers?
  - (A) Magnetic disks
  - (B) Logic gates
  - (C) Floppy disks
  - (D) Integrated circuits
  
5. Branch Instructions are used to
  - (A) Manipulate numeric data
  - (B) Logic data
  - (C) Transfer control
  - (D) Manage data
  
6. Virtual memory can be implemented with
  - (A) Segmentation
  - (B) Paging
  - (C) None of these
  - (D) All of these
  
7. Pipeline processing uses the technique of
  - (A) Sharing the memory
  - (B) Bit slicing
  - (C) Prefetching
  - (D) Parallel processing

**P.G. MSC COMP. SC.**

8. Demorgan's first theorem says that NOR gate is equivalent to a bubbled \_\_\_\_\_ gate.  
(A) AND (B) XAND (C) XOR (D) NOR
9. A half-adder adds \_\_\_\_\_ bits.  
(A) 16 (B) 8 (C) 10 (D) 2
10. How many memory locations can 14 address bits access ?  
(A) 16,384 (B) 8,192 (C) 4,096 (D) 14
11. Which of the following fields in a student file can be used as a primary key ?  
(A) Class (B) Social security Number  
(C) GPA (D) Major
12. A data dictionary doesn't provide information about :  
(A) Where data is located  
(B) The size of the disk storage device  
(C) How the data is used  
(D) Security and privacy limitation
13. Data items grouped together for storage purpose are called a :  
(A) Record (B) Title (C) List (D) String
14. The language used application programmes to request data from the DBMS is referred to as the  
(A) DML (B) DDL  
(C) Query Language (D) None of the above
15. Data security threats include  
(A) Hardware failure (B) Fraudulent manipulation of data  
(C) All of the above (D) None of the above

16. Data Encryption techniques are particularly useful for

- (A) Reducing storage space requirements
- (B) Improving data integrity
- (C) Protecting data in data communication systems
- (D) All of the above

17. Large collection of files are called

- (A) Data bank
- (B) Database
- (C) Data file
- (D) Data record

18. In an E-R diagram, an entity set is represented by a

- (A) Rectangle
- (B) Ellipse
- (C) Diamond box
- (D) Circle

19. A logical schima

- (A) is the entire data base
- (B) is standard way of organizing information into accessible parts
- (C) describes how data is actually stored in disk
- (D) None of the above

20. A functional dependency of the form  $x \rightarrow y$  is trivial if,

- (A)  $Y \subseteq X$
- (B)  $Y \subset X$
- (C)  $X \subseteq Y$
- (D)  $X \subset Y \& Y \subset X$

21. In OSI Network architectures, the dialogue control and token management are responsibilities of

- (A) Session layer
- (B) Network layer
- (C) Transport layer
- (D) Datalink layer

22. In OSI network architecture, the routing is performed by
- (A) Network layer (B) Data link layer  
(C) Transport layer (D) None of the above
23. Which data communication method is used to transmit the data over a serial communication link ?
- (A) Simplex (B) Half duplex (C) Full duplex (D) (B) & (C)
24. Modulation is the process of
- (A) a file from one computer to another computer  
(B) converting digital signal to analog  
(C) echoing every character that is received  
(D) None of the above
25. A hub in network is
- (A) a multi-port signal repeater or concentrator  
(B) a multi-plug is like a device to allow many computers to be connected  
(C) the central power supply  
(D) None of the above
26. In computer Network the following applications are becoming very popular:
- (A) Hierarchical Applications (B) Centralized Applications  
(C) Client/Server Applications (D) Stand-alone Application
27. To connect a computer with a device in the same room, you might be likely to use
- (A) a coaxial cable (B) a dedicated line  
(C) a ground station (D) All of the above

28. The slowest transmission speeds are those of
- (A) Twisted pair wire (B) Co-axial cable  
(C) Fiber optic cable (D) Microwaves
29. Which of the following TCP/IP protocols is used for remote terminal connection services ?
- (A) RARP (B) FTP (C) TFTP (D) TELENET
30. The frequency range : 300 kHz to 3 MHz is used for
- (A) AM radio transmission (B) FM radio transmission  
(C) TV transmission (D) None of the above
31. Main ( ) is an example of
- (A) Library function (B) User-defined function  
(C) header (D) None of the above
32. A variable that holds the memory address of another object is called a
- (A) Integer (B) Pointer  
(C) Constant (D) Memory Variable
33. A variable can be declared static by using the keyword which is
- (A) External (B) Static  
(C) Register (D) None of the above
34. The Malloc ( ) function
- (A) returns a pointer to the allocated memory  
(B) returns a pointer to the first byte of region of memory  
(C) deallocates the memory  
(D) None of the above

**P.G. MSC COMP. SC.**

35. The logical bit-wise operator is

(A) bit wise AND (&)

(C) bit wise OR (|)

(B) bit wise XOR (^)

(D) None of the above

36. The array definition `int marks [10] [5]` defines an array of

(A) 5 tables, 10 rows

(C) 10 rows, 15 tables

(B) 10 columns, 5 rows

(D) 10 rows, 5 columns

37. Which is the output of the following program ?

```
# include <stdio.h>
# include <math.h>
main ( )
{
    double answer;
    answer = sqrt (100.0);
    print ("%d", answer);
}
```

(A) 10

(B) 3.99

(C) 24

(D) 1

38. If  $p = 5$  and  $q = 6$  then the following expression  $p < q$

(A) is true

(C) is one

(B) is false

(D) None of the above

39. The outcome of a false statement is;

(A) zero

(B) wrong

(C) negative

(D) one

40. A function prototype is

(A) a pre-defined function

(B) a function which contains several return statements

(C) a function which gives information about the function

(D) None of the above

41. The string  
HELLO WORLD  
needs
- (A) 11 bytes                      (B) 12 bytes                      (C) 10 bytes                      (D) 8 bytes
42. The memory address of the first element of an array is called
- (A) Floor address                      (B) Foundation address  
(C) First address                      (D) Base address
43. Which of the following data structure is not linear data structure ?
- (A) Arrays                      (B) Linked list  
(C) Both (A) & (B)                      (D) None of these
44. Queue is a \_\_\_\_\_ list
- (A) LIFO                      (B) LILO                      (C) FILO                      (D) FIFO
45. The data structure required for breadth first traversal on a graph is;
- (A) Queue                      (B) Stack                      (C) Array                      (D) Tree
46. If a B-Tree of order is 5, the following key are inserted as follows :
- 7, 8, 1, 4, 13, 20, 2, 6 & 5
- How many elements are present in the root of the tree ?
- (A) 1                      (B) 2                      (C) 3                      (D) 4
47. Binary search tree is an example of
- (A) Divide & conquer technique                      (B) Greedy algorithm  
(C) Back tracking                      (D) Dynamic programming

**P.G. MSC COMP. SC.**

48. The smallest no. of keys that will force a B-Tree of order 3 to have a height 3 is
- (A) 12 (B) 10  
(C) 7 (D) None of these
49. The data structure required to evaluate a post-fix expression is;
- (A) Queue (B) Stack (C) Array (D) Linked list
50. Which of the following is useful in implementing heap sort ?
- (A) Stack (B) Set (C) List (D) Queue
51. A processor.
- (A) is a device which performs sequence of operation specified by instructions in memory  
(B) a device where information stored  
(C) is a sequence of instructions  
(D) None of the above
52. Assembler is
- (A) a program that places programs into memory and prepares them for execution  
(B) a program which automates the translation of assembly language into machine language  
(C) a program that appears to execute a source program if it were M/C language  
(D) None of the above
53. A loader is
- (A) a program that places program into memeory and prepare them for execution  
(B) a program which automate translation of assembly language into M/C language  
(C) assign address to all statement in the program  
(D) None of the above

54. In an absolute loading scheme, which loader function(s) is accomplished by assembler ?

- (A) Allocation
- (B) Linking
- (C) Reallocation
- (D) None of these

55. The function(s) of scheduler is

- (A) It selects which ready process is to be run
- (B) It specifies the time slice
- (C) Both (A) & (B)
- (D) None of the above

56. The primary job of the O.S of a computer is to;

- (A) Command resources
- (B) Manage resources
- (C) Provide utilities
- (D) None of the above

57. Moving process from main memory to disk is called

- (A) Scheduling
- (B) Caching
- (C) Swapping
- (D) Spooling

58. Special S/W to create a job queue is called a

- (A) Drive
- (B) Spooler
- (C) Interpreter
- (D) None of the above

59. Thrashing

- (A) is a natural consequences of virtual memory
- (B) can always be avoided by swapping
- (C) can be caused by poor paging algorithms
- (D) None of the above

**P.G. MSC COMP. SC.**

60. Block or buffer caches are used
- (A) To improve disk performance
  - (B) To handle interrupts
  - (C) To speed up main memory
  - (D) None of the above
61. A Deadlock
- (A) works well in many small partitions
  - (B) allows many programs
  - (C) does not work with overloading
  - (D) a situation can arise which all the processes want resources for request, use and release
62. Real Time systems are
- (A) primarily used on mainframe computers
  - (B) used for monitoring events as they occur
  - (C) used for program analysis
  - (D) None of the above
63. Which of the following refer to the Associative memory ?
- (A) The address of data is generated by the CPU
  - (B) The address of data is supplied by the users
  - (C) There is no need for an address i.e the data is used as an address
  - (D) None of the above
64. The Access time on a disk pack is equal to
- (A) Seek Time
  - (B) Rotational delay
  - (C) Data Transfer time
  - (D) All of the above
65. Bugs are;
- (A) Clinical mistakes and error that occurs in a programme
  - (B) Caused by loosed connection
  - (C) Both (A) & (B)
  - (D) None of the above

66. Software Engg. primarily aims on

- (A) Reliable S/W
- (B) Cost effective S/W
- (C) Both (A) & (B)
- (D) None of the above

67. Product which satisfy

- (A) Deliverables
- (B) User expectations
- (C) Organization effort in the development
- (D) None of the above

68. Which is not a product metric ?

- (A) Size
- (B) Reliability
- (C) Productivity
- (D) Functionality

69. UML stands for

- (A) Uniform Modeling Language
- (B) Unified Modeling Language
- (C) Unit Modeling Language
- (D) Universal Modeling Language

70. Proto-typing is used to

- (A) Test the S/W as an end product
- (B) Expand design details
- (C) Establish requirements gathering
- (D) None of the above

71. Which one of these are not S/W maintenance activity ?

- (A) Error connection
- (B) Adaptation
- (C) Implementation of enhancement
- (D) Establishing scope

**P.G. MSC COMP. SC.**

**72. CASE tool is**

- (A) Computer aided S/W Engg.
- (B) Component aided S/W Engg.
- (C) Constructive aided S/W Engg.
- (D) Computer analysis S/W Engg.

**73. Context diagram explains**

- (A) the overview of the system
- (B) the internal view of the system
- (C) the entities of the system
- (D) None of the above

**74. DFD stands for**

- (A) Data Flow design
- (B) Descriptive function design
- (C) Data Flow Diagram
- (D) None of the above

**75. In a object oriented S/W design, inheritance is a kind of**

- (A) Relationship
- (B) Module
- (C) Testing
- (D) Optimization

**76. S/W quality is**

- (A) Conformance to requirements
- (B) Fitness for the purpose
- (C) Level of satisfaction
- (D) All of the above

77. During validation

- (A) Processed is checked
- (B) Product is checked
- (C) Developer's performance is evaluated
- (D) The customer checks the product

78. Verification is

- (A) Checking the product with respect to customer's expectations
- (B) Checking the product with respect to specifications
- (C) Checking the product with respect to constraints of the project
- (D) None of the above

79. Design phase is followed by;

- (A) Coding
- (B) Debugging
- (C) Testing
- (D) Maintenance

80. The first step in systems development life cycle is

- (A) Data base design
- (B) GUI
- (C) System design
- (D) Preliminary investigation and analysis

81. Back-up and recovery procedures are primarily implemented to

- (A) Handle the contingency when a file gets corrupted
- (B) To provide data redundancy
- (C) To show different versions
- (D) None of the above

82. Error can be found by "outsider" during

- (A) Structured walkthrough
- (B) Best testing
- (C) Alpha testing
- (D) Debugger

**P.G. MSC COMP. SC.**

- 83.** S/W testing is done to
- (A) connect a error
  - (B) show the absence of defect
  - (C) find an error
  - (D) None of the above
- 84.** System specifications are used to
- (A) get an accurate picture of the system
  - (B) describe system flows
  - (C) avoids ambiguity
  - (D) All of the above
- 85.** Top management is more interested in
- (A) day to day operations
  - (B) tactical decisions
  - (C) strategies decisions
  - (D) None of the above
- 86.** A trunky package includes
- (A) S/W
  - (B) H/W
  - (C) Training
  - (D) All of the above
- 87.** Structured design produces computer programmes that are;
- (A) easily analyzed
  - (B) maintained
  - (C) easily understood
  - (D) Both (A) & (B)
- 88.** The conditions immediately outside a system is called
- (A) the boundary
  - (B) the interface
  - (C) the environment
  - (D) the protocols
- 89.** Black box testing method includes;
- (A) Boundary value analysis
  - (B) Basic path testing
  - (C) Code validation analysis
  - (D) None of the above

90. Which of the following tools is not used for process descriptions ?

- (A) Pseudocodes
- (B) Decision Tables
- (C) Structured English
- (D) Data dictionaries

91. The process of building new classes from existing one is called

- (A) Polymorphism
- (B) Structure
- (C) Inheritance
- (D) Cascading

92. Constructors are called when

- (A) a method is declared
- (B) a class is declared
- (C) an object is declared
- (D) None of the above

93. Function overloading in C++ is

- (A) a group function with same name
- (B) all have same numbers and type of arguments
- (C) Functions with same name and same numbers
- (D) None of the above

94. In C++ a function contains in class called as

- (A) method
- (B) a member function
- (C) a class function
- (D) None of the above

95. Usually, a pure virtual function

- (A) has complete function body
- (B) will never be called
- (C) will be called only to delete an object
- (D) is defined only in derived class

**P.G. MSC COMP. SC.**

96. If any array is declared as `int a [4] = {3, 0, 1, 2}`, then values assigned to `a [0]` & `a [4]` will be  
(A) 3, 2 (B) 0, 2 (C) 3, 0 (D) 0, 4
97. If we create a file by "if stream" then the default mode of the file is  
(A) `ios::out` (B) `ios::in`  
(C) `ios::app` (D) `ios::binary`
98. The process of building new classes from existing one is called  
(A) Structure (B) Inheritance  
(C) Polymorphism (D) Template
99. 'this' pointer  
(A) implicitly points to an object  
(B) can be explicitly used in a class  
(C) can be used to return an object  
(D) All of the above
100. A base class may also be called a  
(A) Child class (B) Sub-class  
(C) Derived class (D) Parent class