

# SAI WEB TECHNOLOGIES ( P ) LTD

## SECTION – A ( APTITUDE )

1. When n is divided by 4, the remainder is 3. What is the remainder when 2n is divided by 4? (a) 1 (b) 2 (c) 3 (d) 6
2. A bag contains 6 black & 8 white balls. One ball is drawn at random. What is the probability that it will be a white?  
(a) 3/4 (b) 4/7 (c) 1/8 (d) 3/7
3. In how many ways can the letters of the word "LEADER" be arranged? (a) 40 (b) 400 (c) 5040 (d) 2520
4. The last day of the century can't be ? (a) Monday (b) Wednesday (c) Friday (d) Tuesday
5. A hemisphere and cone has equal bases. If their heights are also equal, then the ratio of their curved surfaces will be?  
(a) 1:2 (b) 2:1 (c) 1:√2 (d) √2:1
6. In a triangle the area is numerically equal to the perimeter, then the radius of the inscribed circle of the triangle is?  
(a) 1 (b) 1.5 (c) 2 (d) 3
7. The circular wire of radius 42 cm is bent in the form of a rectangle whose sides are in the ratio of 6:5. The smaller side of the rectangle is ?  
(a) 25 cm (b) 30 cm (c) 36 cm (d) 60 cm
8. What annual payment will discharge a debt of Rs. 1025 due in 2 years at the rate of 5% compound interest ?  
(a) Rs. 550 (b) Rs. 551.25 (c) Rs. 560 (d) Rs. 560.75
9. Three taps A , B & C can fill a tank in 12, 15 & 20 hours respectively. If A is opened all the time and B & C are opened for 1 hr each alternatively, the tank will be full in ? (a) 6 hrs (b) 6.66 (c) 5 (d) 7.5
10. 4 men and 6 women can complete a work in 8 days, while 3 men and 7 women can complete it in 10 days. In how many days can 10 women complete it? (a) 35 (b) 40 (c) 45 (d) 50

**Directions(Qs 11 to 15):** Study the following table carefully and answer the questions given below it.

Category	<i>No. of Employees of various categories in Five Factories</i>				
	A	B	C	D	E
Officers	270	220	160	310	165
Supervisors	200	180	280	250	270
Technicians	330	290	255	280	225
Skilled Labourers	150	130	110	125	95
Unskilled Labourers	180	75	180	200	155

11. In which factory is the number of employees in Technicians category the minimum?  
a) A (b) B (c) D (d) None of these
  12. In how many factories is the number of Supervisors and Technicians categories employees together more than 50% of the total employees of that factory? a) One (b) Two (c) Three (d) Four
  13. In which factory is the total number of employees the maximum? a) B (b) C (c) D (d) E
  14. In factory A, the number of employees in Officers' category was what percent of employees in Supervisor's?  
a) 135 (b) 125 (c) 24 (d) 25
  15. In which factory was the number of employees in skilled labourers' category exactly half the number of employees in Supervisors' category?  
a) A (b) B (c) C (d) D
- Find the Synonym of the following:**
16. MODERATION  
(a) reticence (b) equanimity (c) humility (d) care
  17. PANORAMIC  
(a) extensive (b) picturesque (c) distant (d) ceremonial
  18. WEB

- (a) erode (b) create (c) clothe (d) lattice
- Find the Antonym of the following:**
19. TOUCHY  
 (a) obedient (b) fortunate (c) genial (d) sympathetic
20. UNACCOUNTABLE  
 (a) desirable (b) honest (c) potent (d) comprehensible
21. WIDEN  
 (a) prevent (b) compress (c) encase (d) hinder

**Find the right analogy of the following:**

22. concept is to notion as fixation is to:  
 (a) obsession (b) idea (c) intuition (d) apprehension
23. confound is to bewilder as astound is to:  
 (a) surprise (b) confuse (c) startle (d) astonish
24. corolla is to petals as pedicel is to:  
 (a) flower (b) stalk (c) root (d) leaves
25. FLOWER: SNEEZE:: \_\_\_\_\_ : \_\_\_\_\_  
 (a) bunch: flower (b) colourful: pale (c) garden: plants (d) chocolate: scratch

**SECTION – B ( TECHNICAL )**

**Operating Systems**

26. 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 e) None of the above
27. To avoid the race condition, the number of processes that may be simultaneously inside their critical section is  
 a) 8 b) 1 c) 16 d) 0 e) None of the above
28. Addressing structure  
 a) Defines the fundamental method of determining effective operand addresses  
 b) Variations in the use of fundamental addressing structures or some associated actions which are related to addressing.  
 c) Performs indicated operations on two fast registers of the machine and leaves the result in one of the registers.  
 d) All of the above e) None of the above
29. 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". e) None of the above
30. The Storage-to-Storage instructions  
 a) Have both their operands in the main store.  
 b) Which perform an operation on a register operand and an operand which is located in the main store, generally leaving the result in the register, expect in the case of store operation when it is also written into the specified storage location.  
 c) Which perform indicated operations on two fast registers of the machine and have the result in one of the registers  
 d) All of the above e) None of the above

**Data Structures & Algorithm**

31. The memory address of fifth element of an array can be calculated by the formula  
 a)  $LOC(Array[5]) = Base(Array) + w(5 - \text{lower bound})$ , where w is the number of words per memory cell for the array  
 b)  $LOC(Array[5]) = Base(Array[5]) + (5 - \text{lower bound})$ , where w is the number of words per memory cell for the array  
 c)  $LOC(Array[5]) = Base(Array[4]) + (5 - \text{Upper bound})$ , where w is the number of words per memory cell for the array  
 d) None of above
32. Two dimensional arrays are also called  
 a) tables arrays b) matrix arrays c) both of above d) none of above
33. Which of the following statement is false?  
 a) Arrays are dense lists and static data structure b) data elements in linked list need not be stored in adjacent space in memory  
 c) pointers store the next data element of a list d) linked lists are collection of the nodes that contain information part and next pointer

34. Each data item in a record may be a group item composed of sub-items; those items which are indecomposable are called  
 a) elementary items      b) atoms      c) scalars      d) all of above
35. A variable P is called pointer if  
 a) P contains the address of an element in DATA      b) P points to the address of first element in DATA  
 c) P can store only memory addresses      d) P contain the DATA and the address of DATA
36. The difference between linear array and a record is  
 a) An array is suitable for homogeneous data but the data items in a record may have different data type  
 b) In a record, there may not be a natural ordering in opposed to linear array.  
 c) A record form a hierarchical structure but a linear array does not      d) All of above
37. Which of the following name does not relate to stacks?  
 a) FIFO lists      b) LIFO list      c) Piles      d) Push-down lists
38. Which of the following is not the required condition for binary search algorithm?  
 a) The list must be sorted      b) there should be the direct access to the middle element in any sublist  
 c) There must be mechanism to delete and/or insert elements in list      d) none of above
39. Which of the following is not a limitation of binary search algorithm?  
 a) must use a sorted array      b) requirement of sorted array is expensive when a lot of insertion and deletions are needed  
 c) there must be a mechanism to access middle element directly  
 d) binary search algorithm is not efficient when the data elements are more than 1000.

#### Programming Languages

40. Which of the following are valid characters for a numeric literal constant?  
 a) a comma      b) a dollar sign (\$)      c) a percent sign (%)      d) a space      e) None of the above
41. A function that changes the state of the cout object is called a(n) \_\_\_\_\_.  
 a) member      b) adjuster      c) manipulator      d) operator
42. Format flags may be combined using  
 a) the bitwise OR operator (|)      b) the logical OR operator (||)      c) the bitwise AND operator (&)      d) the logical AND operator (&&)
43. To be called object-oriented, a programming language must allow  
 a) functions that return only a single value      b) #include files      c) inheritance      d) All of the above

#### Basic Networking Concepts

44. Ethernet frame consists of  
 a) MAC address      b) IP address      c) both (a) and (b)      d) none of the mentioned
45. MAC address is of  
 a) 24 bits      b) 36 bits      c) 42 bits      d) 48 bits
46. High speed Ethernet works on  
 a) coaxial cable      b) twisted pair cable      c) optical fiber      d) none of the mentioned
47. DHCP (dynamic host configuration protocol) provides \_\_\_\_\_ to the client.  
 a) IP address      b) MAC address      c) url      d) none of the mentioned
48. Physical or logical arrangement of network is  
 a) Topology      b) Routing      c) Networking      d) None of the mentioned

#### Microprocessor

49. The devices that provide the means for a computer to communicate with the user or other computers are referred to as:  
 a) CPU      b) ALU      c) I/O      d) none of the above
50. The software used to drive microprocessor-based systems is called:  
 a) assembly language      b) firmware      c) machine language code      d) BASIC interpreter instructions