Set No. 1 | 17P/208/22 | Question Booklet No......................

INSTRUCTIONS TO CANDIDATES

(Use only **blue/black ball-point pen** in the space above and on both sides of the Answer Sheet)

1. Within 30 minutes of the issue of the Question Booklet, check the Question Booklet to ensure that it contains all the pages in correct sequence and that no page/question is missing. In case of faulty Question Booklet bring it to the notice of the Superintendent/Invigilators immediately to obtain a fresh Question Booklet.

2. Do not bring any loose paper, written or blank, inside the Examination Hall *except the Admit Card without its envelope.*

3. A separate Answer Sheet is given. *It should not be folded or mutilated. A second Answer Sheet shall not be provided. Only the Answer Sheet will be evaluated.*

4. Write your *Roll Number and Serial Number of the Answer Sheet by pen* in the space provided above.

5. **On the front page of the Answer Sheet, write by pen your Roll Number in the space provided at the top, and by darkening the circles at the bottom. Also, wherever applicable, write the Question Booklet Number and the Set Number in appropriate places.**

6. No overwriting is allowed in the entries of Roll No., Question Booklet No. and Set No. (if any) on OMR sheet and also Roll No. and OMR Sheet No. on the Question Booklet.

7. Any change in the aforesaid entries is to be verified by the invigilator, otherwise it will be taken as unfair means.

8. Each question in this Booklet is followed by four alternative answers. *For each question, you are to record the correct option on the Answer Sheet by darkening the appropriate circle* in the corresponding row of the Answer Sheet, by ball-point pen as mentioned in the guidelines given on the first page of the Answer Sheet.

9. For each question, darken only one circle on the Answer Sheet. If you darken more than one circle or darken a circle partially, the answer will be treated as incorrect.

10. *Note that the answer once filled in ink cannot be changed.* If you *do not wish to attempt* a question, leave all the circles in the corresponding row blank (such question will be awarded zero mark).

11. For rough work, use the inner back page of the title cover and the blank page at the end of this Booklet.

12. Deposit *only the OMR Answer Sheet* at the end of the Test.

13. You are not permitted to leave the Examination Hall until the end of the Test.

14. If a candidate attempts to use any form of unfair means, he/she shall be liable to such punishment as the University may determine and impose on him/her.

[उपर्युक्त निर्देश हिन्दी में अन्तिम आवरण-पृष्ठ पर दिये गए हैं]

[No. of Printed Pages : 24+2]

22.

No. of Questions : 120

Time : 2 Hours   **Full Marks :** 360

Note :   (1)   Attempt as many questions as you can. Each question carries **3** marks. **One** mark will be deducted for each incorrect answer. Zero mark will be awarded for each unattempted question.

(2)   If more than one alternative answers seem to be approximate to the correct answer, choose the closest one.

1. If a cache requires one clock cycle and handling cache misses stalls the processor for an additional five cycles, which one of the following cache hit rates comes closest in achieving an average memory access of two clock cycles?

   (1) 75%   (2) 78%   (3) 80%   (4) 82%

2. Consider a system with 75% hit ratio, 100 nanoseconds time to search the associative registers (which contains the page number), 800 nanoseconds time to access memory. Find the effective memory access time

   (1) 950 ns   (2) 1050 ns   (3) 1100 ns   (4) 500 ns

3. What is the hit-ratio of a cache if a system performs memory access at 30 nanoseconds with the cache and 150 nanoseconds without it? Assume the cache uses 20 nanoseconds memory. Choose the closest estimate

   (1) 98%   (2) 92%   (3) 87%   (4) 81%

(P.T.O.)

4. What is the maximum allowable size for memory and the largest unsigned binary number that can be accommodated in one word of memory?

   (1) $2^{16}, 2^{24}+1$

   (2) $2^{16}, 2^{24}$

   (3) $2^{16}, 2^{24}-1$

   (4) $2^{16}-1, 2^{24}-1$

5. Exponent in floating point number representation is biased to

   (1) for unique representation

   (2) avoid comparing sign bits of exponent in floating point arithmetic operation

   (3) enhance the range of representation

   (4) Both (1) and (2)

6. What is the maximum number a k-bit two's complement number can represent?

   (1) 2^{k}

   (2) 2^{k-1}

   (3) $2^{k}-1$

   (4) $2^{k-1}-1$

7. What is the representation of the (decimal) number – 4 in 4 bit 2's complement format?

   (1) 1111

   (2) 1011

   (3) 1100

   (4) 0100

8. A computer's memory is composed of 8K words of 32 bits each. How many bits are required for memory address if the smallest addressable memory unit is a word?

   (1) 13

   (2) 8

   (3) 10

   (4) 6

(34)

9. Consider the number $(10 \cdot 625)_{10}$, the binary equivalent is

(1) 1010   (2) 1010·10   (3) 1010·101   (4) 101·1010

10. Dividing $(1110101)_2$ by $(1001)_2$ will be

(1) 1100   (2) 1001   (3) 110   (4) None of these

11. Code conversion circuits mostly uses

(1) AND-OR gates   (2) AND gates

(3) OR gates   (4) XOR gates

12. Using a 11-bit 2's complement representation, what is the maximum integer that can be represented in decimal?

(1) 1023   (2) 1024   (3) 512   (4) 511

13. If $(x436)_8 + (5xy7)_8 = (66xy)_8$, the value of x, y are respectively

(1) 2, 5   (2) 1, 5   (3) 4, 2   (4) 2, 4

14. Given $\sqrt{(1201)_r} = (25)_r$, the value of radix r is

(1) 5   (2) 6   (3) 10   (4) 8

15. The clock signals are used in sequential logic circuits

(1) to tell the time of the day

(2) to tell how much time has elapsed since the system was turned on

(3) to carry serial data signals

(4) to synchronize events in various parts of system

(34)   3   (P.T.O.)

16. Which one of the following flip-flops is free from race around problem?

    (1) T flip-flop (2) SR flip-flop

    (3) Master slave J-K flip-flop (4) All of the above

17. Which combination of gates does not know the implementation of an arbitrary Boolean function?

    (1) OR gates and AND gates

    (2) OR gates and exclusive -OR gate only

    (3) OR gates and NOT gates only

    (4) NAND gates only

18. BCD coded numbers express each digit as

    (1) 1 bit (2) nibble (3) 1 byte (4) None of these

19. When $2n$-bit binary numbers are added the sum will contain at the most

    (1) n bits (2) $n+1$ bits (3) $n+2$ bits (4) $n+3$ bits

20. CPU register that holds address of the next instruction is

    (1) stack pointer (2) program counter

    (3) accumulator (4) None of these

21. An n-bit gray code can be obtained by reflecting an ——— bit code.

    (1) n (2) $n+1$ (3) $n-1$ (4) None of these

4

22. The number of ternary Boolean function is

    (1) 8   (2) 81   (3) 256   (4) 729

23. When an odd number is converted into the binary number the LSB is

    (1) 0   (2) 1   (3) 0 or 1   (4) None of these

24. Magnitude comparator compares using operation of

    (1) addition   (2) subtraction   (3) division   (4) multiplication

25. What will be the output of the program?

```
int main( )
{
    int i = 2;
    int j = i + (1, 2, 3, 4, 5);
    printf("%d\n", j);
    return 0;
}
```

    (1) 4   (2) 7   (3) 5   (4) 3

26. Which one of the following is the correct order of evaluation for the below expression?

$$z = x + y * z / 4 \% 2 - 1$$

    (1) $* / \% + - =$ (2) $= * / \% + -$

    (3) $/ * \% - + =$ (4) $* \% / - + =$

(34)   5

27. In 'C', the keyword used to transfer control from a function back to the calling function is

    (1) switch   (2) goto   (3) return   (4) void

28. How will you free the allocated memory in 'C' language?

    (1) remove (variable_name);   (2) free(variable_name);

    (3) delete(variable_name);   (4) dalloc(variable_name);

29. Which one of the following statements is correct prototype of the malloc( ) function in 'C'?

    (1) int* malloc(int);

    (2) char* malloc(char);

    (3) unsigned int* malloc(unsigned int);

    (4) void* malloc(size_t);

30. What is the name of the method used to start a thread execution?

    (1) init( );   (2) start( );   (3) thread( );   (4) run( );

31. What is the prototype of the default constructor?

    public class Test { }

    (1) test( )   (2) test(void)

    (3) public Test( )   (4) public Test(void)

6

32. Which one of the following is not the member of class?

(1) Static function

(2) Friend function

(3) Const function

(4) Virtual function

33. In order traversal of binary search tree will produce

(1) unsorted list

(2) reverse of input

(3) sorted list

(4) None of the above

34. Size of a union is determined by size of the

(1) first member in the union

(2) last member in the union

(3) biggest member in the union

(4) sum of the sizes of all members

35. Comment on the output of this 'C' code?

```
#include<stdio.h>
int main( )
{
    float f1=0.1;
    if (f1==0.1)
        printf("Equal\n");
    else
        printf("Not equal\n");
}
```

(1) Equal

(2) Not equal

(3) Output depends on compiler

(4) None of the mentioned

7

(34)

(P.T.O.)

36. What is the purpose of the function?

    int ferror(FILE *fp)

    (1) They check for input errors

    (2) They check for output errors

    (3) They check for all types of errors

    (4) They check for error in accessing the file

37. What allows the programmer to destroy an object x ?

    (1) x.delete( )

    (2) x.finalize( )

    (3) Runtime.getRuntime( ).gc( )

    (4) Only the garbage collection system can destroy an object

38. *enum* types are processed by

    (1) Compiler (2) Preprocessor (3) Linker (4) Assembler

39. Which one of the following is false?

    (1) Constant variables need not be defined as they are declared and can be defined late.

    (2) Global constant variables are initialized to zero

    (3) Const keyword is used to define constant values

    (4) You cannot reassign a value to a constant variable

8

(34)

40. How many number of pointer (*) does 'C' have against a pointer variable declaration?

   (1) 7   (2) 127   (3) 255   (4) No limits

41. How many permutations of the letters ABCDEFGH contain the string ABC ?

   (1) 120   (2) 720   (3) 56   (4) 216

42. What is the coefficient of $x^{12}y^{13}$ in the expansion of $(x+y)^{25}$?

   (1) 3900   (2) 5200300   (3) 325   (4) 20756736

43. Let

   m = "Juan is a math major,"
   c = "Juan is a computer science major,"
   g = "Juan's girlfriend is a literature major,"
   h = "Juan's girlfriend has read Hamlet," and
   t = "Juan's girlfriend has read The Tempest."

   Which one of the following expresses the statement "Juan is a computer science major and a math major, but his girlfriend is a literature major who hasn't read both The Tempest and Hamlet" ?

   (1) $c \wedge m \wedge (g \vee (\sim h \vee \sim t))$ (2) $c \wedge m \wedge g \wedge (\sim h \wedge \sim t)$

   (3) $c \wedge m \wedge g \wedge (\sim h \vee \sim t)$ (4) $c \wedge m \wedge (g \vee (\sim h \wedge \sim t))$

44. The Boolean function $[\sim(\sim p \wedge q) \wedge \sim(\sim p \wedge \sim q)] \vee (p \wedge r)$ is equal to the Boolean function

   (1) q (2) $p \wedge r$ (3) $p \vee q$ (4) p

(34)   9   (P.T.O.)

45. What is the Cardinality of the Power set of the set { 0, 1, 2 } ?

    (1) 8   (2) 6   (3) 7   (4) 9

46. The relation { (1, 2), (1, 3), (3, 1), (1, 1), (3, 3), (3, 2), (1, 4), (4, 2), (3, 4) } is

    (1) reflexive   (2) transitive   (3) symmetric   (4) asymmetric

47. How many words can be formed out of the letters of the word PECULIAR beginning with P and ending with R ?

    (1) 100   (2) 120   (3) 720   (4) 150

48. Which one of the following pairs is not congruent modulo 7 ?

    (1) 10, 24   (2) 25, 56   (3) −31, 11   (4) −64, 15

49. $[\sim q \wedge (p \to q)] \to \sim p$ is

    (1) satisfiability   (2) unsatisfiability

    (3) tautology   (4) invalid

50. $f(x) = \cos x$ and $g(x) = x^3$, then $(f \circ g)(x)$ is

    (1) $(\cos x)^3$ (2) $\cos 3x$ (3) $x^{(\cos x)3}$ (4) $\cos x^3$

51. The minimum number of cards to be dealt from an arbitrarily shuffled deck of 52 cards to guarantee that three cards are from some same suit is

    (1) 8   (2) 3   (3) 9   (4) 12

(34)

52. The complement of the set A is

    (1) $A - B$ (2) $U - A$ (3) $A - U$ (4) $B - A$

53. A partial ordered relation is transitive, reflexive and

    (1) antisymmetric   (2) bisymmetric

    (3) antireflexive   (4) asymmetric

54. The number of distinguishable permutations of the letters in the word BANANA are

    (1) 60   (2) 36   (3) 20   (4) 10

55. Which one of the following regular expressions over $\{1, 0\}$ denotes the set of all strings not containing 100 as sub string?

    (1) $0*(1*0)*$ (2) $0*1010*$ (3) $0*1*01*$ (4) $0*(10+1)*$

56. Which one of the following propositions is a tautology?

    (1) $(p \vee q) \to p$ (2) $p \vee (q \to p)$ (3) $p \vee (p \to q)$ (4) $p \to (p \to q)$

57. What are the time complexities of finding 10th element from beginning and 10th element from end in a singly linked list? Let n be the number of nodes in linked list, you may assume that $n > 10$.

    (1) $O(1)$ and $O(n)$ (2) $O(1)$ and $O(1)$

    (3) $O(n)$ and $O(1)$ (4) $O(n)$ and $O(n)$

58. Is it possible to create a doubly linked list using only one pointer with every node?

(1) Not possible

(2) Yes, possible by storing XOR of addresses of previous and next nodes

(3) Yes, possible by storing XOR of current node and next node

(4) Yes, possible by storing XOR of current node and previous node

59. Which one of the following is an application of Stack Data Structure?

(1) Managing function call

(2) The stock span problem

(3) Arithmetic expression evaluation

(4) All of the above

60. How many stacks are needed to implement a queue? Consider the situation where no other data structure like arrays, linked list is available

(1) 1   (2) 2   (3) 3   (4) 4

61. How many distinct binary search trees can be created out of 4 distinct keys?

(1) 5   (2) 14   (3) 24   (4) 42

62. A binary search tree is generated by inserting in order the following integers :

50, 15, 62, 5, 20, 58, 91, 3, 8, 37, 60, 24

The number of nodes in the left subtree and right subtree of the root respectively is

(1) (8, 3)   (2) (3, 8)   (3) (7, 4)   (4) (4, 7)

(34)

12

63. The following numbers are inserted into an empty binary search tree *in the* given order :

$$10, 1, 3, 5, 15, 12, 16$$

What is the height of the binary search tree (the height is the maximum distance of a leaf node from the root)?

(1) 2   (2) 3   (3) 4   (4) 6

64. Which one of the following traversals is sufficient to construct BST from given traversals (a) inorder, (b) preorder and (c) postorder?

(1) Any one of the given three traversals is sufficient

(2) (b) and (c)

(3) (a) and (c)

(4) Either (b) or (c) is sufficient

65. Which one of the following operations is not $O(1)$ for an array of sorted data? You may assume that array elements are distinct

(1) Find the ith largest element   (2) Find the *ith* smallest element

(3) Delete an element   (4) All of the above

66. What is the time complexity of fun( )?

```
int fun (int n)

    int count = 0;
    for (int i = 0; i < n; i++)
        for(int j = i; j > 0; j--)
            count = count -1;
    return count
```

(1) $\theta(n)$ (2) $\theta(n^2)$ (3) $\theta(n \log n)$ (4) $\theta(n^3)$

(34)   13   *(P.T.O.)*

67. Which one of the following is not $O(n\wedge2)$?

    (1) $(15^{10})n + 12099$

    (2) $n^{1\cdot98}$

    (3) $n^3 / sqrt(n)$

    (4) $N(\log N)^2$

68. What is the worst case time complexity of insertion sort where position of the data to be inserted is calculated using binary search?

    (1) N (2) $N \log N$ (3) N^2 (4) $(2^{20})*n$

69. Which sorting algorithm will take least time when all elements of input array are identical? Consider typical implementations of sorting algorithms

    (1) Insertion sort   (2) Heap sort   (3) Merge sort   (4) Selection sort

70. Which one of the following is correct recurrence for worst case of binary search?

    (1) $T(n) = 2T(n/2) + O(1)$ and $T(1) = T(0) = O(1)$

    (2) $T(n) = T(n-1) + O(1)$ and $T(1) = T(0) = O(1)$

    (3) $T(n) = T(n/2) + O(1)$ and $T(1) = T(0) = O(1)$

    (4) $T(n) = T(n-2) + O(1)$ and $T(1) = T(0) = O(1)$

71. Predict output of the following program

```
# include < stdio.h >
int fun (int n)
{
    if ( n == 4)
            return n;
    else return 2*fun (n + 1);

}
int main( )
{
    printf("%d",fun(2));
    return 0;

}
```

    (1) 4   (2) 8   (3) 16   (4) 32

14

(34)

72. To evaluate an expression without any embedded function calls

   (1) one stack is enough

   (2) two stacks are needed

   (3) as many stacks as the height of the expression tree are needed

   (4) a Turing machine is needed in the general case

73. Where was the first computer installed in India?

   (1) Indian Statistical Institute, Kolkata

   (2) Indian Institute of Statistics, Delhi

   (3) Indian Institute of Science, Bengaluru

   (4) Indian Institute of Management, Ahmedabad

74. The browser's ——— keeps a list of web pages you have visited during the current session.

   (1) favorites   (2) cache   (3) history   (4) All of these

75. Which one of the following should not be used while sending passwords or other sensitive information?

   (1) GET   (2) POST   (3) REQUEST   (4) NEXT

76. What is the frequency range of the IEEE 802.11 a standard?

   (1) 2.4 Gbps   (2) 5 Gbps   (3) 2.4 GHz   (4) 5 GHz

(34)   15   (P.T.O.)

77. Which one of the following might be used to convert high-level language instructions into machine language?

    (1) System Software

    (2) Applications Software

    (3) An Operating Environment

    (4) An Interpreter

78. Each of data files has a ———— that describe the way the data is stored in the file.

    (1) File structure

    (2) Records

    (3) Fields

    (4) Database

79. Which one of the following languages is more suited to a structured program?

    (1) PROLOG   (2) FORTRAN   (3) BASIC   (4) PASCAL

80. Which one of the following computer languages is used for artificial intelligence?

    (1) PROLOG   (2) FORTRAN   (3) BASIC   (4) PASCAL

81. Which one of the following is the fastest?

    (1) CPU

    (2) Magnetic tapes

    (3) Registers

    (4) Disks

82. Which one of the following printers can be classified as a page-at-a-time printer?

    (1) Laser printer

    (2) Dot-matrix printer

    (3) Thermal printer

    (4) Inkjet printer

16

(34)

83. RS-232 is a standard that applies to

   (1) serial ports   (2) parallel ports   (3) networks   (4) game ports

84. CAD/CAM is the inter-relationship between

   (1) manufacturing and marketing   (2) marketing and design

   (3) engineering and marketing   (4) engineering and manufacturing

85. The method in which records are physically stored in a specified order according to a key field in each record is

   (1) hash   (2) direct   (3) sequential   (4) All of the above

86. Related fields in a database are grouped to form a

   (1) Data File   (2) Data Record   (3) Menu   (4) Bank

87. The Management Information System (MIS) structure with one main computer system is called as

   (1) hierarchical   (2) distributed   (3) centralized   (4) decentralized

88. Choose the RDBMS which supports full fledged client server application development

   (1) dBase V   (2) Oracle 7.1   (3) FoxPro 2.1   (4) Ingress

89. Reflexivity property says that $X - Y$ is true if Y is

   (1) subset of X (2) null set of X

   (3) super set of Y (4) subset of Y

(34)

17

(P.T.O.)

90. SET concept is used in

(1) Network Model   (2) Hierarchical Model

(3) Relational Model   (4) All of the above

91. An entity set that does not have sufficient attributes to form a primary key is a

(1) strong entity set   (2) weak entity set

(3) simple entity set   (4) primary entity set

92. The language used in application programs to request data from the DBMS is referred to as the

(1) DML   (2) DDL   (3) VDL   (4) SDL

93. ———— clause is an additional filter that is applied to the result.

(1) Select   (2) Group by   (3) Having   (4) Order by

94. In case of entity integrity, the primary key may be

(1) not null   (2) null

(3) any value   (4) both null and not null

95. Database locking concept is used to solve the problem of

(1) lost update   (2) uncommitted dependency

(3) inconsistent data   (4) All of the above

18

96. The main task carried out in the —— is to remove repeating attributes to separate tables.

   (1) first normal form   (2) second normal form

   (3) third normal form   (4) fourth normal form

97. To avoid the race condition, the number of processes that may be simultaneously inside their critical section is

   (1) 8   (2) 1   (3) 16   (4) 0

98. A system program that combines the separately compiled modules of a program into a form suitable for execution

   (1) assembler   (2) linking loader

   (3) cross compiler   (4) load and go

99. Which of the following statements is false?

   (1) The technique of storage compaction involves moving all occupied areas of storage to one end or other of main storage

   (2) Compaction does not involve relocation of programs

   (3) Compaction is also known as garbage collection

   (4) The system must stop everything while it performs the compaction

100. Which one of the following functions is (are) performed by the loader?

   (1) Allocate space in memory for the programs and resolve symbolic references between object decks

   (2) Adjust all address dependent locations, such as address constants, to correspond to the allocated space

   (3) Physically place the machine instructions and data into memory

   (4) All of the above

(34)   19

101. A page fault occurs

(1) when the page is not in the memory

(2) when the page is in the memory

(3) when the process enters the blocked state

(4) when the process is in the ready state

102. Routine is not loaded until it is called. All routines are kept on disk in a *relocatable* load format. The main program is loaded into memory and is executed. This type of loading is called

(1) static loading

(2) dynamic loading

(3) dynamic linking

(4) overlays

103. Virtual *memory is*

(1) an extremely large main memory

(2) an extremely large secondary memory

(3) an illusion of extremely large main memory

(4) a type of memory used in supercomputers

104. Which is not the state of the process?

(1) Blocked   (2) Running   (3) Ready   (4) Privileged

20

105. In priority scheduling algorithm, when a process arrives at the ready queue, its priority is compared with the priority of

(1) all process   (2) currently running process

(3) parent process   (4) init process

106. Page stealing

(1) is a sign of efficient system

(2) is taking page frames from other working sets

(3) should be the tuning goal

(4) is taking larger disk spaces for pages paged out

107. Optimal page-replacement algorithm is difficult to implement, because

(1) it requires a lot of information

(2) it requires future knowledge of the reference string

(3) it is too complex

(4) it is extremely expensive

108. An operating system contains 3 user processes, each requiring 2 units of resource R. The minimum number of units of R such that no deadlocks will ever arise is

(1) 4   (2) 3   (3) 5   (4) 6

109. How long is an IPv6 address?

    (1) 32 bits   (2) 128 bytes   (3) 32 bytes   (4) 128 bits

110. WPA2 is used for security in

    (1) ethernet   (2) bluetooth   (3) wi-fi   (4) All of the above

111. Which two of the following are true regarding the distance-vector and link-state routing protocols?

    (a) Link state sends its complete routing table out all active interfaces on periodic time intervals.

    (b) Distance-vector sends its complete routing table out all active interfaces on periodic time intervals.

    (c) Link-state sends updates containing the state of its own links to all routers in the internetwork.

    (d) Distance-vector sends updates containing the state of its own links to all routers in the internetwork.

    (1) (a) only   (2) (c) only

    (3) (b) and (c) only   (4) (a) and (d) only

112. IPSec is designed to provide the security at the

    (1) transport layer   (2) network layer

    (3) application layer   (4) session layer

113. Which class of IP address has the most host addresses available by default?

    (1) A   (2) B   (3) C   (4) D

22

(34)

114. What is the maximum number of IP addresses that can be assigned to hosts on a local subnet that uses the 255.255.255.224 subnet mask?

    (1) 14   (2) 15   (3) 32   (4) 30

115. What is the 'subnetwork' address of a host with an IP address of 172.16.66.0/21 ?

    (1) 172.16.36.0   (2) 172.16.48.0   (3) 172.16.64.0   (4) 172.16.0.0

116. Which WAN encapsulations can be configured on an asynchronous serial connection?

    (a) PPP

    (b) ATM

    (c) HDLC

    (d) SDLC

    (e) Frame Relay

    (1) (a) and (b)   (2) (b) and (d)

    (3) (c), (d) and (e)   (4) All of the above

117. In computer security, ——— means that the information in a computer system only be accessible for reading by authorized parities.

    (1) confidentiality   (2) integrity

    (3) availability   (4) authenticity

118. When a DNS server accepts and uses incorrect information from a host that has no authority giving that information, then it is called

    (1) DNS lookup   (2) DNS hijacking

    (3) DNS spoofing   (4) DNS resolve

(34)   23

(P.T.O.)

119. The method of communication in which transmission takes place in both directions, but only one direction at a time is called

    (1) simplex

    (2) four-wire circuit

    (3) half-duplex

    (4) full-duplex

120. Error detection at the data link level is achieved by

    (1) hamming code

    (2) cyclic redundancy code

    (3) bit stuffing

    (4) equalization

★★★

D/7(34)—300

अभ्यर्थियों के लिए निर्देश

(इस पुस्तिका के प्रथम आवरण-पृष्ठ पर तथा उत्तर-पत्र के दोनों पृष्ठों पर केवल नीली या काली बाल-प्वाइंट पेन से ही लिखें)

1. प्रश्न पुस्तिका मिलने के 30 मिनट के अन्दर ही देख लें कि प्रश्नपत्र में सभी पृष्ठ मौजूद हैं और कोई प्रश्न छूटा नहीं है। पुस्तिका दोषयुक्त पाये जाने पर इसकी सूचना तत्काल कक्ष-निरीक्षक को देकर सम्पूर्ण प्रश्नपत्र की दूसरी पुस्तिका प्राप्त कर लें।

2. परीक्षा भवन में *लिफाफा रहित प्रवेश-पत्र के अतिरिक्त,* लिखा या सादा कोई भी खुला कागज साथ में न लायें।

3. उत्तर-पत्र अलग से दिया गया है। *इसे न तो मोड़ें और न ही विकृत करें। दूसरा उत्तर-पत्र नहीं दिया जायेगा, केवल उत्तर-पत्र का ही मूल्यांकन किया जायेगा।*

4. अपना *अनुक्रमांक तथा उत्तर-पत्र का क्रमांक प्रथम आवरण-पृष्ठ* पर पेन से निर्धारित स्थान पर लिखें।

5. उत्तर-पत्र के प्रथम पृष्ठ पर पेन से अपना अनुक्रमांक निर्धारित स्थान पर लिखें तथा नीचे दिये वृत्तों को गाढ़ा कर दें। जहाँ-जहाँ आवश्यक हो वहाँ प्रश्न-पुस्तिका का क्रमांक तथा सेट का नम्बर उचित स्थानों पर लिखें।

6. ओ० एम० आर० पत्र पर अनुक्रमांक संख्या, प्रश्न-पुस्तिका संख्या व सेट संख्या (यदि कोई हो) तथा प्रश्न-पुस्तिका पर अनुक्रमांक सं० और ओ० एम० आर० पत्र सं० की प्रविष्टियों में उपरिलेखन की अनुमति नहीं है।

7. उपर्युक्त प्रविष्टियों में कोई भी परिवर्तन कक्ष निरीक्षक द्वारा प्रमाणित होना चाहिये अन्यथा यह एक अनुचित साधन का प्रयोग माना जायेगा।

8. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार वैकल्पिक उत्तर दिये गये हैं। *प्रत्येक प्रश्न के वैकल्पिक उत्तर के लिये आपको उत्तर-पत्र की सम्बन्धित पंक्ति के सामने दिये गये वृत्त को उत्तर-पत्र के प्रथम पृष्ठ पर दिये गये निर्देशों के अनुसार पेन से गाढ़ा करना है।*

9. प्रत्येक प्रश्न के उत्तर के लिये केवल एक ही वृत्त को गाढ़ा करें। एक से अधिक वृत्तों को गाढ़ा करने पर अथवा एक वृत्त को अपूर्ण भरने पर वह उत्तर गलत माना जायेगा।

10. ध्यान दें कि एक बार स्याही द्वारा अंकित उत्तर बदला नहीं जा सकता है। यदि आप किसी प्रश्न का *उत्तर नहीं देना चाहते हैं* तो सम्बन्धित पंक्ति के सामने दिये गये सभी वृत्तों की खाली छोड़ दें। ऐसे प्रश्नों पर शून्य अंक दिये जायेंगे।

11. रफ़ कार्य के लिये प्रश्न-पुस्तिका के मुखपृष्ठ के अन्दर वाले पृष्ठ तथा अंतिम पृष्ठ का प्रयोग करें।

12. परीक्षा के उपरान्त केवल *ओ०एम०आर० उत्तर-पत्र* परीक्षा भवन में जमा कर दें।

13. परीक्षा समाप्त होने से पहले परीक्षा भवन से बाहर जाने की अनुमति नहीं होगी।

14. यदि कोई अभ्यर्थी परीक्षा में अनुचित साधनों का प्रयोग करता है, तो वह विश्वविद्यालय द्वारा निर्धारित दंड का/की, भागी होगा/होगी।