megaleap
Comprehensive MCA Entrance Coaching

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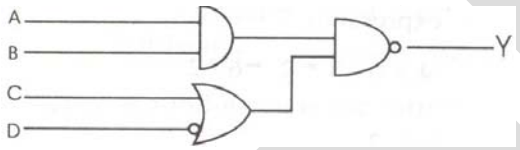
Rewarding Career **Test Code: CTNC - I** **Questions: 25**
Max. Time: 1 Hr.

1. Binary representation for $(69)_{16} \div (50)_{16}$ is
(a) 1.1 (b) 1.11 (c) 1.101 (d) None

2. Which form reprersents $\overline{x} + \overline{y}$?
(a) $\overline{x.y}$ (b) $\overline{x+y}$ (c) $\overline{x}.\overline{y}$ (d) $x \uparrow y$

3. Which from represents $\overline{x}.\overline{y}$?
(a) $\overline{x.y}$ (b) $\overline{x+y}$ (c) $\overline{x}+\overline{y}$ (d) None

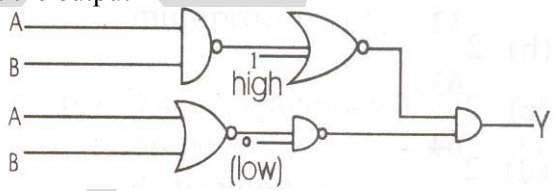
4. What is the output for the logic diagram if A, B, C are high?



(a) 0 (b) 1 (c) 0 or 1 (d) can't say

5. In the above logic diagram, output will be low iff
I - A, B, C are high
II - A, B, C are high and C is low
III- A, B are high and D is low
(a) I only (b) II only
(c) I and III only (d) III only

6. Find the output



(a) 0
(b) 1
(c) depends on value of A and B only
(b) can't say

7. Value of 11 +103 MOD7 MOD3 – 1
(a) 113 (b) 114 (c) 11 (d) 12

8. Binary equivalent of $(A8.BC)_{16}$ is
(a) 10101000.11001101
(b) 10111000.11001101
(c) 10101000.10111100
(d) None of these

9. Hexadecimal equivalent of $(77.077)_8$ is
(a) 3F.171 (b) 3F.1F8
(b) 3F.1F1 (d) None

10. Floating point numbers in a computer are represented using a 10 bit mantissa (iuncluding a sign bit) and a 6 bit exponent (including a sign bit). What is the approximate value of the maximum number which can be represented? Assume that the mantissa is stored in the normalized form.
(a) 2^{31} (b) 2^{32} (c) 2^{63} (d) 2^{64}

11. Which one of the following statements is always true?
(a) A compiler program uses more memory than an interpreted program
(b) A compiler converts a program to a lower level language for execution
(c) Compiler programs take more time to execute then interpreted programs.
(d) A compiler for a high level language takes less memory than its interpreter.

12. In ternary system what is the value of 222?
(a) 20220 (b) 22200 (c) 22020 (d) None

13. What is the binary equivalent of 222 given in ternary system?
(a) 11100 (b) 10110 (c) 11010 (d) 11000

14. If A = 10, B = 2, C = -5 then the output of the following code is
(a) 4, 6, 17
(b) 9, 16, 37
(c) 9, 44, 23
(d) 4, 24, 13

```
D= A + B
A = B + C + D
C = D + A + B
B = A + C + D
Print A, B, C
```

15. What will be the value of C expression
4 + 6 / 3 * 2 – 6 / 2 ?
(a) 2 (b) 3
(c) 4 (d) 5

16. Consider the following program segment?
N = 6720;
d = 4;
while ((n%d) = = 0)
{ n = n / d;
d = d + 1; }
What will be the value of d on termination of the segnment?
(a) 6 (b) 7
(c) 8 (d) 9

17. An operating system is a program that
(I) Controls the execution of Application programs
(II) Allows the computer system resources to be used in efficient manner
(III) Acts as an interface between the user of a computer and the computer hardware.
Which of the following is/are correct?
(a) II and III only
(b) I and II only
(c) I and III only
(d) I, II and III all are correct

18. If a computer system is divided into four layers as hardware / application programs / utilities / operating system then the correct order of the layers is
(a) Operating system, hardware utilities, Application program
(b) Application program, operating system, utilities, H/W
(c) H/W, operating system, utilities, Application program
(d) H/W, utilities, operating system, Application program.

19. Multiprogramming is defined as
(a) The management of multiple processes within a single processor system.
(b) The management of multiple processes within a multiprocessor system.
(c) The management of multiple processes on multiple distributed systems.
(d) none of these.

20. Which of the following statement is correct?
(a) When the processor is executing a program and encounters an instruction relating to I/O, it executes that instruction by issuing a command to appropriate I/O module. The processor has to wait for completion of I/O module and while waiting, it must repeatedly interrogate the status of I/O module.
(b) In interrupt driven I/O, the processor issues a command to I/O module and then goto do some other work. The I/O module sends an interrupt to the processor to exchange data with the processor.
(c) In case of Direct Memory Access (DMA), there is no CPU intervention in transferring data.
(d) All of these.

21. Cache memory is
(a) Faster than registers
(b) Slower than optical disk
(c) Slower than Main memory
(d) Faster than RAM

22. Disk Interleaving
(I) is done by using multiple disks
(II) Results in higher throughput and improved response time.
Which of the following is correct?
(a) I and II both (b) I only
(c) II only (d) none of theses

23. What is the output Z for the following truth table?

A	B	C	Z
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	1
1	1	0	1
1	1	1	1

(a) C (b) A + C
(c) AB + C (d) none of these

24. Virtual memory is implemented by using the concept of
(a) Segmentation only
(b) Paging only
(c) Segmentation as well as paging
(d) None of these

25. The gate using which, all other circuits can be constructed is
(a) AND (b) OR
(c) NOR (d) None