

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 600 086.
(For candidates admitted from the academic year 2004-05 & thereafter)

SUBJECT CODE: PH/AO/BD23

B.Sc. DEGREE EXAMINATION APRIL 2007

SECOND SEMESTER

REG. No. _____

COURSE : ALLIED – OPTIONAL
PAPER : BASIC DIGITAL ELECTRONICS
TIME : 30 MINS. MAX. MARKS: 30

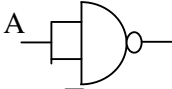
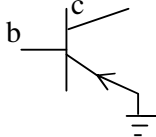

SECTION - A

TO BE ANSWERED IN THE QUESTION PAPER ITSELF


ANSWER ALL QUESTIONS: (30 x 1 = 30)

I CHOOSE THE CORRECT ANSWER:

1. The logic $A + \bar{A}$ - is
a) 1 b) 0 c) $\frac{1}{2}$ d) -1
2. The logic $F \cdot \bar{F}$ is
a) 0 b) 1 c) $\frac{1}{2}$ d) $\frac{3}{2}$
3. The number of states in a counter using 'n' flip flops is
a) 2^n inputs b) 2^{n-1} c) $2^{n/2}$ d) 2^{n-3}
4. $A \oplus B$ represents
a) A OR B b) A AND B c) A EX OR B d) A NOR B
5. RAM represents
a) Random Access Memory b) Random memory
c) Random choice d) Random memory access.
6. $J=1$ $K=1$ the flip flop is in
a) Race condition b) toggles c) fuzzy d) don't – care
7. ROM is
a) Volatile memory b) non Volatile memory
c) random memory d) Read Only Memory
8. Monolithic circuit means
a) single stone b) double stone c) stone d) single circuit.
9. SOP means
a) Standard of product b) product of sum
c) sum of product d) sum of progress.

10. The process of selection a memory cell is called
 a) selection b) retrieval c) addressing d) storing
11. \bar{A} means
 a) complement b) in complement c) negation d) plus
12. SiO_2 layer means
 a) silicon dioxide b) silicon oxygen c) silicon trioxide d) silicon layer
13.  The output of this gate is
 a) \bar{A} b) \bar{B} c) \bar{C} d) \bar{D}
14. \overline{ABC} is equivalent to
 a) $\bar{A} + \bar{B} + \bar{C}$ b) ABC c) $\bar{A}BC$ d) $A+B+C$
15.  represents
 a) common emitter transistor b) common base
 c) common collector d) common source
16. $A\bar{A}$ is
 a) 0 b) 1 c) -1 d) $\frac{1}{2}$.
17. Printer is
 a) Output device b) Input device c) phriperal d) None
18. The output of  is
 a) $\overline{A.B}$ b) $A.B$ c) $A+B$ d) $\overline{A+B}$
19. LCD is
 a) Liquid crystal Display b) Liquid Display
 c) crystal Display d) Liquid credit display
20. OS is
 a) operating system b) operating switch
 c) operating sensor d) operating selector

II FILL IN THE BLANKS:

21. The value of $\bar{1} + \bar{1}$ is _____
22. Complemented form of $A+B$ is _____
23.  The output of this circuit is _____
24. CRT means _____
25. $\overline{A+B} = \bar{A} \cdot \bar{B}$ is _____ theorem

III ANSWER BRIEFLY:

26. What are flip-flops?
27. What are K maps?
28. What is masking?
29. What is computer?
30. Draw the truth table for EX – OR gate.

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TIME : 2½ HOURS **MAX. MARKS: 70**

SECTION – B

ANSWER ANY FIVE QUESTIONS (5x6=30)

1. Explain the working of logic gates
2. Simplify $\overline{ABC} + (\overline{M + N + O})$ and draw logic gates
3. Simply the K-Map. $F(A, B, C, D) = \sum(1,3,5,7,14,10) \quad d(11,15)$
4. Explain Half adder.
5. Explain the use of Integrated chips
6. Explain architecture of computer.
7. Explain operating system.

SECTION – C

ANSWER ANY TWO QUESTIONS (2x20=40)

8. Explain Demorgan's theorem. Verify it using Truth Table. Mention its application
9. Explain IC fabrications. Mention its application
10. Explain a) RAM and ROM with application
b) Write note on floppy disk.
11. Give the History, classification and major components of computer with applications.
