

**FIRST SEMESTER B.Sc. DEGREE EXAMINATION
NOVEMBER 2010**

(CCSS)

Computer Science – Complementary Course

CMC A01— COMPUTER FUNDAMENTALS AND APPLICATION PACKAGES

Time : Three Hours

Maximum : 30 Weightage

I. Answer *all* questions :

1. $(4567)_8 = (\quad)_{16}$.
2. $1101101 - 101011 = \quad$ (Binary numbers).
3. ASCII stands for \quad
4. $X.X.Y = \quad$ (X and Y are boolean variables).
5. NAND and NOR are known as \quad gates.
6. Nibble is a collection of \quad bits.
7. 2's complement of 1011010 is \quad
8. Register which holds the address of the next instruction to be executed is \quad
9. Give the full form of OCR.
10. Draw flow chart symbol for "Decision".
11. Laser printer is \quad
(a) An impact printer. (b) A non-impact printer. (c) A character printer.
12. Robotic arm is an example of \quad device.

(12 x $\frac{3}{4}$ = 3 weightage)

II. Answer *all* questions :

13. Discuss the significance of binary and hexadecimal number systems.
14. How do we detect errors with the help of parity bits?
15. Give the truth table of half adder.
16. Draw block diagram of a full adder.
17. Define seek time of a hard disk.
18. What is a register?
19. Give the basic principle of inkjet printers.
20. What is a MIDI instrument?
21. List any *two* properties of an algorithm.

(9 x 1 = 9 weightage)

Turn over

III. Answer any *five* questions :

22. Convert the following to binary : $(2AB)_{16}$, $(645)_8$, $(1248)_{10}$, $(0.ABC)_{16}$, $(0.345)_8$, $(0.789)_{10}$.

23. Simplify the following Boolean expression and draw logic diagram :

$$(x + y + z)(x + y + z)(x + y + z)(\bar{x} + \bar{y} + \bar{z})$$

24. Prove that : $xy = x + \bar{y}$.

25. Explain "hardwired" control unit.

26. Briefly explain working of Magnetic tape.

27. Compare dot matrix printer with inkjet printer.

28. Draw flow chart to find sum of first n natural numbers.

(5 x 2 = 10 weightage)

IV. Answer any *two* questions :

29. Discuss types, hierarchy, properties and features of primary memory.

30. Give a detailed account of optical storage devices.

31. Discuss the working of the following : Touch pad, Joystick, Scanner, Track ball.

(2 x 4 = 8 weightage)