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Your Roll No. ....

5184

**B.Sc.(H)/B.Sc.(Prog.)/1st Sem. B**

**Paper—CSAT 101—COMPUTER SCIENCE**

**(Computational Skills)**

**(Admission of 2011 and onwards)**

*Time : 3 Hours*

*Maximum Marks : 75*

*(Write your Roll No. on the top immediately on receipt of this question paper.)*

**Attempt All questions.**

Parts of a question should be answered together.

1. Answer the following questions (any ten) :  $2 \times 10 = 20$
- (i) What is the concept of 'stored program' ? Who invented it ?
  - (ii) Draw a block diagram to show the organization of a computer system.
  - (iii) What is Unicode ? What is the need for this code ?
  - (iv) What is Cache Memory ? How is it different from a primary memory ?

P.T.O.

- (v) Which input device is used in :
- (a) Supermarkets and departmental stores at the cash-counters for payments, for unique identification of goods.
  - (b) Objective type tests in which a student makes his/her choice on a specially pre-printed test scoring sheet by drawing circles or ovals with a pencil.
- (vi) Write *two* main objectives of a computer network.
- (vii) What is Hypertext ? How is it useful ?
- (viii) How is animation different from a video ?
- (ix) Write *two* differences between a PC and a workstation.
- (x) 1 KB = ..... bytes and 1 MHz = ..... hertz.
- (xi) Write *two* applications that need supercomputer for processing.
- (xii) Write the main steps involved in execution of an instruction by CPU.
2. Differentiate between the following (any *five*) : 2×5=10
- (i) LAN and WAN.
  - (ii) CISC and RISC.
  - (iii) Primary storage and Secondary storage.

- (iv) Generative graphics and Cognitive graphics.
- (v) Second Generation and Third Generation computers.
- (vi) UVEPROM and EEPROM.
3. Perform the following conversions (any four) :  $2 \times 4 = 8$
- (i)  $(1110101)_2 = (?)_{16}$
- (ii)  $(11010)_2 = (?)_{10}$
- (iii)  $(2AC)_{16} = (?)_2$
- (iv)  $(1011.11)_2 = (?)_{10}$
- (v)  $(2A.B5)_{16} = (?)_{10}$
4. (a) Represent  $(-37)_{10}$  in binary number system using 2's complement.
- (b) Add  $(01110000)_2$  and  $(01010101)_2$ .
- (c) Subtract binary equivalent of  $(40)_{10}$  from binary equivalent of  $(50)_{10}$ .  $2 \times 3 = 6$
5. Write the full form and function of each of these registers :  $2 \times 3 = 6$
- (i) MAR
- (ii) MBR
- (iii) PC.

6. What is Internet ? Write *four* services provided by the Internet and how each of these services helps the Internet users. 5
7. Write the full form of the following (any *five*) : 1×5=5
- (i) PROM
  - (ii) GIGO
  - (iii) VLSI
  - (iv) ALU
  - (v) URL
  - (vi) PDA
  - (vii) MAN.
8. (a) Explain how MICR device helps in faster processing of bank cheques with greater accuracy. What is the main limitation of MICR technology ? 4
- (b) What is speech synthesizer ? Write *two* of its applications. 3
9. (a) What are the characteristics necessary for a sequence of instructions to qualify as an algorithm ? 4
- (b) Draw a flow chart to read a number and print whether the number entered is a positive number or a negative number. 4