

This question paper contains 4 printed pages]

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S. No. of Question Paper : 19

Unique Paper Code : 234191

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Name of the Paper : Computational Skills

Name of the Course : B.Sc. Hons./Physical Science/Mathematical Science

Semester : I

Maximum Marks : 75

Duration : 3 Hours

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

Question No. 1 is compulsory.

Attempt any *five* from remaining seven questions.

In all six questions are to be attempted.

Marks are indicated against each question.

All parts of a question must be done together.

1. (a) Draw a block diagram to show the organization of computer organization. 2
- (b) Give the full form of the following abbreviations : 2
- (i) ASCII
- (ii) UNIVAC.
- (c) Differentiate between RAM and ROM. 2
- (d) What is the value of base for decimal, hexadecimal, binary and octal number systems ? 2

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- (e) Give names of any *four* operating systems. 2
- (f) Find out 2's complement of the following numbers : 2
- (i) $(1110001)_2$
- (ii) $(111111)_2$
- (g) What is cache memory ? 2
- (h) List out the main function of CPU in a computer system. 2
- (i) List out the advantage and limitation of magnetic disk. 2
- (j) What is touch screen device ? 2
- (k) What are main features of smart phone ? 2
- (l) Define the term byte. What is the difference between bit and a byte ? 3
2. (a) Perform the following conversions : 3×2
- (i) $(1110101)_2 = (?)_{16}$
- (ii) $(11010)_2 = (?)_{10}$
- (iii) $(2AC)_{16} = (?)_2$
- (b) Perform the following operation :
- (i) Add $(01110000)_2$ and $(01010101)_2$
- (ii) Subtract $(011011)_2$ from $(110111)_2$ using complementary method. 2×2

3. (a) What is an algorithm ? What are the characteristics necessary for a sequence of instructions to qualify as an algorithm ? 5
- (b) Draw a flow chart to read a number and print whether the number entered is zero, positive or a negative number ? 5
4. (a) Differentiate between impact and non-impact printers. Also mention their advantages and disadvantages. 5
- (b) What is software ? Explain application and system software with an example. 5
5. (a) What is internet ? Write *four* services provided by the internet and how each of these services helps the users ? 5
- (b) Name any *two* computer codes. What is unicode ? Also mention the need of having unicode. 5
6. (a) What do you mean by registers and write the function of the following registers ? 4
- (i) Program Control Register
- (ii) Instruction Register.
- (b) Differentiate between (any *three*) :
- (i) CISC and RISC
- (ii) Primary and secondary memory
- (iii) Bridge and router
- (iv) PROM and EPROM. 3×2

7. (a) Define multimedia. Explain its various applications. 5
- (b) Name any *two* web browsers. Mention *four* facilities that browsers provide to help users save time while internet surfing. 5
8. Write short notes on the following (any *two*).: 2×5
- (i) Generation of computers
 - (ii) Input devices
 - (iii) Network topologies.