

This question paper contains 4 printed pages]

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S. No. of Question Paper : 6805

Unique Paper Code : 234191

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Name of the Paper : Computational Skills (CSAT-101)

Name of the Course : B.Sc. (Hons.)/B.Sc. (Prog.)

Semester : I

Duration : 3 Hours

Maximum Marks : 75

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

Question No. 1 (in Section A) is compulsory.

Answer any *Five* questions out of the remaining (Q. No. 2 to Q. No. 7) in Section B.

Answer *all* parts of the question together.

### Section A

1. (a) What are the five basic operations performed by any computer system. 2
- (b) What is the function of microprocessor ? 2
- (c) Perform the following conversions : 2
  - (i)  $(545)_{16} = (?)_2$
  - (ii)  $(101110)_2 = (?)_8$

P.T.O.

- (d) Define the term 'byte'. What is the difference between a bit and a byte ? 2
- (e) What is cache memory ? How is it different from primary memory ? 2
- (f) Differentiate between PROM and EPROM. 2
- (g) What is a ROM ? Give few uses of ROM. 2
- (h) What are point-and-draw devices ? Name some of the commonly used point-and-draw devices. 2
- (i) What is an information kiosk ? Give some uses of an information kiosk. 2
- (j) What is an intranet ? How is it different from the internet ? 2
- (k) List out some of the advantages and disadvantages of e-mail service against fax service. 2
- (l) Write the full form of the following : 3
- (i) MPEG
- (ii) HDTV
- (iii) MIDI.

**Section B**

2. (a) Write an algorithm to input five numbers and add them. Before ending, print the result of the calculation. 5
- (b) List the characteristics and features of fifth generation computers. 5
3. (a) What are the applications of multimedia in education ? 7
- (b) What is a virtual classroom ? What are its advantages and disadvantages as compared to a conventional classroom ? 3
4. (a) Differentiate between a flat-bed and a hand-held image scanner. 3
- (b) Explain how a CRT monitor displays an output. 7
5. (a) What is a LAN ? What are its main objectives ? 4
- (b) Explain the key characteristics that are used to differentiate between the various types of networks. 6
6. (a) What is an internet search engine ? What are the *three* major elements of an Internet search engine ? 5
- (b) What is a firewall ? Explain how can it help in providing better security to an organization. 5

7. (a) Convert the following into decimal :

6

(i)  $(110110)_2$

(ii)  $(2057)_8$

(iii)  $(1AC)_{16}$

(b) Perform the following operations :

4

(i) Add  $(101011)_2$  and  $(111001)_2$

(ii) Subtract  $(101011)_2$  from  $(110111)_2$