

Roll No.....

Time allowed : 3 hours

Maximum marks : 100

Total number of questions : 8

Total number of printed pages : 4

PART—A

*(Answer Question No.1 which is compulsory
and any two of the rest from this part.)*

1. (a) State, with reasons in brief, whether the following statements are true or false :
- (i) Information system refers to a set of people, procedures and resources that collects, transforms and disseminates information in an organisation.
 - (ii) DOS is an interactive, multi-user and multi-tasking operating system.
 - (iii) Multi-programming refers to the ability of an operating system to execute two or more tasks concurrently.
 - (iv) Non-impact printers use lasers, chemicals and heat to form the images on the paper.

(2 marks each)

- (b) Discuss *any three* of the following in the context of information system :
- (i) Systems approach method to management problem solving
 - (ii) Flow chart
 - (iii) Structure components of database systems
 - (iv) Desktop publishing.

(4 marks each)

2. (a) Describe the 'dimensions of informations'.

(5 marks)

- (b) Subtract 142 from 240 using 2's complement method.

(2 marks)

- (c) Convert —

- (i) $(0.111)_2$ into decimal number.
- (ii) $(187)_{10}$ into octal number.
- (iii) $(345)_{10}$ into binary number.
- (iv) $(49482)_{10}$ into hexadecimal number.

(2 marks each)

3. (a) Write short notes on *any three* of the following :
- (i) Multiprocessing systems
 - (ii) Plotters
 - (iii) Point and draw input devices
 - (iv) Computer virus
 - (v) System software.
- (3 marks each)
- (b) Explain the important functions of 'central processing unit' (CPU).
(6 marks)
4. Attempt *any three* of the following :
- (i) How would you test a programme for bugs ?
 - (ii) What is database system and enumerate its key features ?
 - (iii) Briefly explain 'real time systems' with a suitable example.
 - (iv) What do you mean by 'object-oriented programming' (OOP) ? Explain it with an example.
- (5 marks each)

PART—B

*(Answer Question No.5 which is compulsory
and any two of the rest from this part.)*

5. (a) Discuss *any three* of the following with suitable examples :
- (i) Nature of quantitative techniques.
 - (ii) Precautions in the use of secondary data.
 - (iii) Requisites of a good statistical average.
 - (iv) Meaning and significance of regression.
- (4 marks each)
- (b) Briefly explain any four important business applications of linear programming.
(4 marks)
- (c) Re-write the following sentences after filling-up the blank space with appropriate word(s)/figure(s) so as to convey the correct meaning :
- (i) Indirect oral interview is one of the methods of collecting _____data.
 - (ii) Arithmetic mean would never be _____than the geometric mean.
 - (iii) An index number with previous year as the base year is known as _____base index number.
 - (iv) _____ means the variation or scattering or deviation of different values of a variable from their average.
- (1 mark each)

6. (a) Find the mean, median and mode for the following set of numbers :

3, 5, 2, 6, 5, 9, 2, 8, 6

(7 marks)

- (b) Find the standard deviation of the weights of 100 students at Hi-Fi University from the data given below :

<i>Weight (Kgs.)</i>	<i>Number of Students</i>
60–62	5
63–65	18
66–68	42
69–71	27
72–74	8
Total	<u>100</u>

(8 marks)

7. (a) Define 'correlation' and 'co-efficient of correlation'. Mention different types of correlation.

(6 marks)

- (b) The following information relates to marks obtained by 10 students in Economics and Statistics subjects of an examination :

Marks obtained in Economics : 25 28 35 32 31 36 29 38 34 32

Marks obtained in Statistics : 43 46 49 41 36 32 31 30 33 39

You are required to calculate —

- The two regression equations;
- The co-efficient of correlation between the marks in Economics and Statistics; and
- The most likely marks in Statistics when the marks obtained in Economics are 35.

(9 marks)

8. (a) With which component of time series would you associate each of the following trends and why ?

- Constantly rising population of India.
- An era of prosperity.
- Heavy sales on the occasion of Diwali.
- Depressed business environment.

(2 marks each)

- (b) Calculate the price index for the years 2005 and 2006 using the year 2000 as base year from the following data by using the simple aggregative method :

Prices (Rs. Per Unit)

<i>Commodity</i>	<hr/>		
	<i>Year 2000</i>	<i>Year 2005</i>	<i>Year 2006</i>
A	11	12	10
B	13	16	13
C	14	18	12
D	53	50	39
E	155	205	185

(7 marks)

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