

F.Y.B.COM. SEM – I (2014 COURSE) : SUMMER - 2018
SUBJECT : BUSINESS MATHEMATICS AND BUSINESS STATISTICS - I

Day : Friday
Date : 20/04/2018

S-2018-0287

Time : 12.00 NOON TO 02.00 PM
Max. Marks : 40

N. B. :

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat and labeled diagram **WHEREVER** necessary.
- 4) Use of logarithmic table and pocket **CALCULATOR** is allowed.

Q. 1 Attempt **ANY TWO** of the following: **(10)**

- a) Answer questions using the following frequency distribution:

Class	100-149	150-199	200-249	250-299	300-349
Frequency	12	15	08	03	01

- i) Class width of 5th class.
- ii) Mid point of 2nd class.
- iii) Frequency of 1st class.
- iv) Upper boundary of 4th class.
- v) Find modal class.

- b) Write a note on Simple Random Sampling.

- c) Draw the histogram for the following frequency distribution. Also find mode graphically.

Class	60-70	70-80	80-90	90-100	100-110	110-120	120-130
Frequency	21	37	51	49	21	13	04

- d) Obtain range and coefficient of range for the following frequency distribution:

Class	10-15	15-20	20-25	25-30	30-35
Frequency	05	12	15	10	08

Q. 2 Attempt **ANY TWO** of the following: **(10)**

- a) Calculate price index number by using Laspeyre's method and Paasche's method from the information given below:

Item	Base Year		Current Year	
	Price	Quantity	Price	Quantity
Cheese	18	2	24	1.5
Bread	12	30	15	15
Eggs	20	15	30	15
Milk	10	30	19	25

P. T. O.

- b) State various problems involved in the construction of Index number.
- c) Find the combined mean for following data:

$$\text{Group I: } n_1 = 100, \bar{X}_1 = 2100$$

$$\text{Group II: } n_2 = 200, \bar{X}_2 = 1500$$

Q. 3 Attempt **ANY TWO** of the following: **(10)**

- a) Define the following terms:
- i) Shares
 - ii) Bonus Shares
- b) Find the value of x and y in the following proportion:
- i) $7 : 14 :: x : 56$
 - ii) 100, y and 121 are in continued proportion
- c) A, B and C started a business by investing Rs. 15,000/-, Rs. 12,000/- and Rs. 18,000/- respectively. At the end of the year there was a profit of Rs. 45,450/-. Find the share of each of them in a profit.
- d) A man sold his flat for Rs. 13,18,000/- for which he had paid Rs. 11,82,000/-. Find the percentage of his profit.

Q. 4 Attempt **ANY TWO** of the following: **(10)**

- a) The ratio of prices of two houses was 4 : 5. Two years later, when the price of first had risen by 10 % and that of the second by Rs. 6,000/-, the ration became 11 : 15. Find the new prices of the houses.
- b) i) Find the LCM of 15 and 27.
- ii) Convert 45 percentage into fraction.
- c) A dealer in furniture buys chairs at Rs. 340/- each. At what price should be mark them for sale, so that he may earn a profit of 25 % after giving 15 % discount?

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