F.Y.B.COM. SEM – I (2014 Course): SUMMER - 2019 SUBJECT: BUSINESS MATHEMATICS & BUSINESS STATISTICS - I

Day: Tuesday

Time: 12.00 NOON TO 02.00 PM

Date: 30/04/2019

S-2019-0381

Max. Marks: 40

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat labeled diagrams **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	100-150	150-200	200-250	250-300	above 300
Frequency	22	35	18	08	20

i) Class Width of third class.

ii) Midpoint of 2nd class.

- iii) Frequency of last but one class.
- iv) How many observations are less than 250?
- v) State open end class if any.
- b) Write a procedure of Simple Random Sampling with suitable illustration.
- c) Draw histogram for the following frequency distribution.

Clas	SS	10-30	30-50	50-70	70-90	90-110	110-130	130-150
Freque	ncy	21	27	41	49	21	13	6

d) Obtain mean and median for the following frequency distribution.

Class	10-20	20-30	30-40	50-60	60-70
Frequency	7	12	28	10	18

Q.2 Attempt any **TWO** of the following:

(10)

a) Find the combined mean of the following data:

Group
$$I: n_1 = 10, \sum X = 60$$

Group
$$II: n_2 = 15, \sum X = 80$$

b) Calculate price index number using Laspeyre's method from the information given below:

Item	Base	e Year	Current year price
	Price	Quantity	
Cheese	30	6	35
Bread	40	2	55
Eggs	50	14	80
Milk	60	4	90

Also if price index number using Paasche's method is 160, calculate Fishers prices index number.

c) State various problems involved in the construction of index number.

P. T. O.

Q.3 Attempt any **TWO** of the following:

(10)

a) Find Z and W, if

i) 6: 15::2:Z

- ii) 15:27::W:45
- b) The partnership firm, which has three partners with respective capitals Rs. 10,000/- Rs, 50,000/- and Rs. 30,000/- earn a profit of Rs. 54,000/- in a year. How much each will get?
- c) Two companies have shares of 12% at 124 and 16% at 145. In which of the shares would the investment be mare profitable?
- d) Population of a city in a specific year was 1, 77,000. There was rise of 15% for each of the next 3 years. Find the population at the end of 3 years.

Q.4 Attempt any **TWO** of the following:

(10)

- A man sold two articles at Rs. 25,000/- each. These were sold at 8% gain and 4% loss respectively. Find the gain or loss percent in the whole transaction.
- b) Define cost price and selling price. State the formula for percentage loss and percentage profit.
- c) i) Find HCF and LCM of 18 and 15.
 - ii) Two numbers are in the ratio 4: 7 and their sum is 1331. Find the numbers.

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