F.Y.B.COM. SEM – I (CBCS - 2016 Course) : SUMMER - 2019

SUBJECT : BUSINESS MATHEMATICS & BUSINESS STATISTICS – I

Day: Saturday
Date: 27/04/2019

S-2019-0305

Time: 11.00 A.M. TO 02.00 PM
Max. Marks: 60

N.B:

1) All questions are **COMPULSORY.**
2) Figures to the right indicate **FULL** marks.
3) Use of logarithmic table and pocket calculator is **ALLOWED.**

Q.1 **A)** Choose correct alternative for: **(06)**

i) A person having income of ₹ 2,600/- spends ₹ 1,794 therefore his expenditure are _____% of his income.
a) 75 **b)** 69 **c)** 65 **d)** 80

ii) If 8, x and 50 are in continued proportion, then x is _____.
a) 20 **b)** 15 **c)** 8 **d)** 29

iii) A man sold 20 articles for the cost price of 25 articles. Therefore profit is _____%.
a) 30 **b)** 40 **c)** 25 **d)** 50

iv) Median for : 235, 238, 240, 239, 235, 236, 237
a) 239 **b)** 236 **c)** 237 **d)** 235

v) Fisher price index number is _____.
a) Geometric mean of base year and current year price
b) Arithmetic mean of base year and current year price
c) Geometric mean of Laspeyre's and Paasche's price index number
d) Artimetic mean of Laspeyre's and Paasche's price index number

vi) The mean of set of 10 observations is 33 if every observation is doubled, the value of new mean will be _____.
a) 33 **b)** 66 **c)** 39 **d)** 30

B) Attempt the following: **(06)**

i) Find LCM of 96 and 72

ii) Convert fraction $\frac{2}{5}$ in to percentage.

iii) Define Loss.

iv) Explain class mark of a class.

v) Define Base Year

vi) If $n = 10$ $\sum x = 218$, then find mean of x.

Q.2 Attempt any **TWO** of the following: **(12)**

a) Obtain the frequency distribution from the less than cumulative frequency distribution given below. Hence obtain more than cumulative frequency distribution:

Marks	Below 10	Below 20	Below 30	Below 40	Below 50
Number of Students	12	28	65	86	90

P.T.O.

b) Calculate price index number using:
i) Laspeyre's method **ii)** Paasche's method **iii)** Fisher'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

c) Obtain median and mode for following frequency distribution:

Class	10-20	20-30	30-40	40-50	50-60
Frequency	20	15	10	3	2

Q.3 Attempt any **THREE** of the following: **(12)**

a) Describe the importance of statistics in the field of industry and social science.

b) Marks obtained by 12 students are given below:
30, 55, 50, 40, 50, 60, 55, 62, 55, 45, 61, 65
Calculate median and mode for the above data.

c) Draw histogram for the following frequency distribution:

Monthly House Rent	10–30	30–50	50–70	70–90	90–110	110–130
No. of Families	6	16	24	20	10	4

d) A group of 100 items have mean 60. Another group of 200 observations have mean 63. Find mean of combined group.

Q.4 Attempt any **TWO** of the following: **(12)**

a) Arun sold car to Baban at 15% profit, Baban sold the car to Chandu at 5% profit for ₹ 2,48,300/-. Find the price at which Arun has purchased the car.

b) A,B,C are partners in a firm and their respective shares are ₹ 30,000/-, ₹ 45, 000/- and ₹ 90,000/- as capital. If the profit at the end of the year amount to ₹ 29,700/-, find the share in the profit of each.

c) Find the value of x, y and z.
i) $3 : 9 :: 2 : x$ **ii)** $2 : y :: 5 : 23$ **iii)** $4 : 6 :: z : 150$

Q.5 Attempt any **THREE** of the following: **(12)**

a) Daily salaries of two friends are in the ratio 5:6. The company offered them on increment of ₹ 25/- each. The ratio of new daily salaries is 21:25. Find the salary of each one.

b) Two companies have shares of 12% at 124 and 16% at 145. In which of the shares would the investment be more profitable ?

c) Mr. Tom purchased 200 toys at ₹ 40/- each. He sold all toys of ₹ 45/- each. Find out the total profit and percentage of profit earned.

d) An article costing ₹ 12,000/- was sold for ₹ 10,400/- after two years. Find the total loss and percentage of a loss.

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