F.Y.B.COM. SEM – I (CBCS - 2016 Course) : WINTER - 2018

SUBJECT : BUSINESS MATHEMATICS & BUSINESS STATISTICS – I

Day: Saturday | **W-2018-0265** | Time: 11.00 A.M. TO 02.00 PM

Date: 20/10/2018 | 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) What percent of 6.25 is 1.25?
a) 10% **b)** 15% **c)** 20% **d)** 25%

ii) A person spends 75% of his salary and saves ₹ 150/- per month. His monthly salary is ____.
a) ₹ 750/- **b)** ₹ 600/- **c)** ₹ 400/- **d)** ₹ 300/-

iii) Ratio of two numbers is 3:5. The bigger number is 45. Hence the smaller number is _____.
a) 27 **b)** 30 **c)** 45 **d)** 18

iv) If 15, 25, 35, 45, 55, 65, 75 are mid points of the class intervals then the first class of the distribution is _____
a) 10 – 30 **b)** 10 – 15 **c)** 10 – 20 **d)** 5 – 15

v) If 10 is substracted from each observation from set of 50 observation. Then new mean of this set of observation is _____.
a) Not affected **b)** Zero **c)** Decreased by 10 **d)** Increased by 10

vi) If the Laspeyre's index number is 107.84 and Paasche's index number is 108.53 then Fisher's index number is _____.
a) 107.84 **b)** 108.18 **c)** 110.31 **d)** Cannot be determined.

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

i) Define selling price.
ii) If 8, y and 18 are in continued proportion, then find y.
iii) Convert 75% into fraction.
iv) Define statistics.
v) Define Index number.
vi) If $n = 15$ $\sum x = 615$, then find mean of x

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

a) The following table gives the frequency distribution of marks in Accountancy out of 60. Find the less than cumulative frequency, also draw less than cumulative curve.

Marks	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60
Number of Students	5	25	27	32	6	5

b) With the help of following data calculate Laspeyre's, Paasche's and Fisher's price index number.

Item	Base Year		Current Year	
	Price	Quantity	Price	Quantity
Banana	23	100	49	120
Grapes	29	50	27	55
Apples	89	85	99	85
Oranges	35	8	55	8

P.T.O.

c) The starting salary of 10 employees recruited in a firm, in ₹ is 1500, 1750, 1680, 1820, 1850, 1750, 2000, 1725, 1575, 1750. Find mean, median and mode.

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

a) The hotel management has employed 5 cooks and 10 waiters. Monthly salaries of cook and waiters are ₹ 10,500/- and ₹ 8,000/- respectively. Find combined mean of salaries.

b) Answer the questions using the following frequency distribution of weight of 50 citizens:

Weight	Below 30	31–40	41–50	51–60	61–70	Above 71
Frequency	3	7	15	–	8	5

i) State type of classification
ii) Identify open end classes and state them
iii) Find missing frequency
iv) State class width of 5^{th} class.

c) Obtain mean and mode for following frequency distribution:

Mark	15–25	25–35	35–45	45–55	55–65	65–75
No. of Students	4	9	11	15	7	4

d) Discuss limitations of Index numbers.

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

a) In a school, there are 12% girls. If 5 boys and 15 girls are newly admitted in the school, the percentage of girls becomes 15. What is the total strength of the school?

b) A, B, C are partners in a firm A and C contributed ₹ 65,000 and ₹ 50,000 respectively as capital. Total profit amounted to ₹ 38,000/- out which B get ₹ 1,50,000. Find B's capital.

c) Given that x_1, x_2 and x_3 are in the proportion of 2:3:5. Find:
i) x_2 and x_3 if $x_1 = 200$
ii) x_1 and x_3 if $x_2 = 99$

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

a) A man gave ₹ 2,310/- for a watch including a duty of 10% for importing it. Find the actual price of the watch.

b) **i)** Find HCF 72, 108, and 56.
ii) Find LCM of 12, 21 and 24

c) A dealer in furniture buys chairs at ₹ 340/- each. At what price should he mark them for sale, so that he may earn a profit of 25% after giving 15% discount?

d) Explain the term Share and Bonus shares.

* * *