

F.Y.B.COM. SEM – I (2018 CBCS COURSE) : WINTER - 2018
SUBJECT : BUSINESS MATHEMATICS & BUSINESS STATISTICS – I

Day : Wednesday
Date : 17/10/2018

W-2018-0254

Time 03.00 P.M. To 06.00 P.M.
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 Attempt **ANY TWO** of the following: **[12]**

- a) Explain the procedure of drawing stratified random sample:
- b) Find the mode and median for the following data:

Class	Below 50	50 – 60	60 – 70	70 – 80	Above 80
Frequency	07	08	15	11	09

- c) Answer the following questions for the given frequency distribution:

I.Q.	60 – 69	70 – 79	80 – 89	90 – 99	100 – 109	110 – 119	120 – 129
No. of students	23	37	51	49	21	15	04

- i) State the type of classification and frequency of 3rd class.
- ii) Class boundaries of each class.
- iii) Mid-point of each class.

Q.2 Attempt **ANY THREE** of the following: **[12]**

- a) Draw the histogram for the following frequency distribution:

Class	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
Frequency	04	03	08	06	04	05	06

- b) Prepare frequency distribution for the following data:

Age below	10	20	30	40	50
No. of persons	15	30	53	75	100

Also find relative frequency of each of the classes.

- c) Calculate the price index number for the year 1995 with 1990 as base by using simple aggregative method.

Commodities	p_0	p_1
A	72	126
B	70	147
C	95	110

- d) Calculate the mean, mode and median for the following data:
12, 13, 17, 18, 19, 19, 20, 21, 21, 22, 24, 27, 30, 21, 31.

P.T.O.

- Q.3** Attempt **ANY TWO** of the following: [12]
- a) A sold a car to B at 15% profit, B sold a car to C at 5% profit for ₹ 89,985. Find the price at which A had purchased the car.
 - b) X, Y and Z started a business by investing ₹ 20,000/- and ₹ 35,000/- respectively. At the end of the year there was a profit of ₹ 19,200/-. Find the share of each of them in a profit.
 - c) Explain different types of shares.

- Q.4** Attempt **ANY THREE** of the following: [12]
- a) Find x if:
 - i) $6 : 15 = 2 : x$
 - ii) $15 : 27 = x : 45$
 - iii) $x : 15 = 1 : 3$
 - iv) $5 : x = 7 : 28$
 - b) The population of a city according to 1971 census was 94,500 and it rose to 1,21,200 in 1981. Find the percentage increase in the population.
 - c) By selling two motor cars for ₹ 1,45,000/- each trader gain 10% on one car and loss 10% on other car. What was the total gain or loss in the total transaction?
 - d) What is a better investment: 16% at 80 or 20% at 120?

- Q.5** a) Attempt **ANY TWO** of the following: [06]
- i) Explain the term base year and current year.
 - ii) Arithmetic mean of weight of 100 boys is 50 kg and the arithmetic mean of 50 girls is 45 kg. Calculate the arithmetic mean of combined group of boys and girls.
 - iii) State any three uses of index number.

- b) Attempt **ANY TWO** of the following: [06]
- i) Define:
 - 1) Ratio
 - 2) Proportion
 - 3) Percentage
 - ii) Find H.C.F. and L.C.M. of 105 and 135.
 - iii) A scooter purchased for ₹ 12,000/- was sold for ₹ 13,800/-. Find the percentage profit.

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