

BACHELOR OF COMMERCE (CBCS - 2018 COURSE)
F. Y. B. Com. Sem-I : WINTER :- 2021
SUBJECT: BUSINESS MATHEMATICS & BUSINESS STATISTICS-I

Day : Thursday
Date 27-01-2022

W-18130-2021

Time : 10:00 AM-01:00 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 Attempt **ANY TWO** of the following: **(12)**

- a) Explain the following terms with illustration:
i) Class mark ii) Class width iii) Class limits.
- b) Construct Laspeyres, Passche's and Fisher's Price Index number from the following data:

Commodity	p_0	q_0	p_1	q_1
A	2	40	5	70
B	4	16	8	40
C	1	10	2	24
D	5	25	10	60

- c) The marks obtained by 12 students are given below:
30, 55, 50, 40, 50, 60, 55, 62, 55, 45, 61, 65. Compute the mean, median and mode.

Q.2 Attempt **ANY THREE** of the following: **(12)**

- a) Write note on stratified random sampling.
- b) Draw frequency polygon for the following frequency distribution:

Class	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60
f	06	16	24	20	10	04

- c) The median of a following frequency distribution is ₹ 27. Find the missing frequencies of data:

Class	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	Total
Frequency	03	-	20	11	-	80

- d) Prepare the frequency distribution from the following cumulative frequency distribution:

Income More than ₹	500	1000	1500	2000	2500	3000
No. of Persons	100	96	92	59	28	02

Also find relative frequency of each class.

P.T.O.

Q.3 Attempt **ANY TWO** of the following: (12)

- a) A man spends 30% on house rent, 30% on food, 12% on clothing, 10% on fuel and the remaining on miscellaneous items from his salary. If he spends ₹ 1350 on miscellaneous items, what is his salary? What is the amount spend under each heading?
- b) A piano is sold for ₹ 42,500 at a loss of 15% .For how much should it have been sold to earn a profit of 15%?
- c) Explain different types of shares.

Q.4 Attempt **ANY THREE** of the following: (12)

- a) i) Find fourth proportional to 6,8,10.
ii) If sugar costs ₹ 32 per kg, how many tones can be bought for ₹ 48,000/-?
- b) Monthly income of A and B are in the ratio 9:11 and those of B and C are in the ratio 13:10. If monthly income of C is ₹ 1,430 then find the income of A and B.
- c) An agent charges 13% commission on the sales. What does he earn if the total sales amount to ₹ 18,000? What does the seller get?
- d) Pragat invested ₹ 13,568/- in 7% shares at ₹ 106/- find his profit at the end of the year (F.V. 100)

Q.5 A) Attempt **ANY TWO** of the following: (06)

- i) Explain the terms base year and current year.
- ii) Arithmetic mean of weight of 50 girls is 45 kg and the arithmetic mean of 100 boy is 50 kg. Calculate the arithmetic mean of combined group of boys and girls.
- iii) Find the mode and median for the following data:

Weight (Kg)	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
No. of Students	04	05	07	03	01

B) Attempt **ANY TWO** of the following: (06)

- i) Define: 1) Cost Price (C.P.)
2) Marked Price (M.P.)
3) Selling Price (S.P.)
- ii) A scooter costing ₹ 12,000 was sold for ₹ 10,400 after two years. Find the percentage loss.
- iii) Find H.C.F. and L.C.M. of 72, 240, 196.

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