

BACHELOR OF COMMERCE (CBCS - 2018 COURSE)
F. Y. B. Com. Sem-I : WINTER- 2022
SUBJECT : BUSINESS MATHEMATICS & BUSINESS STATISTICS-I

Day : Thursday

Time : 10:00 AM-01:00 PM

Date : 22-12-2022

W-18130-2022

Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Use of non-programmable calculator is allowed.

Q.1 Attempt **ANY TWO** of the following : **(12)**

- a) Calculate the mean, mode and median for the following data :

X	4	8	12	16	20	24
f	20	30	14	16	16	4

- b) Calculate price index numbers for the following data for the year 2007 taking 2006 as base year using the following formulae.

- i) Laspeyre's
- ii) Paasche's

Commodity	Year 2006		Year 2007	
	Price	Quantity	Price	Quantity
A	20	8	40	6
B	50	10	60	5
C	40	15	50	10
D	20	20	20	15

- c) Obtain i) less than cumulative frequency ii) more than cumulative frequency and iii) frequency density of each class for the following frequency distribution:

Class	110-120	120-130	130-140	140-150	150-160	160-170
f	4	6	11	17	9	3

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

- a) Following are marks obtained by 30 students in a class
31, 37, 02, 41, 12, 38, 29, 22, 15, 11, 09, 50, 47, 34, 34, 19, 21, 24, 22, 23, 12, 08, 26, 32, 33, 28, 36, 33, 37, 13. Construct a frequency distribution.
- b) What is mean by index number?
- c) Draw the Histogram for the following frequency distribution :

Class	0-20	20-40	40-60	60-80	80-100
f	2	18	42	28	5

- d) Compute the median for the following data :

Class	10-15	15-20	20-25	25-30	30-35
f	5	10	15	13	7

P.T.O.

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

- a) 200 Kg of sugar was purchased at the rate of Rs. 32/- per Kg and sold at profit of 5 %. Compute the profit and selling price per Kg.
- b) The monthly salaries of two persons are in the ratio 3:5. If each receives an increase of Rs. 500/- in monthly salary, the new ratio is 29:45. Find their original income.
- c) Explain different types of shares.

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

- a) The printed price of the edible oil is Rs. 72/-. The tin seller earns 12 % profit on it. Find the cost price.
- b) i) Find the fourth proportional to 6, 15 and 2.
ii) Find x so that 4, x, 36 may be in continued proportion.
- c) If 30 labourers working 7 hours a day can finish a piece of work in 18 days, how many labourers working 6 hours a day can finish it in 30 days.
- d) Which is better investment : 7 % at Rs. 120 or 8 % at Rs. 17 .

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

- a) If $n = 10$, $\sum (x - 6) = 30$, find \bar{x} .
- b) Explain the terms with illustration : sample and sampling unit.
- c) Describe the importance of statistics in the field of medical sciences.

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

- a) Define :
 - a) Highest common factor (H.C.F.)
 - b) Least common multiple (L.C.M.)
- b) Explain the term cash discount.
- c) Find :
 - a) 16% of 2100.
 - b) 30 % decrease in temperature of 40° .

* * * * *