

Goa Vidyaprasarak Mandal's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND ECONOMICS
PONDA - GOA
B.COM. CBCS (SEMESTER – III) SUPPLEMENTARY EXAMINATION
DECEMBER 2020
BUSINESS STATISTICS - I

Duration: 2 hours

Marks: 40

- INSTRUCTIONS:** i) Attempt all questions.
ii) Figures to the right indicate full marks.
iii) Use of non - programmable calculator is allowed.
iv) Graph paper may be used wherever necessary.

Q 1. Answer the following: (Any ten) (10 x 2 = 20)

1. Distinguish between Discrete data and Continuous data with suitable examples
2. 'There is hardly any field which does not fall within the scope of Statistics'. Comment.
3. The scores obtained in 20 throws of a die are given below
5, 4, 3, 6, 1, 3, 4, 2, 1, 6, 5, 3, 2, 1, 3, 1, 2, 5, 3, 1.
Prepare a frequency distribution table.

4. The number of factories for 4 years is given below. Draw a bar diagram.

Year	1994	1995	1996	1997
Number of factories(in '000)	105	95	98	100

5. If the mean of the following distribution is 9, find the value of 'a'

x	4	6	8	10	12	15
f	8	9	17	a	8	4

6. Compute H.M for the following data

x	130	135	140	145	150
f	3	4	8	9	2

7. Find the median for the following data

Wages(in '00 ₹)	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
Number of workers	50	54	85	45	30

8. Compute range and coefficient of range for 150, 250, 825, 400, 18, 500.

9. The mean height of 25 male workers in a factory is 61 inches and the mean height of 35 female workers in the same factory is 58 inches. Find the combined mean height of 60 workers in the factory.

10. Find the mean deviation from mode for the following data

2, 5, 4, 3, 7, 6, 8, 5, 11, 9

11. Convert the following fixed base index numbers into chain base index numbers

Year	2011	2012	2013	2014	2015	2016	2017	2018
Index number	120	124	130	144	150	160	164	170

12. Calculate Bowley's coefficient of skewness when $Q_1 = 5$, $Q_3 = 13$, mean = 6 and mode = 12.

13. Find x, if the cost of living index number for the data given below is 150.

Commodity	A	B	C	D	E
Weight	3	4	x	6	4
Index number	100	150	140	200	120

14. Compute a price index number by average of price relatives method for the following data

Commodity	Price in base year	Price in current year
A	10	20
B	15	25
C	40	60
D	25	40

15. The following table shows the number of road accidents for the years 1973 to 1979

Year	1973	1974	1975	1976	1977	1978	1979
Road accidents	201	238	392	507	485	549	742

Obtain the semi – average trend line.

16. The following table gives the annual income of a person and the price index number. Compute the real income.

Year	1988	1989	1990	1991
Annual income (in ₹)	36000	42000	50000	55000
Price index number	100	120	145	160

Q 2. Answer the following: (Any **four**)

(4 x 5 = 20)

1. Draw a histogram for the following data

Weight in kg	15 – 20	20 – 25	25 – 35	35 – 50	50 – 55
Number of boys	6	4	12	15	8

2. Find D_7 and P_{85} for the following data

Marks	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80
Number of students	8	12	20	32	30	28	12	4

3. The sales of two shops in a week are as follows

Shop A	50	30	40	60	20	50
Shop B	90	80	40	10	10	20

Find which of the shops has consistent sales.

4. Fit a straight line trend on the following data using the Least Squares Method.

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004
y	4	7	7	8	9	11	13	14	17

5. Calculate Laspeyre's quantity index number and Paasche's price index number from the following data

Commodity	Base Year		Current Year	
	Price	Quantity	Price	Quantity
A	2	7	4	8
B	5	4	6	10
C	4	10	5	14
D	2	13	2	19

6. Find Karl Pearson's coefficient of skewness based on mean and mode for the following data:

Class Interval	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60
Frequency	5	12	15	18	10

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