Goa Vidyaprasarak Mandal's
GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE AND ECONOMICS
PONDA - GOA
B.COM. CBCS (SEMESTER – III) EXAMINATION
JANUARY 2021
BUSINESS STATISTICS - I

Duration: 2 hours   **Marks: 40**
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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 **five**)   (5 x 2 = 10)

1. Explain the terms Population and Sample with an example.

2. State four points that should be kept in mind when designing a questionnaire.

3. A survey of college students was carried out to find which kind of movie they liked best. The following data was collected.

Type of movie	Comedy	Action	Romance	Drama	SciFi
Number of students	4	5	6	1	4

Represent the data by a suitable diagram.

4. Calculate the mean deviation from the median for the following data:
                    10, 14, 7, 9, 14, 16

5. The ages of 8 participants in an event are given below

Participant	1	2	3	4	5	6	7	8
Age	37	19	31	29	21	26	33	36

Calculate the range and coefficient of range.

6. For a frequency distribution, mean = 160, mode = 157, standard deviation = 50 and coefficient of skewness = 0.06. Find the median.

7. Find x, if the cost of living index number for the data given below is 200.

Commodity	A	B	C	D	E
Weight	10	x	2	2	2
Index number	241	150	200	170	125

8. Explain the meaning of seasonal variations with examples.

Q 2. Answer the following: (Any **six)**   (6 x 5 = 30)

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. Calculate D_4 and P_{52} for the following frequency distribution

Class interval	5 – 10	10 – 15	15 – 20	20 – 25
Frequency	16	14	13	17

3. Calculate four yearly moving averages from the following data

Year	1980	1981	1982	1983	1984	1985	1986	1987
Trend	140	152	160	165	171	180	194	200

4. The temperature (in °C) of two cities A and B in winter are given below

Temperature of city A	18	20	22	24	26
Temperature of city B	11	14	15	17	18

   Which city is more consistent in temperature changes?

5. Find L_q and P_p for the following data:

Commodity	Base year		Current year	
	Price	Quantity	Price	Quantity
Wheat	800	6	950	8
Rice	600	3	800	4
Oilseeds	400	5	425	4
Sugar	250	2	300	2

6. Calculate Bowley's coefficient of skewness for the following data

Value	5 – 10	10 – 15	15 – 20	20 – 25	25 – 30	30 – 35	35 – 40
Frequency	6	8	17	21	15	11	2

7. Splice the following Index Number Series

Year	1960	1961	1962	1963	1964	1965	1966	1967	1968
Series X	100	120	140	165	180	--	--	--	--
Series Y	--	--	--	--	100	103	110	107	115

8. Use Least Squares method to fit a trend line to the following data and hence estimate the sales in 2010

Year	2004	2005	2006	2007	2008
Sales (₹ in thousands)	18	21	23	27	16

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