SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai — 600 044.
B.Com.(Honours) - END SEMESTER EXAMINATIONS APRIL - 2023
SEMESTER - I
20UBHCT1003 - Business Statistics

Total Duration : 2 Hrs. 30 Mins. Total Marks : 60

Section B

Answer any **SIX** questions $(6 \times 5 = 30$ Marks)

1. Calculate arithmetic mean from the following data:

Marks	0-10	10-30	30-60	60-100
No.of students	5	12	25	8

2. Find Bowley's coefficient of skewness for the following frequency distribution:

No.of childern per family	0	1	2	3	4	5	6
No.of families	7	10	16	25	18	11	8

3. In a random sample of 1,000 persons from town A, 400 are found to be consumers of wheat. In a sample of 800 from town B, 400 are found to be consumers of wheat. Do these data reveal a significant difference between town A and town B, so far as the population of wheat consumers is concerned?

4. Calculate standard deviation error of mean from the following data showing the amount paid by 100 firms in calculate on Durga Puja:

Mid.value (Rs.)	39	49	59	69	79	89	99
No.of firms	2	3	11	20	32	25	7

5. From the data given below about the treatment of 250 patients suffering from a disease, state the new treatment is superior to the conventional treatment. Give for degree of freedom = 1, chi-square 5 per cent = 3.84.

Treatment	**No.of patients**		
	Favourable	**Not favourable**	**Total**
New	140	30	170
Conventional	60	20	80
Total	200	50	250

Contd...

6. Making use of the data summarized below, calculate the coefficient of correlation.

Case	**X1**	**X2**
A	10	9
B	6	4
C	9	6
D	10	9
E	12	11
F	13	13
G	11	8
H	9	4

7. Assume a Four-yearly cycle and calculate the trend by the method of moving average from the following data relating to the production of tea in India:

Year	**Production (m.ibs.)**
2000	464
2001	515
2002	518
2003	467
2004	502
2005	540
2006	557
2007	571
2008	586
2009	612

8. Fit a straight-line trend for the following series. Estimate the value for 2012:

Year	2001	2002	2003	2004	2005	2006	2007
Production of steel (m.tonnes)	60	72	75	65	80	85	95

Section C

I - Answer any **TWO** questions $(2 \times 10 = 20$ Marks)

9. Calculate Median and Mode of the data given below. Using them find arithmetic mean.

Marks	10	20	30	40	50	60
No. of students	8	23	45	65	75	80

10. Classify the types of samples methods.

Contd...

11. Perform a two-way ANOVA on the given below:

Plots of land land	**Treatment**			
	A	**B**	**C**	**D**
I	38	40	41	39
II	45	42	49	36
III	40	38	42	42

(use coding method subtracting 40 from the given number).

12. From the following data obtain the two regression equations:

X	6	2	10	4	8
Y	9	11	5	8	7

II - Compulsory question $(1 \times 10 = 10$ Marks)

13. Assuming that trend is absent, determine if there is any seasonality in the data given below:

Year	1^{st} **Quarter**	2^{nd} **Quarter**	3^{rd} **Quarter**	4^{th} **Quarter**
2006	3.7	4.1	3.3	3.5
2007	3.7	3.9	3.6	3.6
2008	4.0	4.1	3.3	3.1
2009	3.3	4.4	4.0	4.0

What are the seasonal indices for various quarters?

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