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.(A&F) END SEMESTER EXAMINATIONS NOVEMBER -2023
SEMESTER - I
20UAFAT1001 - Business Statistics

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

Section B

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

1. What are the various measure of central tendency?

2. Calculate standard deviation from the following data:

Marks	10	20	30	40	50	60
No. of Students	8	12	20	10	7	3

3. Explain the different methods of measuring trend.

4. Four coins are tossed. Find the probability of getting 2 heads and 2 tails – Compute.

5. A random sample of 200 tins of coconut oil gave an average weight of 4.95 kgs with a standard deviation of 0.21 kg. Do we accept the hypothesis of net weight 5 kgs per tin at 1% level?

6. Find arithmetic mean from the following series.

X	9	8	7	6	5	4	3	2	1	0
Y	2	3	4	6	11	10	6	5	2	1

7. Find the mean deviation about the mean for the following data.

Class	0-5	5-10	10-15	15-20	20-25	Total
Frequency	3	5	12	6	4	30

8. There are 100 students in a college of which 36 are boys studying statistics and 13 are girls not studying statistics. If there are 55 girls in all, find the probability that a boy picked up at random is not studying statistics.

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Section C

Answer any **THREE** questions $(3 \times 10 = 30$ Marks$)$

9. Find the Mean, Median and Mode for the following data and verify the empirical relation.

Class	Frequency
1-10	3
11-20	7
21-30	13
31-40	17
41-50	12
51-60	10
61-70	8
71-80	8
81-90	6
91-100	6

10. Calculate Karl Pearson's coefficient of correlation $(r = 12)$ from the following data:

X_1	10	12	18	24	23	27
X_2	13	18	12	25	30	10

11. Fit a straight-line trend by the method of least squares to the following data. Assuming that the same rate of change continues, what would be the predicted earnings for the year 2021?

Year	2012	2013	2014	2015	2016	2017	2018	2019
Earnings Rs.Lakhs	38	40	65	72	79	60	87	95

12. Explain Bayes theorem and its application.

13. There are a series of outlets of a particular product in different locations in a city. The following summarizes the data on weekly turnover (Rs.in '000) for 10 outlets. A market researcher is interested in ascertain whether the variance of the distribution of the turnover of all outlets from which the sample has been drawn is equal to Rs.20,000? The researcher tests a hypothesis using a chi-square test at 5% level of significance.

Turnover of 10 outlets (Rs. in '000)

Outlet	1	2	3	4	5	6	7	8	9	10
Turnover	36	40	44	50	45	48	55	48	52	54

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