SARASWAT EDUCATION SOCIETY'S
SRIDORA CACULO COLLEGE OF COMMERCE & MANAGEMENT STUDIES
KHORLIM, MAPUSA, GOA

B.Com – Honors / B.Com - General (NEP 20, w. e. f. 2023-24)

S.Y. B.COM. SEMESTER END ASSESSMENT, OCT/NOV, 2026

THEORY - REGULAR ODD SEMESTER III EXAMINATION

Subject:- BUSINESS STATISTICS – I (Minor COM-213) M.Marks: 80 .
Credits : - 04 Duration: 2hrs.

Instructions:- 1. Number of printed pages is 4
2. Attempt all the questions.
3. Use of non-programmable calculator is allowed.
4. Each question carries equal 16 marks.
5. Sub-questions of a question should be answered continuously.
6. Internal choice for sub-questions is available from question 2 onwards.
7. From question 2 onwards, either answer sub-question 'b' fully or sub-question 'c' fully.

Q.1. Attempt the following: (8 x 2 = 16)

i) What is meant by Diagrammatic Presentation of Data?
ii) Define the term "Regression". State with formula any one method of finding regression line?
iii) Write down the formula for Harmonic mean for ungrouped data.
iv) What is Simple Random Sampling?
v) Define Range and state its Coefficient of Range formula.
vi) Write short note on 'Time Series'.
vii) Define correlation.
viii) Define the term 'Scattered diagram". Give diagram for no correlation.

Q.2. Attempt the following

a) Differentiate between a Diagram and a Graph (1 x 4 = 4)

b) Answer the following questions (6 x 2 = 12)

i) Is there a correlation between heights and weights of six children? Comment.

Height in cms	120	125	127	130	134	144
Weight in kg	42	47	48	46	50	49

ii) Find the Quartile deviation from the following data.

Class-mark	40 – 50	50 - 60	60 - 70	70 – 80	80 - 90	90 - 100
Frequency	3	11	21	33	17	15

.OR.

c) Answer the following questions (6 x 2 = 12)

i) Find Spearman's Rank Correlation for the following data:

Rank by judge I	5	6	3	2	1	7	4
Rank by judge II	3	6	5	4	1	7	2

ii) Below are given the figures of production (in '000 quintals) of a sugar factory. Fit a straight line trend to these figures. What is the trend value in 2016?

Year	2011	2012	2013	2014	2015	2016	2017
Production	80	90	92	83	94	99	92

Q.3. a) Attempt the following (6 x 2 = 12)

i) Find the value of product moment coefficient of correlation from the following data and comment on it:

n = 7, $\sum x = 35$, $\sum y = 37$, $\sum xy = 219$, $\sum x^2 = 239$, $\sum y^2 = 215$

ii) Find the coefficient of mean deviation from median of the following data

6 8 2 3 9 3 7

b) Prepare a frequency table for the following data taking classes of exclusive type and a class interval of 4 units beginning with first class interval as 8-12.

15 17 23 14 13 19 15 17 15 12 16 18
21 15 20 12 09 14 17 16 15 13 22 20

Which class-interval has the highest frequency?

.OR.

c) Draw a Histogram for the following data.

Age	0-10	10-20	20-30	30-40	40-50
No. of persons	5	8	21	10	6

Q.4. a) Attempt the following (6 x 2 = 12)

i) The following are the annual profits, in thousands of Rupees, in a certain business:

Year	2020	2021	2022	2023	2024	2025	2026
Profits (Rs.'000)	60	72	75	65	80	85	95

Fit a first degree trend line and hence estimate the trend value for the year 2027.

ii) The following data gives the mean and standard deviation of marks in two subjects A and B. compare the variability of the marks in the two subjects:

$\overline{x_A} = 38$, $\sigma_A = 2$, $\overline{x_B} = 120$, $\sigma_B = 6$

b) Find the value of y when x = 38 for the following data if coefficient of correlation is +0.7

	x	y
Mean	52	12
Variance	49	144

.OR.

c) Compute mean and mode of the distribution given below:

Class mark	5	15	25	35	45	55
Frequency	3	8	12	15	22	25

Q.5. a) Attempt the following (6 x 2 = 12)

i) Weights of workers in 'XXI' unit are recorded as follows.

Weight in Kgm	20-30	30-40	40-50	50-60	60-70	70-80
No. of workers	10	15	15	30	20	10

Calculate: i) the third quartile.
ii) the weight of 51st worker.

ii) Equations of two regression lines between two variables are expressed as: $2x - 3y = 0$ and $4y - 5x - 8 = 0$.
Find : i) The mean values of x and y.
ii) Correlation coefficient of x on y.
iii) Identify regression line of x on y.

b) Define the term "Correlation". What are the methods use to study the correlation between two variables?

.OR.

c) Write short note on 'Range'.

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OCTNOV 2020