

**GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA,
GUNUPUR
(GIET UNIVERSITY)**



B. B. A (Second Semester Regular/Supplementary) Examinations, May, 2025

23BBAPC12004 - Business Statistics

Time: 3 hrs

Maximum: 60 Marks

(The figures in the right hand margin indicate marks.)

PART – A

(2 x 10 = 20 Marks)

Q.1. Answer **ALL** questions

- | | CO # | Blooms
Level |
|--|------|-----------------|
| a. Discuss about functions of statistics. | CO1 | K2 |
| b. Draw a pie chart to represent the distribution of students based on their favourite subjects. | CO1 | K3 |

Subject	Number of Students
Mathematics	80
Science	100
English	60
Social Studies	40
Arts	20

- | | | |
|--|-----|----|
| c. Discuss about characteristics of a good average. | CO2 | K2 |
| d. What do you understand by bimodal mode? | CO2 | K2 |
| e. What is coefficient of variance? | CO3 | K2 |
| f. Write a short note on Karl Pearson's Skewness. | CO3 | K2 |
| g. Discuss about assumptions of Karl Pearson's coefficient of correlation. | CO4 | K2 |
| h. What do you mean by regression lines? | CO4 | K2 |
| i. Write a short note on Time Series Analysis. | CO5 | K2 |
| j. Write a short note on Moving average. | CO5 | K2 |

PART – B

(8 x 5 = 40 Marks)

Answer **all** the questions

Marks	CO #	Bloom s Level
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- | | | | |
|--|---|-----|----|
| 2.a. Compare and contrast between Census and Sample Investigation with suitable examples. | 4 | CO1 | K2 |
| b. Compare and contrast between Descriptive and Inferential Statistics with suitable examples. | 4 | CO1 | K2 |

(OR)

- | | | | |
|---|---|-----|----|
| c. Briefly discuss about classification of data with suitable examples. | 4 | CO1 | K2 |
| d. Explain various types of tabulation with suitable examples. | 4 | CO1 | K2 |
| 3.a. Calculate Harmonic Mean from the following data | 4 | CO2 | K3 |

Variable	Frequency	Variable	Frequency
10-13	4	22-25	71
13-16	11	25-28	50
16-19	22	28-31	32
19-22	46	31-34	14

- | | | | |
|---|---|-----|----|
| b. Calculate Geometric Mean from the following data | 4 | CO2 | K3 |
|---|---|-----|----|

Variable	Frequency	Variable	Frequency
0-5	42	20-25	65
5-10	48	25-30	70
10-15	55	30-35	75
15-20	60	35-40	85

(OR)

- c. From the following data of weight of 120 persons, determine the modal weight. 8 CO2 K3

Weight (lbs)	No. of persons	Weight (in lbs)	No. of persons
10-15	6	30-35	22
15-20	9	35-40	16
20-25	21	40-45	13
25-30	23	45-50	10

- 4.a. The table below gives the weight measurements of 150 castings: 4 CO3 K3

Weight in Kg	No. of castings	Weight in Kg	No. of castings
80-90	2	130-140	32
90-100	5	140-150	18
100-110	13	150-160	16
110-120	20	160-170	9
120-130	30	170-180	5

Calculate Standard Deviation.

- b. Briefly explain about different measures of dispersion with suitable examples. 4 CO3 K2

(OR)

- c. Calculate Karl Pearson's coefficient of Skewness from the following data: 8 CO3 K3

Profits (in lakhs)	No. of Companies	Profits (in lakhs)	No. of Companies
70-80	12	110-120	50
80-90	18	120-130	45
90-100	35	130-140	30
100-110	42	140-150	8

- 5.a. Find the Karl Pearson's correlation coefficient from the following series of marks obtained by 5 students in a class test in mathematics (X) and in Statistics (Y): 4 CO4 K3

X	45	70	65	30	90
Y	35	90	70	40	95

- b. Find the rank correlation coefficient of the following data: 4 CO4 K3

Series A	112	87	115	120	109	100	98	118
Series B	85	70	76	82	65	73	68	80

(OR)

- c. In trying to evaluate the effectiveness in its advertising campaign ('000), a firm compiled the following information: 8 CO4 K3

Year	2014	2015	2016	2017	2018	2019	2020	2021
Expenditure (₹)	12	15	15	23	24	38	42	48
Sales (Lakhs ₹)	5.0	5.6	5.8	7.0	7.2	8.8	9.2	9.5

Calculate the regression equation of sales on advertising expenditure. Estimate the probable sales when advertisement expenditure is ₹60,000.

- 6.a. Describe various components of Time Series with suitable examples. 4 CO5 K2
b. Compare and contrast between Moving Average and Least Square with suitable examples. 4 CO5 K2

(OR)

- c. The following data shows the sales (in billions) of a company. 8 CO5 K3

Years	2015	2016	2017	2018	2019	2020	2021	2022
Sales	29	37	45	48	52	55	60	63

Plot the trend lines and estimate the sales in the year 2025 using the least square.

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