

THIRD SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2023
BACHELOR OF SPORTS MANAGEMENT (BSM)
GBSM3B05T: BUSINESS STATISTICS

Time: 2 ½ Hours

Maximum Marks: 80

SECTION A: Answer the following questions. Each carries *two* marks.
(Ceiling 25 Marks)

1. What is primary data?
2. Define sufficiency.
3. Find the median from the following: 75, 81, 73, 80, 76, 81, 82, 81, 84, 79, 76, 83.
4. Define range. Discuss its merits and demerits.
5. Calculate the correlation coefficient between the variables X and Y from the following data:
 $n = 30, \sum X = 118, \sum Y = 93, \sum X^2 = 556, \sum Y^2 = 309, \sum XY = 368$
6. What are the limitations of regression analysis?
7. The coefficient of correlation between X and Y is 0.87, $\sigma_x = 3, \sigma_y = 3.06$ find b_{yx} .
8. What is parameter? Give an example.
9. Define interval estimation.
10. What are the two types of errors in testing of hypothesis?
11. What is meant by power of a test?
12. Define secular trend of a time series. What are methods of measuring trend?
13. Comment on moving average method.
14. What are irregular variations of time series? Give examples.
15. Define one way ANOVA.

SECTION B: Answer the following questions. Each carries *five* marks.
(Ceiling 35 Marks)

16. What is a frequency polygon? How will you construct it?
17. Compute coefficient of quartile deviation from the following data:

Marks	10	20	30	40	50	60
No. of students	4	7	15	8	7	2

18. What is meant by skewness? Explain different methods for measuring skewness.
19. What is scatter diagram? From the scatter diagram how do you infer the nature of relationship of the variables?

(PTO)

20. The ranking of 10 individuals for two subjects are as follows:

Individuals	A	B	C	D	E	F	G	H	I	J
Subject 1	4	8	10	7	2	5	9	3	6	1
Subject 2	1	4	9	5	10	7	2	3	8	6

Calculate Spearman's Rank Correlation Coefficient.

21. Certain X and Y series are correlated. The two regression lines for these variables are $5x - 6y + 90 = 0$ and $15x - 8y - 130 = 0$. Find the means of the two series and correlation coefficient.
22. Distinguish between point estimation and interval estimation.
23. What is secular trend? Explain any one method of measuring the trend of a time series.

SECTION C: Answer any two questions. Each carries ten marks.

24. Discuss the graphical methods of presenting frequency distributions.
25. Compute mean deviation from the mean and standard deviation for the data given below and obtain the relative measures of dispersion.

Marks	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60
No of Students	12	18	29	22	19

26. Calculate coefficient of correlation by Spearman's method from the following data.

X :	48	33	40	9	16	16	65	24	16	57
Y :	13	13	24	6	15	4	20	9	6	19

27. Describe the technique of an ANOVA with an illustration for one way classification.

(2 x 10 = 20 Marks)