

Reg. No. :

Name :

Second Semester B.Sc. Degree Examination, May 2010**STATISTICS (Core)****Course No. 2 : 2B02 STA – Descriptive Statistics**

Time : 3 Hours

Total Weightage : 30

*Instruction : Use of calculators and tables are permitted.***PART – A**Answer **any 10** questions :**(Weightage 1)**

1. What do you mean by an average ? What characteristics of the distribution is measured by it ?
2. Explain with a diagram the concept of skewness.
3. Write down the equation to a straight line and the associated normal equation.
4. Draw a scatter diagram to represent different types of linear correlation.
5. Give a formula for partial correlation coefficient in terms of simple correlation coefficient and explain the notations.
6. What are the components of a time series ? Explain with examples.
7. Explain irregular variation in Time series with a suitable example.
8. Distinguish between weighted and simple index numbers.
9. Give the formula of Laspeyer's index number and explain the notations.
10. Give a formula for measuring skewness in terms of moments and explain the notation.
11. What is meant by factor reversal test ? Explain.

P.T.O.



PART – B

Answer **any 6** questions :

(Weightage 2)

12. Give formula for finding Harmonic mean. Give an appropriate example to illustrate its utility.
13. Show that Karl Pearsons correlation coefficient lies between +1 and -1.
14. For two variable X and Y the regressions equation of X on Y is $X = 4Y - 3$ and Y on X is $9Y = X + 13$. Find \bar{X} , \bar{Y} and γ_{xy} .
15. "Index numbers are economic barometers" – Explain with an example.
16. What type of correlation will you use to measure the relationships in the case of a qualitative data? Give the formula and explain notations.
17. What is trend? Explain the method of semi-averages to measure trend.
18. How will you fit a second degree parabola to a given bivariate data?
19. The correlation coefficient between two variables X and Y is 0.48. The covariance is 36. The variance of X is 16. Find the S.D. of Y.
20. How will you find out the Median and Mode
 - a) In the case of a discrete frequency distribution
 - b) In the case of a continuous frequency distribution.

PART – C

Answer **any two** questions :

(Weightage 4)

21. Compute the coefficient of variation for the following data :

Wage in Rs.	1-3	3-5	5-7	7-9	9-11
No. Workers	15	18	27	10	6

22. Fit a straight line for the following data :

X :	1	2	3	4	6	8
Y :	2.4	3	3.6	4	5	6



23. Calculate the seasonal Indices by ratio to trend methods for the following data :

Year	1 st Qtr.	2 nd Qtr.	3 rd Qtr.	4 th Qtr.
1966	36	34	38	32
1967	38	48	52	42
1968	42	56	50	52
1969	56	74	68	62
1970	82	90	88	80

24. The following are the group index numbers and group weights of an average working class family's budget. Construct a cost of living Index number.

Group	I.N.	Weights
Food	352	48
Fuel and Lights	220	10
Cloth	230	8
Rent	160	12
Miscellaneous	190	15
