MASTER OF LIBRARY AND INFORMATION SCIENCE EXAMINATION, 2023

(1st Year, 1st Semester)

QUANTITATIVE TECHNIQUES

PAPER – ML-05

Time : Two hours   Full Marks : 50

Answer *all* the questions.

1A. a) Describe briefly three important ways of measuring dispersion.   6

     b) Illustrate with an example how do you convert a Normal distribution into a Standard Normal distribution.   3

     c) Differentiate between Standard deviation and Standard error of mean.   3

     d) The price distribution of a sample of books is as follows:

Price (Rs.) :	1 − 5	6 − 10	11 − 15	16 − 20	21 − 25	26 − 30
No. of books :	7	12	19	15	8	3

        Calculate the standard deviation of the above distribution.   5

OR

1B. a) Write the expression of Z for sample, population and sampling distribution of means.   3

b) Mention the factors on which sample's biasness depends. 3

c) Differentiate between Parametric and Non-Parametric tests. 5

d) Show with a diagram the respective positions of Null hypothesis, Alternative hypothesis and Indecisive zone and mention the conditions they fulfill. 6

e) How do you calculate the 'degrees of freedom' and 'expected frequency of a cell' in a contingency table? 3

2A. a) Briefly mention the objectives of doing 'Time series analysis' of data. 3

b) Describe the various components of time series. 12

c) Write a brief note on the Moving average method. 5

OR

2B. a) Define a Work study. 3

b) Narrate briefly the steps involved in the application of Work study. 5

c) How can it be correlated with Time and Motion study? 2

d) What is the need of doing Work study? 2

e) Discuss the role of management and Supervisor in successful implementation of Work study. 8

3. Write short notes on **any two** of the following: 5×2

a) Dummy activity

b) Random sampling

c) Components of a Queuing system

d) Characteristic features of Mean, Median and Mode