K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

May – June 2025

PhD Program: Academic Year 2024-25
Course Work Examination
Course Code: **PhD101**   and   Course Name: **Research Methodology**
Duration: 2.00 PM to 4.30 PM

Date: 19-05-2025   Max. Marks: 70

Instructions:
(1) All questions are compulsory.
(2) Draw neat diagrams wherever applicable.
(3) Assume suitable data, if necessary.

	Question	Max. Marks	CO	BT Level
Qu-1	Solve any **Six** questions out of **Eight.**	30		
i)	Discuss systems approach in Research.	5	6	U
ii)	Fifteen people sit around a circular table. What are odds against two particular people sitting together?	5	4	Ap
iii)	Comment on the significance and application of Karl Pearsons Coefficient.	5	5	U
iv)	Distinguish between parametric and non-parametric tests.	5	4	Ap
v)	Describe statistical analysis using charts and Graphs.	5	6	U
vi)	Distinguish between Binomial and Poison Distribution.	5	4	Ap
vii)	What is Linear Programming in Research Methodology. Give an example.	5	5	U
viii)	There are 5 green and 7 red balls. Two balls are selected one by one without replacement. Find the probability that first is green and second is red.	5	4	Ap
Qu-2	Solve any **TWO** questions out of **THREE.**	20		
i)	Discuss the role of a literature review in shaping the direction of a research study.	10	2	U
ii)	Explain in detail the techniques involved in defining a research Problem.	10	1	U
iii)	Describe validity and Interpretation in Research.	10	3	U
Qu-3	Solve any **TWO** questions out of **THREE.**	20		
i)	Describe various steps in research process to effectively carry out research with the help of a diagram.	10	1	U
ii)	Describe the criteria and different steps in writing a good Research report.	10	3	U
iii)	Explain the meaning and significance of Research Design.	10	2	U