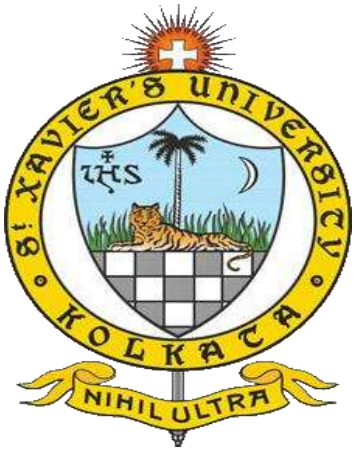

Syllabus of

M.Sc. in Statistics

with specialization in

Industrial Statistics/Biostatistics/Economic Statistics

Department of Statistics

Faculty of Science

St. Xavier's University Kolkata

M.Sc. in Statistics with specialization in

1. **Industrial Statistics (IS)**
2. **Biostatistics (BS)**
3. **Economic Statistics (ES)**

Total Marks: 2000

Total Credit: 80

Semester wise details

Semester – I							
Number of Papers : 5							
Course Code	**Course Title**	**Course Type**	**Credits in each course**				**Total Marks**
			Theory	**Practical**	**Tutorial**	**Credits**	
MSTR110C	Probability Theory	Core	4	0	0	4	20(CIA) + 80(T)
MSTR120C	Non-parametric and Semi-parametric Inference	Core	3	1	0	4	20(CIA) + 60(T) + 20(P)
MSTR130C	Linear Models & Regression Analysis-I	Core	3	1	0	4	20(CIA) + 60(T) + 20(P)
MSTR140C	Design of Experiments and Survey Sampling	Core	3	1	0	4	20(CIA) + 60(T) + 20(P)
MSTR150P	R & Python	Core	0	4	0	4	20(CIA) + + 80(P)
Total			**13**	**7**	**0**	**20**	**500**

Semester – II							
Number of Papers : 5							
Course Code	**Course Title**	**Course Type**	**Credits in each course**				**Total Marks**
			Theory	**Practical**	**Tutorial**	**Credits**	
MSTR210C	Stochastic Processes	Core	4	0	0	4	20(CIA) + 80(T)
MSTR220C	Applied Multivariate Analysis	Core	3	1	0	4	20(CIA) + 60(T) + 20(P)
MSTR230C	Bayesian Inference	Core	3	1	0	4	20(CIA) + 60(T) + 20(P)
MSTR240C	Regression Analysis-II	Core	3	1	0	4	20(CIA) + 60(T) + 20(P)
Elective Bucket							

(Select any one of the following courses)							
MSTR251C	Optimization Techniques	Elective	3	1	0	4	20(CIA)+60 (T)+20(P)
MSTR252C	Advanced Statistical Inference	Elective	3	1	0	4	20(CIA)+60 (T)+20(P)
MSTR253C	Demography & Development Statistics	Elective	3	1	0	4	20(CIA)+60 (T)+20(P)
Total			**15**	**5**	**0**	**20**	**500**

Semester – III							
Number of Papers : 5							
Course Code	**Course Title**	**Course Type**	**Credits in each course**				
			Theory	**Practical**	**Tutorial**	**Credits**	**Total Marks**
MSTR310C	Resampling Techniques & Time Series Analysis	Core	3	1	0	4	20(CIA) + 60(T) + 20(P)
MSTR320C	Statistical Learning	Core	3	1	0	4	20(CIA) + 60(T) + 20(P)
MSTR330J	Research Methodology	Project	2	2	0	4	20(CIA) + 80(P)[1]
Elective Bucket: **IS**							
MSTR341C	Operations Research	Elective	3	1	0	4	20(CIA)+60 (T)+20(P)
MSTR351C	Reliability Analysis	Elective	3	1	0	4	20(CIA)+60 (T)+20(P)
Elective Bucket: **BS**							
MSTR342C	Survival Analysis	Elective	3	1	0	4	20(CIA)+60 (T)+20(P)
MSTR352C	Clinical Trials	Elective	3	1	0	4	20(CIA)+60 (T)+20(P)
Elective Bucket: **ES**							
MSTR343C	Actuarial Statistics	Elective	3	1	0	4	20(CIA)+60 (T)+20(P)
MSTR353C	Econometrics	Elective	3	1	0	4	20(CIA)+60 (T)+20(P)
Total			**14**	**6**	**0**	**20**	**500**

Semester - IV	

Number of Papers : 5							
Course Code	**Course Title**	**Course Type**	**Credits in each course**				
			Theory	**Practical**	**Tutorial**	**Credits**	**Total Marks**
MSTR410J	Internship / Term Paper	Internship	0	4	0	4	20(CIA) + 80(P)[2]
MSTR420J	Dissertation	Project	0	12	0	12	60(CIA) + 240(P)[3]
Elective Bucket: **IS**							
MSTR431C	Statistical Quality Management	Elective	3	1	0	4	20(CIA)+60 (T)+20(P)
Elective Bucket: **BS**							
MSTR432C	Epidemiology	Elective	3	1	0	4	20(CIA)+60 (T)+20(P)
Elective Bucket: **ES**							
MSTR433C	Advanced Time Series	Elective	3	1	0	4	20(CIA)+60 (T)+20(P)
Total			**3**	**17**	**0**	**20**	**500**

Notes:

1. For MSTR330J, the 80 (P) marks are divided as follows: 40 marks awarded by the course instructor(s) through a practical examination, and 40 marks for the literature review and proposal submission (related to MSTR420J), indicating the methods, materials, and scope of the proposed study.
2. For MSTR410J, the 80 (P) marks for the report and presentation are divided as follows: 40 marks by the internal faculty members and 40 marks by the external examiner.
3. For MSTR420J, the 240 (P) marks for the dissertation and presentation are divided as follows: 80 marks by the internal faculty members who are not the supervisor/joint supervisor/co-supervisor, 80 marks by the supervisor/joint supervisor/co-supervisor, and 80 marks by the external examiner.