

**DEPARTMENT OF STATISTICS**  
**PROGRAMME OUTCOMES AND COURSE OUTCOMES OF**  
**UNDER GRADUATE PROGRAMME (2024 ONWARDS)**

| <b>NAME OF THE PROGRAMME: BACHELOR OF STATISTICS– PROGRAMME OUTCOME</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| <b>PO1</b>                                                              | <b>Disciplinary knowledge:</b> Capable of demonstrating comprehensive knowledge and understanding of one or more disciplines that form a part of an undergraduate Programme of study                                                                                                                                                                                                                                                                                         |
| <b>PO2</b>                                                              | <b>Communication Skills:</b> Ability to express thoughts and ideas effectively in writing and orally; Communicate with others using appropriate media; confidently share one’s views and express herself/himself; demonstrate the ability to listen carefully, read and write analytically, and present complex information in a clear and concise manner to different groups.                                                                                               |
| <b>PO3</b>                                                              | <b>Critical thinking:</b> Capability to apply analytic thought to a body of knowledge; analyse and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence; identify relevant assumptions or implications; formulate coherent arguments; critically evaluate practices, policies and theories by following scientific approach to knowledge development.                                                                                            |
| <b>PO4</b>                                                              | <b>Problem solving: Capacity</b> to extrapolate from what one has learned and apply their competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge; and apply one’s learning to real life situations.                                                                                                                                                                                                              |
| <b>PO5</b>                                                              | <b>Analytical reasoning:</b> Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyze and synthesize data from a variety of sources; draw valid conclusions and support them with evidence and examples, and addressing opposing viewpoints.                                                                                                                                                      |
| <b>PO6</b>                                                              | <b>Research-related skills:</b> A sense of inquiry and capability for asking relevant/appropriate questions, problem arising, synthesising and articulating; Ability to recognise cause-and-effect relationships, define problems, formulate hypotheses, test hypotheses, analyse, interpret and draw conclusions from data, establish hypotheses, predict cause-and-effect relationships; ability to plan, execute and report the results of an experiment or investigation |
| <b>PO7</b>                                                              | <b>Cooperation/Team work:</b> Ability to work effectively and respectfully with diverse teams; facilitate cooperative or coordinated effort on the part of a group, and act together as a group or a team in the interests of a common cause and work efficiently as a member of a team                                                                                                                                                                                      |
| <b>PO8</b>                                                              | <b>Scientific reasoning:</b> Ability to analyse, interpret and draw conclusions from quantitative/qualitative data; and critically evaluate ideas, evidence and experiences from an open-minded and reasoned perspective.                                                                                                                                                                                                                                                    |

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| <b>PO9</b>  | <b>Reflective thinking:</b> Critical sensibility to lived experiences, with self awareness and reflexivity of both self and society.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>PO10</b> | <b>Information/digital literacy:</b> Capability to use ICT in a variety of learning situations, demonstrate ability to access, evaluate, and use a variety of relevant information sources; and use appropriate software for analysis of data.                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>PO11</b> | <b>Self-directed learning:</b> Ability to work independently, identify appropriate resources required for a project, and manage a project through to completion.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>PO12</b> | <b>Multicultural competence:</b> Possess knowledge of the values and beliefs of multiple cultures and a global perspective; and capability to effectively engage in a multicultural society and interact respectfully with diverse groups.                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>PO13</b> | <b>Moral and ethical awareness/reasoning:</b> Ability to embrace moral/ethical values in conducting one's life, formulate a position/argument about an ethical issue from multiple perspectives, and use ethical practices in all work. Capable of demonstrating the ability to identify ethical issues related to one's work, avoid unethical behaviour such as fabrication, falsification or misrepresentation of data or committing plagiarism, not adhering to intellectual property rights; appreciating environmental and sustainability issues; and adopting objective, unbiased and truthful actions in all aspects of work. |
| <b>PO14</b> | <b>Leadership readiness/qualities:</b> Capability for mapping out the tasks of a team or an organization, and setting direction, formulating an inspiring vision, building a team who can help achieve the vision, motivating and inspiring team members to engage with that vision, and using management skills to guide people to the right destination, in a smooth and efficient way.                                                                                                                                                                                                                                            |
| <b>PO15</b> | <b>Lifelong learning:</b> Ability to acquire knowledge and skills, including „learning how to learn“, that are necessary for participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal development, meeting economic, social and cultural objectives, and adapting to changing trades and demands of work place through knowledge/skill development/reskilling.                                                                                                                                                                                                          |

| NAME OF THE PROGRAMME: B.Sc STATISTICS – COURSE OUTCOMES |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| SEMESTER I                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>DESCRIPTIVE STATISTICS</b>                            | <ol style="list-style-type: none"> <li>1. Describe the scope, functions, limitations ,collections, sampling and presentation of data in Statistics</li> <li>2. The discussion of these diagrammatic representations, their types, merits, limitations and presentation of data</li> <li>3. Discuss the importance and uses of central values for the various types of data.</li> <li>4. Discuss the importance and uses of central dispersions for the various types of Data and also to measure the various measures of averages and scatteredness of the mass data in a series.</li> <li>5. Explain about the relationship between the variables.</li> </ol>                                                                                                                |
| <b>STATISTICAL PRACTICAL-I</b>                           | <ol style="list-style-type: none"> <li>1. Construct frequency tables to summarize the distribution of data across different categories or intervals.</li> <li>2. Learn to create diagrammatic representations, such as bar charts, histograms, and pie charts, to visually depict frequency distributions.</li> <li>3. Interpret skewness values to determine the direction and degree of skewness in data distributions.</li> <li>4. Carryout measures of location, dispersion, skewness and kurtosis</li> <li>5. Compute correlation analysis</li> </ol>                                                                                                                                                                                                                    |
| <b>BASIC COMPUTER (MS EXCEL)</b>                         | <ol style="list-style-type: none"> <li>1. Enter and format data efficiently using Excel, including applying cell formatting, borders, colors, and font styles.</li> <li>2. Utilize basic Excel functions such as SUM, AVERAGE, MAX, MIN, and COUNT to perform calculations on data sets.</li> <li>3. Understand and apply Excel's data analysis tools such as sorting, filtering, and conditional formatting to organize and analyze data effectively</li> <li>4. Create various types of charts and graphs in Excel, including bar charts, line graphs, pie charts, and scatter plots, to visualize data trends and relationships.</li> <li>5. Perform advanced data analysis and modeling tasks using Excel's statistical functions and scenario analysis tools.</li> </ol> |
| <b>ELEMENTARY STATISTICS</b>                             | <ol style="list-style-type: none"> <li>1. Understand the basic concepts of quantitative ability</li> <li>2. Understand the basic concepts of logical reasoning Skills</li> <li>3. Acquire satisfactory competency in use of reasoning</li> <li>4. Solve campus placements aptitude papers covering Quantitative Ability, LogicalReasoning Ability.</li> <li>5. Compete in various competitive exams like CAT, CMAT, GATE, GRE, GATE, UPSC,GPSC etc</li> </ol>                                                                                                                                                                                                                                                                                                                 |

