**B.Sc. (Hons.) Statistics**

**Objectives of the Course**

This course is designed to provide the science student an intense introduction to the concepts in Statistics. The course continues the introduction to the student started in Statistics to many branches of Sciences and concentrates on pertinent and concrete examples and applications. After completing the course the student should be able to work problem and word problems in probability, and statistics.

It is imperative to know the importance and scope of the discipline, to inculcate interest in statistics to impart knowledge of science as the basic objective of Education, to develop a scientific attitude to make students open minded, to develop an ability to work on their own and to make them fit for the society, to expose themselves to the diversity amongst life forms, to develop skill in practical analysis along with collection and interpretation of statistical materials and data, to develop an ability for the application of the acquired knowledge in the fields of statistics so as to make our country self reliant and self sufficient and to make them able to appreciate and apply ethical principles to statistical research and studies. The science/ mathematics/ engineering/ business student should have mastered and demonstrated the following quantitative skills after completing Statistics

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**Department of Mathematics and Statistics**

**Course Structure**

**B.Sc. Statistics (Major) Course**

**Session 2020-23**

**Faculty of Science**

**B.Sc. Statistics**

**B.Sc. Statistics 2018-21 Scheme**

**Semester I**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Subject Code** | **Subject** | **Lecture (Hr.)** | **Tutorials (Hrs.)** | **Practical**  **(Hrs.)** | **Credits** | | **Total Credits** | **Paper**  **Type** |
|  |  |  |  |  |  | **L** | **P** |  |  |
| **1.** |  | **Descriptive Statistics** | **4** | **1** | **-** | **5** | **-** | **5** |  |
| **2.** |  | **Probability Theory and Random Variable** | **3** | **1** | **-** | **4** |  | **4** |  |
| **3.** |  | **Practical- I** | **-** | **-** | **2** | **-** | **1** | **1** | C |
| **4.** |  | **Core 2 Minor** | **4** |  | **2** | **4** | **1** | **5** |  |
| **5.** |  | **Core 3 Minor** | **4** |  | **2** | **4** | **1** | **5** |  |
| **6.** |  | **Computer Applications** | **2** | **-** | **2** | **2** | **1** | **3** | **G** |
| **7.** |  | **Environment Studies** | **3** | **-** | **1\*** | **3** | **1** | **4** | **C** |
|  |  |  |  |  |  |  |  | **27** |  |

**\*Field/Project Work and Report**

**Semester II**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Subject Code** | **Subject** | **Lecture (Hr.)** | **Tutorials (Hrs.)** | **Practical**  **(Hrs.)** | **Credits** | | **Total Credits** | **Paper**  **Type** |
|  |  |  |  |  |  |  |  |  |  |
| **1.** |  | **Distribution Theory** | **4** | **1** | **-** | **5** | **-** | **5** |  |
| **2.** |  | **Statistical Inference** | **3** | **1** | **-** | **4** |  | **4** |  |
| **3.** |  | **Practical-II** | **-** | **-** | **2** | **-** | **1** | **1** | C |
| **4.** |  | **Core 2 Minor** | **4** |  | **2** | **4** | **1** | **5** |  |
| **5.** |  | **Core 3 Minor** | **4** |  | **2** | **4** | **1** | **5** |  |
| **6.** |  | **Computer Applications** | **-** | **-** | **2** |  | **1** | **1** | **G** |
| **7.** |  | **Communication Skills** | **3** | **-** | **-** | **3** |  | **3** | **F** |
|  |  |  |  |  |  |  |  | **24** |  |

**Semester III**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S. No** | **Subject Code** | **Subject** | **Lecture (Hr.)** | **Tutorial (Hrs.)** | **Practical**  **(Hrs.)** | **Credits** | | **Total**  **Credits** | **Paper**  **Type** |
|  |  |  |  |  |  | **L** | **P** |  |  |
| **1.** |  | **Sampling Distributions** | **4** | **1** | **-** | **5** | **-** | **5** |  |
| **2.** |  | **Industrial Statistics** | **3** | **1** | **-** | **4** |  | **4** |  |
| **3.** |  | **Practical-III** | **-** | **-** | **2** | **-** | **1** | **1** | C |
| **4.** |  | **Core 2 Minor** | **4** |  | **2** | **4** | **1** | **5** |  |
| **5.** |  | **Core 3 Minor** | **4** |  | **2** | **4** | **1** | **5** |  |
| **6.** |  | **Computer Applications** | **-** | **-** | **2** |  | **1** | **1** | **G** |
| **7.** |  | **Communication Skills** | **3** | **-** | **-** | **3** |  | **3** | **F** |
|  |  |  |  |  |  |  |  | **24** |  |

**Semester IV**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S. No** | **Subject Code** | **Subject** | **Lecture (Hr.)** | **Tutorial (Hrs.)** | **Practical**  **(Hrs.)** | **Credits** | | **Total Credits** | **Paper**  **Type** |
|  |  |  |  |  |  | **L** | **P** |  |  |
| **1.** |  | **Survey Sampling** | **4** | **1** | **-** | **4** | **-** | **5** |  |
| **2.** |  | **Applied Statistics** | **3** | **1** | **-** | **4** |  | **4** |  |
| **3.** |  | **Practical-IV** | **-** | **-** | **2** | **-** | **1** | **1** | C |
| **4.** |  | **Core 2 Minor** | **4** |  | **2** | **4** | **1** | **5** |  |
| **5.** |  | **Core 3 Minor** | **4** |  | **2** | **4** | **1** | **5** |  |
| **6.** |  | **Computer Applications** | **2** | **-** | **2** |  | **1** | **3** | **G** |
| **7.** |  | **Communication Skills** | **3** | **-** | **-** | **3** |  | **3** | **F** |
|  |  |  |  |  |  |  |  | **26** |  |

**Semester V**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S. No** | **Subject Code** | **Subject** | **Lecture (Hr.)** | **Tutorial (Hrs.)** | **Practical**  **(Hrs.)** | **Credits** | | **Total**  **Credits** | **Paper**  **Type** |
|  |  |  |  |  |  | **L** | **P** |  |  |
| **1.** |  | **ANOVA & Design of Experiments** | **4** | **1** | **-** | **4** | **-** | **5** |  |
| **2.** |  | **Optimization Techniques** | **3** | **1** | **-** | **4** |  | **4** |  |
| **3.** |  | **Practical-V** | **-** | **-** | **2** | **-** | **1** | **1** | C |
| **4.** |  | **Core 2 Minor** | **4** |  | **2** | **4** | **1** | **5** |  |
| **5.** |  | **Core 3 Minor** | **4** |  | **2** | **4** | **1** | **5** |  |
| **6.** |  | **Communication Skills** | **3** |  |  | **3** |  | **3** |  |
| **7.** |  | **Value Education** | **3** |  |  | **3** |  | **3** |  |
|  |  |  |  |  |  |  |  | **26** |  |

**Semester VI**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S. No** | **Subject Code** | **Subject** | **Lecture (Hr.)** | **Tutorial**  **(Hrs.)** | **Practical**  **(Hrs.)** | **Credits** | | **Total**  **Credits** | **Paper**  **Type** |
|  |  |  |  |  |  | **L** | **P** |  |  |
| **1.** |  | **Multivariate Analysis** | **4** | **1** | **-** | **4** | **-** | **5** |  |
| **2.** |  | **Operation Research** | **3** | **1** | **-** | **4** |  | **4** |  |
| **3.** |  | **Practical-VI** | **-** | **-** | **2** | **-** | **1** | **1** | C |
| **4.** |  | **Core 2 Minor** | **4** |  | **2** | **4** | **1** | **5** |  |
| **5.** |  | **Core 3 Minor** | **4** |  | **2** | **4** | **1** | **5** |  |
| **6.** |  | **Project** |  |  |  |  |  | **6** |  |
|  |  |  |  |  |  |  |  | **26** |  |
|  |  |  |  |  |  |  |  |  |  |

**\*Student can opt two minor subjects from the following:**

**1. Mathematics & Physics**

**2. Mathematics & Economics**

**3. Mathematics & Computer Application**