Rayat Shikshan Sanstha

Rayat Shikshan Sanstha's

Rao Bahadur Narayanrao Borawake College, Shrirampur

Department Of Statistics

"Career Opportunities in Statistics"

(Statistics is a science as well as art)

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What is Statistics?

Statistics is a term whichrelates to the study of the analysis, collection, presentation and organization of numerical data. Statistics can interpret aggregates of data which are too large to be understood by ordinary observation".

Branches of Statistics:

- **Descriptive Statistics:** It uses the data to provide description of the population in a summarize way through graphs, numerical calculations, tables, etc.
- **Inferential Statistics:** It uses a random sample of data taken from a population to describe and make inferences about the population.

What can you do with a Statistics Degree?

This career offers great job opportunities in India and also in abroad. The statisticians and their analytic skills are highly demanded in today's job market.
You can use statistics in various fields such as business, industry, agriculture, government, private, computer science, scientific, health sciences & other disciplines.
After completing you study in statistics, you can also apply for the Civil Services, Indian Statistical Services & Indian Economic Services exams.
Those complete the degree, one can opt for finance, analytics, software development, actuarial science & many more options.

Career Opportunities in Statistics

In recent years, ***"Statistics"*** has become one of the best choices among students to choose as their career.**This subject has various career opportunities in almost every field.**

Job Titles:

- Statisticians
- Business Analyst
- Mathematician
- Professor
- Risk Analyst
- Data Analyst
- Content Analyst
- Statistic Trainer
- Data Scientist
- Consultant
- Biostatistician
- Econometrician

Government Sector

- **UPSC: Indian Statistical Service(ISS)**

Educational Qualification:

Bachelor's Degree with Statistics/ Mathematical Statistics/ Applied Statistics as one of the subject **OR**
Master's degree in Statistics/MathematicalStatistics/ Applied Statistics
Part I: Written Examination (1000 Marks)
Part II: Viva Voce or Personal Interview (200 Marks)

- **Subordinate Statistical Service (Staff selection commission)**

Educational Qualification:

Bachelor's Degree in any subject from a recognized University with at least **60%** in**Mathematics** at 12th standard level
ORBachelor's Degree in any subject with **Statistics** asone of the subjects at degree level.
Tier-I : Written Examination (ObjectiveMCQ) 200 Marks
Tier-II : Written Examination (ObjectiveMCQ) 600 Marks
Tier-III: Written Examination (Descriptive Paper) 100 Marks
Tier-IV: Skill Test (Computer Proficiency Test (CPT) and Data Entry Speed Test (DEST))

- **Central Bank and Public Sector Banks**

Reserve Bank of India

Post: Research Officer

Educational Qualifications:

Master's Degree in Statistics/Mathematical Statistics/Mathematical Economics/ Econometrics/Applied Statistics & Informatics with a minimum of55%marks or equivalent grade.
Part I: Written Examination
Part II: Personal Interview (75 Marks from 2020 onwards)

- **Maharashtra Public Service Commission (MPSC)**

Posts:

Research Officer/Statistical Officer (Directorate of Economics and Statistics) / Forest Statistician (Gr. A) /Assistant Forest Statistician (Gr.B)(Forest Department).

Educational Qualification:

Master's degree in Statistics or Biometrics or Econometrics or Mathematical Economics with at least 45 % of marks.

Part I: Written Examination **(**100 Questions, Total 200 Marks**)**

Statistics:

Descriptive Statistics, Probability Distributions, Testing of hypothesis, Inference, Index Number, Time Series Analysis, Demography, Life Table, Official Statistics. (150 Marks)

Part II: Viva Voce or Personal Interview (50 Marks)

(Minimum 21 Marks for qualification of interview.)

- **Directorate of Economics and Statistics (DES)**

Posts:

Research Assistant (Gr. B)/Statistical Assistant/Statistical Investigator.

Educational Qualification:

1. **Research Assistant: Master's degree** in Statistics or Biometrics or Econometrics or Mathematical Economics or Commerce with at least 45 percent of marks.
2. **Statistical Assistant: Bachelor degree** in Statistics/Mathematics/ Commerce/ Economics
3. **Statistical Investigator: Bachelor degree** in Statistics/Mathematics/ Commerce/ Economics.

Written Examination (200 Marks)

Website: https://mahades.maharashtra.gov.in/

- **Maharashtra State Road Transport Corporation**

Post:
Divisional Statistical Officer
Educational Qualification:
Master's degree in Statistics or Biometrics or Econometrics or Mathematical Economics or Commerce with at least 45 percent of marks.
Written Examination (200 Marks)
Website: https://msrctc.maharashtra.gov.in/

- **Health Sector / ZilhaParishad**

Posts:
Extension Officer (Statistics), Monetary and Evaluator Nodal Development Officer / Statistical Investigator
Educational Qualification:
Bachelor degree in **Statistics**/Mathematics/ Commerce/ Economics or equivalent.
Written Examination (200 Marks)
(Marathi, General English, General Knowledge, Quantitative Aptitude, Reasoning.)

- **Teaching**

Educational Qualification:
Master's degree in Statistics and **SET/NET/PhD**

IT Sector

- **Data Analyst**

  Data analysts don't use any programming language and prefer statistical software and Excel. Depending on the problems they are trying to solve, some analysts perform regression analysis and create data visualizations. Experienced data analysts are sometimes considered as "**Junior data scientist**".

  Educational Qualifications:

  Bachelor degree Or Masters degree instatistics /mathematics /computer science or equivalent.

  Software Skills:

  Python,R,Excel and Tableau.

- **Data Scientist**

  Data science is related to data mining, machine learning and big data. It consist concepts of statistics, data analysis, informatics.

  Educational Qualifications:

  Bachelor degree Or Masters degree in statistics /mathematics /computer science or equivalent.

  Software Skills:

  Python, R, Excel, Java, C++ and Tableau

- **Statistician**

  A Statistician is someone who deals with gathering data that is relevant and necessary to their research. Statisticians have been playing a long and important role in the field of research and academia. The professionals in the field apply statistical models and methods to real-world problems. They analyse, gather and interpret data to help business in making decisions.

  Educational Qualifications:

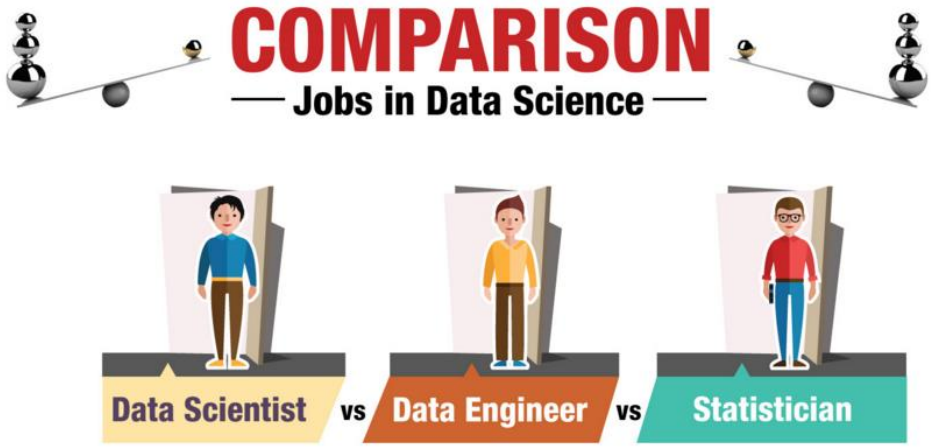
  Bachelor's degree or Master's degree which provide a good foundation in mathematics/ statistics/ computer science/ economics/ econometrics/ material science.

  Software Skills:

  R, SAS, C, C++, Python

Technical Skills:

Machine learning, Data mining, visualization and cleaning.



- **Business Analyst**

  Also known as management consultant, business analysts specialize in evaluating organizational efficiency. They access business problem, collect relevant data and devise methods for analyzing issues effectively. These professionals often analyze financial statements and labor reports and use statistics to identify trends and recommend solutions. Business analysts often work closely with project managers to implement process recommendations and review progress.

  Educational Qualifications:

  Bachelor degree Or Masters degree in statistics /mathematics /computer science or equivalent.

  Software Skills:

  Python, R, Excel,Java,C++ and Tableau

- **Database Administrator**

  Database administrators specialize in storing, categorizing and organizing information. Database administrators help stakeholder's access data, oversee permissions and ensure that databases run correctly. These professionals may also develop new databases, create tests and modify structural standards as necessary. Most database administrators have high-level

knowledge of languages like Structured Query Language (SQL) to do their jobs effectively.

Educational Qualifications:

Bachelor degree Or Masters degree in statistics /mathematics /computer science or equivalent.

Software Skills:

SQL,Python, R, Excel,Java,C++ and Tableau

Pharmaceutical Industry

- **Biostatistician**

  Statisticians working in the pharmaceutical industry can conduct applied research and clinical trials that aid in the development of new medications, drug therapies and other treatments. At each stage of a multi-phase clinical trial, statisticians can design and carry out mathematical tests, surveys and studies to collect data on the effectiveness and risks of chemical compounds. They may collaborate with other scientists, use computers and statistical software for modeling and sampling, analyze results and write reports. They also typically help pharmaceutical companies adhere to government regulations for drug safety.

  Educational Qualifications:

  Bachelor degree Or Masters degree in **Biostatistics**

  Software Skills:

  SAS, Python, R, Excel and Tableau

Quality Control Department in Industry

- **Industrial Statistician**
  Industrial statisticians help build products and deliver services that satisfy customers and increase their company's market share and profit margin. Statisticians help design the best product, guide the transition from design to manufacturing, ensure a consistently excellent product, manage customer satisfaction, and ensure a financially beneficial bottom line. Industry professionals use statistical models for quality control and quality assurance in nearly all manufactured goods.

  Educational Qualifications:

  Bachelor degree Or Masters degree in **Statistics**

  Software Skills:

  SAS, Python, R, Excel and Tableau

Agriculture

- **Statistician:**
  Statisticians are involved in studies ranging from small laboratory experiments to large projects conducted over many hundreds or thousands of square miles. They work on data from the smallest scale of organism to plants, insects, animals, and humans. They also work with scientists from fields such as bacteriology, genetics, biochemistry, dairy science, environmental studies, entomology, plant sciences, rural sociology, veterinary medicine, wildlife, and ecology.

  Educational Qualifications:

  Bachelor degree Or Masters degree in **Statistics**

  Software Skills:

  Python, R, Excel and Tableau

Other Field

- **Market researcher:**

  Market researchers analyze industry-related conditions to forecast sales for products and services. Market researchers use expertise in statistics to develop processes for gathering data and analyze figures with advanced software and algorithms.

- **Financial analyst**

  Financial analysts assist individuals, businesses and agencies as they consider investments. They assess the performance of stocks and bonds and forecast future market outcomes using statistical knowledge to gather and analyze relevant financial data.

- **Actuary**

  Actuaries handle financial risk management for individuals, businesses and government organizations. They examine financial costs, assess risk levels and recommend courses of action. They use their background in statistics to collect data, review trends and use business models to forecast future events. Actuaries often work for health, life or property insurance companies, which rely on their advice to develop policies and calculate premiums.

What are the duties of Statistician?

- Collecting and analysing data.
- To design experiments or surveys to collect the required data.
- Applying statistical methods to solve practical problems in business, science and other fields.
- Writing reports and articles of their analysis.
- Presenting results to clients or authorities.

Salary

> **"A Statistician earns a very handsome salary package in India and abroad."**
>
> In India, the average salary of a statistician can be expected between **Rs. 2.5 to 3.5 lacs per year.** After gaining the sufficient experience in this field you can earn more than **Rs. 4.5 lacs per year.**

Statisticians should also possess the following specific qualities:

Critical-thinking skills. Statisticians use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

Math skills. Statisticians use statistics, calculus and linear algebra to develop their models and analyses.

Problem-solving skills. Statisticians must develop techniques to overcome problems in data collection and analysis, such as high nonresponse rates, so that they can draw meaningful conclusions.

Speaking skills. Because statisticians often work in teams, they must be able to present statistical information and ideas so that others will understand.

Writing skills. Good writing skills are important for statisticians because they write reports explaining technical matters to persons without their level of statistical expertise.