

Department of Statistics Profile

Projects-15 Citations-87 ications-151 10-index-32 index-18

NO. ialization-laboratory Smart-classrooms PG-laboratory

UGC-Innovative-Programme RUSa . D. ecognitions

DST-FIST

DST-PURSE UGC-Sap

activitio

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ectures onferences

anliness Cultural-Events

Peafourl-abundance-estimation Training-and-consultancy Analysis-for-the-Prospective-plan Third-Party-audit-of-election-booths

Outreach Statistical-Assistance-to-the-University-Authorities Assistance-to-autonomous-colleges Student-attachment-programme Statistics-quiz

Shivaji University, Kolhapur www.unishivaji.ac.in

October 2019

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From the Desk of Head

The Department of Statistics, Shivaji University, Kolhapur is committed to encouraging each student to develop as an independent and creative thinker, ensuring their intellectual, ethical, and social development. Efforts are taken to make a student an effective and apt user of the capability of statistics in modeling, analyzing, interpreting, and predicting natural and technical systems in the promotion of human welfare.

Statistics is the universal tool of inductive inference, research in natural and social sciences, and technological applications. More generally, Statistical techniques help to develop realistic models for quantifying natural and systematic variability immerging out of systems related to any aspect of human life and use them effectively for monitoring, controlling and predicting the systems.

The Department takes special efforts to unfold to the students the aforementioned capabilities of statistics, preparing the students for best job avenues, competitive examinations, and higher studies.

It gives me great pleasure to mention that the Department faculty members have excellent academic credentials and are highly regarded. The Department has sound infrastructure. Our alumni are well placed in reputed multinational companies and government organizations.

> Prof. (Mrs.) H. V. Kulkarni Head

Brief History of the Department

Considering the importance and need of the Statistics education in the Southern Maharashtra, the Vice-Chancellor, Dr. R. K. Kanabarakar established the Department of Statistics in Shivaji University in 1982. M. Sc. (Statistics) programme was instituted in 1982 with intake of 20 while M. Phil. (Statistics) and Ph. D. (Statistics) programmes were instituted in 1984.

During 1982 to 1984, teachers of affiliated colleges, of the Department of Mathematics, and of the Department of Statistics of then Pune University shouldered the responsibility of teaching. In 1984, one Professor, two Readers and two Lecturers were appointed in the Department. Dr. M. S. Prasad was appointed as the first Head of Department.

Quality teaching and research, rigorous curricula, healthy working environment, expertise in using advanced statistical software, and well equipped laboratories have been remained the strengths of the Department. The Department organized the 8th National Conference of *Indian Society for Probability and Statistics* in 1986 and since then followed the tradition of organizing such academic events regularly. A numerous renowned statisticians from India as well as from abroad have visited the Department.

Statistical Modeling and Inference, and *Statistical Process Control and Optimization* have remained the research thrust areas of the Department. Till date, fifteen research projects have been sanctioned to the faculty members from different funding agencies including UGC, DST, CSIR, NBHM, and Shivaji University. The number of Ph. D. awardees till date is 37.

The Department has been recognized by UGC and DST, and has been provided with UGC-SAP, DST-PURSE, and DST-FIST schemes. It instituted M. Sc. (Applied Statistics and Informatics) programme in year 2012 under the UGC Innovative Programme Scheme. The superlative specialization laboratories have been developed in the Department under RUSA grants in year 2019. The total inlay from UGC, DST, and RUSA during 2014-2019 is of Rs. 235.01 lakh.

The Department instituted the *Silver Jubilee Scholarship* for the PG students in year 2007 on the occasion of the Silver Jubilee Year 2006-07. *Dr. Pandurang Vasudev Sukhatme Memorial Award* was instituted in year 2011, which is conferred annually in the University Convocation ceremony to the first rank holder in the M.Sc. Statistics examination. The funds for the scholarship and the award were generated through the donations received from the college and university teachers of Statistics and from alumni of the Department.

Since 2000, the Department organizes various outreach activities in association with *Shivaji University Statistics Teachers' Association*, for strengthening the awareness of Statistics among the under graduate students of the affiliated colleges of Shivaji University and PAH Solapur University. The activities include written quiz, oral quiz, and personality development camps. In all more than 3000 students participate in these activities every year.

The Department had contributed in establishing the Department of Computer Science and the Computer Center in the University.

Vision, Mission, and Core Values

<u>Vision</u>

The Department of Statistics is committed to meet the educational and professional needs of the nation and to develop intellectually vigorous community of students and faculty.

<u>Mission</u>

To develop the Department as reputed centre for quality research, teaching, training and consultancy in Statistics

Core Values

- Excellence in teaching and research
- Service to the society through contributions in knowledge and work of high quality
- Academic Integrity among students
- Diversity in student affairs
- Life-long learning approach

Academic Programmes

The Department offers four programmes. The names, years of inception, and intake capacities of the programmes are as under.

| Sr. No. | Program Name | Years of inception | Present intake capacity |
|------------|---|--------------------|----------------------------|
| 1 | M. Sc. (Statistics) | 1982 | 30 |
| 2 | M. Sc. (Applied Statistics and Informatics) | 2013 | 25 |
| 3 | M. Phil. (Statistics) | 1984 | As per available vacancies |
| 4 | Ph. D. (Statistics) | 1984 | As per available vacancies |

Programme Structure

M. Sc. (Statistics) and M. Sc. (Applied Statistics and Informatics) are two-year Post graduate programmes. The structure of both of these programmes is as follows.

| | | | | SEME | STER-I (I | Duration- Six | (Month) | | | | | | |
|--------------|----------|----------|-----------------|--------------|-----------|---------------|---------------|-----------|---------|-------------|---------|--|--|
| | Sr. | Course | Teaching Scheme | | | Examination | | | | | | | |
| | No. Code | | | | | | Scheme | | | | | | |
| | | | Theo | ry and Pract | ical | Unive | rsity Assessn | nent (UA) | Interna | l Assessmer | nt (IA) | | |
| | | | Lectures | Hours | Credit | Maximum | Minimu | Exam. | Maximu | Minimu | Exam. | | |
| | | | (Per week) | (Per | | Marks | m | Hours | m | m Marks | Hours | | |
| | | | | week) | | | Marks | | Marks | | | | |
| | 1 | CC-101 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 | | |
| | 2 | CC-102 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 | | |
| CGPA | 3 | CC-103 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 | | |
| | 4 | CC-104 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 | | |
| | 5 | CC-105 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 | | |
| | 6 | CCPR-106 | 12 | 12 | 4 | 100 | 40 | * | | | | | |
| T | otal (A |) | | | 24 | 500 | | | 100 | | | | |
| Non- CGPA | 1 | AEC-107 | 2 | 2 | 2 | | | | 50 | 20 | 2 | | |
| | | • | | SEMES | STER-II (| Duration- Si | x Month) | | L | | | | |
| | 1 | CC-201 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 | | |
| | 2 | CC-202 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 | | |
| CGPA | 3 | CC-203 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 | | |
| | 4 | CC-204 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 | | |
| | 5 | CC-205 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 | | |
| | 6 | CCPR-206 | 12 | 12 | 4 | 100 | 40 | * | | | | | |
| Total (B) | | | | 24 | 500 | | | 100 | | | | | |
| Non- CGPA | 1 | SEC-207 | 2 | 2 | 2 | | | | 50 | 20 | 2 | | |
| Total (A+B) | | • | | | 48 | 1000 | | | 200 | | | | |

M.Sc. Part – I

Continued

| • Student contact hours per week : 32 Hours (Min.) | • Total Marks for M.ScI : 1200 |
|--|---|
| Theory and Practical Lectures : 60 Minutes Each | • Total Credits for M.ScI (Semester I & II) : 48 |
| CC-Core Course | Practical Examination is annual. |
| CCPR-Core Course Practical | • Examination for CCPR-106 shall be based on Semester I Practical. |
| AEC-Mandatory Non-CGPA compulsory Ability Enhancement Course | • Examination for CCPR-206 shall be based on Semester II Practical. |
| SEC- Mandatory Non-CGPA compulsory Skill Enhancement Course | *Duration of Practical Examination as per respective BOS guidelines |
| | • Separate passing is mandatory for Theory, Internal and Practical Examination |

M.Sc. Part – II

| SEMESTER-III (Duration- Six Month) | | | | | | | | | | | |
|------------------------------------|----------------------------|----------|----------------------|--|----------|----------------------------|----------|-------------|--------------------------|---------|-------|
| | Sr. Course Teaching Scheme | | | | | Examination Scheme | | | | | |
| | No. | Code | Theory and Practical | | Unive | University Assessment (UA) | | | Internal Assessment (IA) | | |
| | | | Lectures | Hours | Credit | Maximum | Minimum | Exam. Hours | Maximum | Minimum | Exam. |
| | | | (Per week) | (Per week) | | Marks | Marks | | Marks | Marks | Hours |
| | 1 | CC-301 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 |
| | 2 | CCS -302 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 |
| CCDA | 3 | CCS-303 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 |
| CGPA | 4 | CCS-304 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 |
| | 5 | DSE -305 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 |
| | 6 | CCPR-306 | 12 | 12 | 4 | 100 | 40 | * | | | - |
| T | otal (C |) | | | 24 | 500 | | | 100 | | |
| | 1 | AEC-307 | 2 | 2 | 2 | | | | 50 | 20 | 2 |
| | 2 | EC (SWM | Number of | Number of lectures and credit shall be as specified on SWAYAM MOOC | | | | | | | |
| Non-CGPA | | MOOC)- | | | | _ | | | | | |
| | | 308 | | | | | | | | | |
| | | | | SEMES | TER-IV (| (Duration- Si | x Month) | | | | |
| | 1 | CC-401 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 |
| | 2 | CCS -402 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 |
| CCDA | 3 | CCS-403 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 |
| CGPA | 4 | CCS-404 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 |
| | 5 | DSE -405 | 4 | 4 | 4 | 80 | 32 | 3 | 20 | 8 | 1 |
| | 6 | CCPR-406 | 12 | 12 | 4 | 100 | 40 | * | | | |
| Te | otal (D |) | | | 24 | 500 | | | 100 | | |
| Non CCDA | 1 | SEC-407 | 2 | 2 | 2 | | | | 50 | 20 | 2 |
| NON-COPA | 2 | GE-408 | 2 | 2 | 2 | | | | 50 | 20 | 2 |
| Total (C+D) | | | | | 48 | 1000 | | | 200 | | |

| • student contact hours per week : 32 Hours (Min.) | • Total Marks for M.ScII : 1200 |
|---|---|
| • Theory and Practical Lectures : 60 Minutes Each | • Total Credits for M.ScII (Semester III & IV) : 48 |
| CC-Core Course | Practical Examination is annual. |
| CCS- Core Course Specialization | • Examination for CCPR-306 shall be based on Semester III Practical. |
| CCPR-Core Course Practical | • Examination for CCPR-406 shall be based on Semester IV Practical. |
| DSE-Discipline Specific Elective | • *Duration of Practical Examination as per respective BOS guidelines |
| AEC-Mandatory Non-CGPA compulsory Ability Enhancement | • Separate passing is mandatory for Theory, Internal and Practical |
| Course | Examination |
| SEC- Mandatory Non-CGPA compulsory Skill Enhancement Course | |
| • EC (SWM MOOC) - Non-CGPA Elective Course | |
| GE-Generic Elective | |

| | M.ScI | M.ScII | Total |
|---------|-------|--------|-------|
| Marks | 1200 | 1200 | 2400 |
| Credits | 48 | 48 | 96 |

I. CGPA course:

- 1. There shall be 12 Core Courses (CC) of 48 credits per programme.
- 2. There shall be 06 Core Course Specialization (CCS) of 24 credits per programme.
- 3. There shall be 02 Discipline Specific Elective (DSE) courses of 08 credits per programme.
- 4. There shall be 4 Core Course Practical (CCPR) of 16 credits per programme
- 5. Total credits for CGPA courses shall be of 96 credits per programme

II. Mandatory Non-CGPA Courses:

- 1. There shall be 02 Mandatory Non-CGPA compulsory Ability Enhancement Courses (AEC) of 02 credits each per programme.
- 2. There shall be 01 Mandatory Non-CGPA compulsory Skill Enhancement Course (SEC) of 02 credits per programme.
- 3. There shall be one Elective Course (EC) (SWAYAM MOOC). The credits of this course shall be as specified on SWAYAM MOOC.
- 4. There shall be one Generic Elective (GE) course of 02 credits per programme. Each student has to take generic elective from the department other than parent department.
- 5. The total credits for Non-CGPA course shall be of 08 credits + 2-4 credits of EC as per availability.
- 6. The credits assigned to the courses and the programme are to be earned by the students and shall not have any relevance with the work load of the teacher.

Visit <u>www.unishivaji.ac.in</u> for the details about the courses offered and their syllabi.

Programme Outcomes and Programme Specific Outcomes

M. Sc. (Statistics)

Program Outcomes

Post Graduates of the M.Sc. Statistics program will be able to:

- 1. Have a broad background in Statistics, an appreciation of how its various sub disciplines are inter-related, acquire an in-depth knowledge about topics chosen from those offered through the department,
- 2. Be familiar with a variety of real life situations where statistics helps accurately explain the underlying abstract or physical phenomena and able to recognize and appreciate the connections between theory and applications;
- 3. Develop **the ability** to effectively and aptly use techniques from different subdisciplines in a broad range of real life problem solving.
- 4. Be statistically and numerically **literate**. i.e. graduates will: recognize the importance and value of statistical thinking, training
- 5. Have the **versatility** to work effectively in a broad range of companies (including R&D sectors of financial, pharmaceutical, market research, software development companies, consultancy etc), or analytic, scientific, government, financial, health, teaching and other positions or continue for higher education.
- 6. Be able to independently read statistical literature including survey articles, scholarly books, and online sources;
- 7. Be life-long learners able to independently expand their statistical expertise when needed, or out of own interest.
- 8. Exhibit ethical and professional behaviour in team work.

Program Specific Outcomes

After completion of M.Sc. Statistics program the student will be able to:

- 1. Develop stochastic models for studying real life phenomenon in diverse disciplines.
- 2. Efficiently interpret and translate the outcomes obtained from analysis of stochastic models to an environment understandable to a layman.
- 3. Effectively use necessary statistical software and computing environment including R, MS-EXCEL among others
- 4. Apply statistical techniques to optimize and monitor real life phenomena related to industry and business analytics etc.

M. Sc. (Applied Statistics and Informatics)

Program Outcomes

Graduates of the Applied Statistics and Informatics program will be able to:

- 1. Have a **broad background** in applied Statistics and information technology(IT), an appreciation of how its various sub-disciplines are inter-related, acquire an **in-depth knowledge** about topics chosen from those offered through the department,
- 2. Be familiar with a variety of real life situations where Statistics and IT helps accurately explain the underlying abstract or physical phenomena and able to recognize and appreciate the connections between theory and applications;
- 3. Be computationally, statistically and numerically **literate**. i.e. graduates will: recognize the importance and value of statistical thinking, training and using computers in analysis large data generated through various real life systems.
- 4. Develop **the ability** to effectively and aptly use techniques from different subdisciplines in a broad range of real life problem solving; develop appropriate computer programs (in C, C++, Python etc.) for analysis complex data.
- 5. Have the **versatility** to work effectively in a broad range of companies (including R&D sectors of financial, pharmaceutical, market research, software development companies, consultancy etc), or analytic, scientific, government, financial, health, teaching and other positions or continue for higher education.
- 6. Be able to independently read recent statistical and IT related literature including survey articles, scholarly books, and online sources;
- 7. Be life-long learners able to independently expand their computational and statistical expertise when needed, or out of own interest.
- 8. Exhibit ethical and professional behaviour in team work.

Program Specific Outcomes

After completion of M.Sc. Applied Statistics and Informatics program the student will be able to:

- 1. Develop stochastic models for studying real life phenomenon in diverse disciplines.
- 2. Efficiently interpret and translate the outcomes obtained from analysis of stochastic models to an environment understandable to a layman.
- 3. Effectively use the Database Management System tools for handling large data systems.
- 4. Effectively use necessary statistical software and computing environment including R, MS-EXCEL, C, C++, Python among others and develop required computer programs in the same
- 5. Apply statistical techniques to optimize and monitor real life phenomena related to industry and business analytics etc.

About Faculty

The Department **has seven faculty members** consisting of four Professors and three Assistant Professors. The details of faculty are as given below.

1. Dr. (Mrs) H. V. Kulkarni



| Contact no | (O)0231-260 | 9241; 9243 (M) | 989074463 | 5 | | |
|--|---|---|---|--|--|--|
| E-mail ID | hvk_stats@u | nishivaji.ac.in, | kulkarni.he | mangi@gmail.com | | |
| Designation | Professor and | l Head | | | | |
| Research Areas | Statistical modeling and parametric and semiparametric inference; directional data analysis; design of experiments; Lifetime data analysis | | | | | |
| Research papers published in last 5 years | 08 | | | | | |
| Research Projects in last 5 years (Give details) | Completed: CSIR: 2013- 12 Lakhs Development Efficient Reli Techniques F and Gamma I Random Vari | (1) 2016 (PI) Rs. t of Simple fability For Weibull Distributed fables | Ongoing (2) NBHM/DAE 2017-2020 (PI) Rs. 13 Lakhs Goodness of fit and multi-sample inference procedures in the presence of nuisance parameters DST(METRICS) 2019-22,(PI)Rs. 6.6 Lakhs Goodness of fit tests for probability distributions on smooth manifolds participate to directioned data analysis | | | |
| Research impact | Citation | H-Index | i10-index | RG Score | | |
| | 108 | 05 | 04 | 19.48 | | |
| Total no of Ph.D. | Awarded | | Working | | | |
| Students | 03 | | 05 | | | |
| National/International Awards | ISI Kolkata a 24/12/2016 | warded visiting at ASU, ISI, Ko | Scientist po olkata with a | sition form 26/11/2016 to grant of Rs 40,000/-, | | |
| Selected Publications (10) | 1. Kulkarni H. V. and Rattihalli, R. N. (1996) Characterization of Bivariate mean residual-life function. IEEE Transactions on Reliability, 45, 229-233. | | | | | |
| | 2. Kulkarni, H. V. and Rattihalli, R. N. (2002), "Nonparametric estimation of a bivariate mean residual life function", Journal of American Statistical Association, 97, 907-917. | | | | | |
| | Kulkarr multiva Metrika | ni,H.V. (2004) riate of mult 1, 64, 167-180. | , "Characte ivariate La | rization and modeling of ck of memory Property", | | |

| . Kulkarni, H. V. and Powar, S. K. (2010), "A New Method for Interval estimation of the Mean of Gamma Distribution", Lifetime Data Analysis 16,431-447. |
|---|
| . Kulkarni, H. V. and Patil, V. V. (2012), "Comparison of Confidence Intervals for Poisson mean: A review and comparison", REVSTAT –Statistical Journal, 10, 211–227. |
| . SenGupta, A., Kulkarni, H. V., & Hubale, U. D. (2015). Prediction intervals for environmental events based on Weibull distribution. Environmental and Ecological Statistics, 22.87- 104. |
| Powar, S. K., & Kulkarni, H. V. (2015) Estimation of confidence interval for hydrological design value for some continuous distributions under complete and censored samples. 29, Stochastic Environmental Research and Risk Assessment, 1691-1708. |
| . KP Patil, HV Kulkarni (2017) On the Interval Estimation of Stress–Strength Reliability for Exponentiated Scale Family of Distributions,33, Quality and Reliability Engineering International, 1447–1453 |
| . HV Kulkarni, KP Patil (2018) Two Sample Comparisons Involving Zero-Inflated Continuous Data A Parametric Approach with Applications to Microarray Experiment, Mathematical Bio-Sciences.: 298, 19-28 |
| 0. HV Kulkarni, KP Patil (2018) Improved Inference for the Shape-Scale Family of Distributions Under Type-II Censoring, Journal of Statistical Computation and Simulation. 88 (12), 2259-2272 |

2. Dr. D. T. Shirke



| Contact no | 0231-260924 | 3 | | | | | |
|---|---|------------------------|------------------|---------------------------|--|--|--|
| E-mail ID | dts stats@un | ishivaii.ac.in | | | | | |
| Designation | Professor | | | | | | |
| 8 | (Presently, Pr | o-Vice-Chance | ellor) | | | | |
| Research Areas | Statistical mo | deling and rela | ated inference | | | | |
| | Statistical Pro | ocess Control, 1 | Data Mining | 7 | | | |
| No of Research papers published in last 5 years | 31 | 31 | | | | | |
| Research Projects in | Completed:0 | 1 | Ongoing: 02 | | | | |
| details) | Principal Investigator of research project entitled "Inference for functional data and related applications" sponsored by DST- SERB under the scheme MATRICS. (Amount: Rs. 6.6 L Duration: 2019-2022) Principal Investigator of Major research project entitled "Nonparametric Inference Based on Notion of Data Depth and its Applications" sponsored by DST-SERB under the scheme "Core Research Grants". (Amount: Rs. 17.21 L 2018- 2021) Principal Investigator of Major research project entitled "Development of some nonparametric auality control charts" | | | | | | |
| Deelse Dublished | sponsored | | | 58 L, 2015-2018) | | | |
| (Details) | Co-author : Mathematics and Statistics for Management. For MBA Part-I Shivaji University, Kolhapur. Contributed to "High Performing Organizations- Issues and Challenges" Tata McGraw Hill Publishing 2008. Contributor to : Epidemiology, Health and Population (Statistical Applications0–Vedams eBooks (P) Ltd. Contributor to : Biostatistical Aspects of Health and Epidemiology (2002)- Eastern Book Company | | | | | | |
| Research impact | Citation | H-Index | i10-index | RG Score | | | |
| | 515 | 13 | 19 W. 11 - 66 | 20.24 | | | |
| Total no of Ph.D. Students | Awarded: 12 | | Working: 08 | 3 | | | |
| Visits Abroad | USA, Switze Malaysia | rland, Germany | y, Portugal, Si | ngapore, Thailand and | | | |
| National/International Awards | • Best Pos Kolhapur | t-graduate Tea 2011 | acher Award | of Shivaji University, | | | |
| | • Summer I India. 201 | Research Fello | wship by Ind | lian Academy of Sciences, | | | |

| | • Elected Member International Statistical Institute, Netherlands |
|----------------------------|---|
| Selected Publications (10) | 1. Pawar, S. D., and Shirke, D. T. (2019). Nonparametric tests for multivariate multi-sample locations based on data depth. <i>Journal of Statistical Computation and Simulation</i> , 1-18. |
| | Shirke, D. T., Supanekar, S. R., & Bhati, D. (2017). On k- distorted generalized discrete family of distributions. <i>Communications in Statistics-Theory and</i> <i>Methods</i>, 46(23), 11591-11603. |
| | Patil, S. H., & Shirke, D. T. (2017). Economic design of non parametric sign control chart. <i>Communications in Statistics-</i> <i>Theory and Methods</i>, 46(18), 8987-8998. |
| | 4. Dhumal, B. R., and Shirke, D. T. (2015). A modified one- sample test for goodness-of-fit. <i>Journal of Statistical</i> <i>Computation and Simulation</i> , 85(2), 422-429. |
| | 5. Potdar, K. G., and Shirke, D. T. (2014). Inference for the scale parameter of lifetime distribution of k-unit parallel system based on progressively censored data. <i>Journal of Statistical Computation and Simulation</i> , 84(1), 171-185. |
| | 6. Khilare, S. K., and Shirke, D. T. (2012). Nonparametric synthetic control charts for process variation. <i>Quality and Reliability Engineering International</i> , 28(2), 193-202. |
| | 7. Mahadik, S. B., and Shirke, D. T. (2011). A special variable sample size and sampling interval Hotelling's T 2 chart. <i>The International Journal of Advanced Manufacturing Technology</i> , 53(1), 379-384. |
| | Patil, M. K., and Shirke, D. T. (2007). Testing parameter of the power series distribution of a zero inflated power series model. <i>Statistical Methodology</i>, 4(4), 393-406. |
| | 9. Shirke, D. T., Kumbhar, R. R., and Kundu, D. (2005). Tolerance intervals for exponentiated scale family of distributions. <i>Journal of Applied Statistics</i> , 32(10), 1067-1074. |
| | 10. Rattihalli, R. N., and Shirke, D. T. (1992). An improved confidence region for the common mean vector of two multivariate homoscedastic normal distributions. <i>Communications in Statistics-Theory and Methods</i> , 21(5), |
| | 1319-1325. |

3. Dr. D. N. Kashid



| Contact no | 9423831426 | | | | | | |
|-----------------------------|--|--|--|---|--|--|--|
| E-mail ID | dnk_stats@unishivaji.ac.in | | | | | | |
| Designation | Prof | essor | | | | | |
| Research Areas | Reg | ression A | nalysis and Da | ta Mining | | | |
| No of Research papers | 19 | | | | | | |
| published in last 5 years | | | | | | | |
| Research Projects in last 5 | Completed: Nil Ongoing; Nil | | | | | | |
| years (Give details) | | | | | | | |
| Research impact | Citation H-Index | | | i10-index | RG Score | | |
| | 143 | | 6 | 5 | 11.02 | | |
| Total no of Ph.D. Students | Awa | rded | I | Working | | | |
| | 6 | | | 2 | | | |
| Academic Visits Abroad | Visi | ted to Ge | rmany USA a | nd Switzerland | | | |
| Selected Publications (10) | v 151 | | | | <u>.</u> | | |
| | 1. | A More Multiple Statistic 2002.(S | General Crite E Linear Reg S Theory and R. Kulkarni). | rion for Subse ression, Comr I Method, 31 | t Selection in nunication in (5), 795-811, | | |
| | 2. Subset Selection in Regression with Error Distribution, Journal of Computation and Simulation, 73(1 2003.(S. R. Kulkarni). | | | | Heavy Tailed f Statistical 1), 791-805, | | |
| | 3. | 3. Variable selection in Linear Regression Based on Ridge Estimator, Journal of Statistical Computation and Simulation, Vol.80(11)1211- 1224,2010(A.V. Dorugade). | | | | | |
| | Selection in GLM Based on the tion Function Criterion, Model Assisted s and Applications, 8, 4, 321-332. (2013), D.M.). | | | | | | |
| | 5. | Variable divergen Journal (2014), | Variable Selection via Penalized Minimum φ- divergence Estimation in Logistic Regression, Journal of Applied Statistics, 41(6), 1233-1246 (2014), (Sakate, D.M.). | | | | |
| | 6. | A Devia in GLM Applied D.M.). | ance Based Cr I, Statistics: A Statistics, 48 | iterion for Mo Journal of Th , 1, 34-48 (20 | odel Selection neoretical and 014), (Sakate, | | |
| | | | | | | | |

| , | 7. | Subset Selection in Multiple Linear Regression in the Presence of Outlier and Multicollinearity, Statistical Methodology, 19, 44-59, 2014, (N. H. Jadhay, S. R. Kulkarni). |
|---|-----|---|
| | 8. | Estimation of regression parameters using SVM |
| | | with New Methods for Meta Parameters, |
| | | International Journal of Data Mining, Modeling |
| | | and Management. 7(3), 239-256 (2015) (Desai |
| | | S.S.) |
| | 9. | Robust Linearized Ridge M-estimator for Linear |
| | | Regression Model, Communications in Statistics - |
| | | Simulation and Computation 45(3) 1001-1024, |
| | | 2016 (N. H. Jadhav). |
| | 10. | Consistent and Robust Variable Selection in |
| | | Regression Based on Wald Test. Communication |
| | | in Statistics Theory and Method, 48(8), 1981- |
| | | 2000, (T. S. Kamble and D. M. Sakate) |

4. Dr. S. B. Mahadik



| Contact no | 9921516765 | | | |
|-----------------------------|---|---------------------------|------------------------|----------------|
| E-mail ID | sbm_stats@unishivaji.ac.in | | | |
| Designation | Professor | | | |
| Research Areas | Statistical Pro | ocess Control, I | Distance Samp | ling |
| No of Research papers | 03 | | | |
| published in last 5 years | | | | |
| Research Projects in last 5 | Ongoing: 01 | | | |
| years (Give details) | The Develop | ment of Two-S | ides SPRT Co | ntrol Charts |
| | (2019-21), Sponsored by Shivaji University, Kolhapur, | | | |
| D. 1. | Grants sancti | oned: Rs. 1.35 | Lakhs. | DCC |
| Research impact | Citation | H-Index | 110-index | RG Score |
| | 183 | 08 | 08 | 10.83 |
| Total no of Ph.D. Students | Working : 02 | | | |
| Selected Publications (10) | | | | |
| | 1. Godase | , D. G. and M | Iahadik, S. B. | (2019). The |
| | SPRT | control chart | for process | dispersion. |
| | Quality | and Reliability | v Engineering 1 | International, |
| | DOI: IC | 0.1002/qre.248 | 1 | |
| | 2. Mahadi | k, S. B. (201 | 7). A unified | approach to |
| | adaptive Shewhart control charts. | | | |
| | Communications in Statistics – Theory and | | | |
| | <i>Methods</i> , vol 46, pp. 10272-10293. | | | |
| | 3. Mahadik, S. B. (2013). Variable sample size and | | | |
| | sampling interval Hotelling's T^2 charts with runs | | | |
| | rules for switching between sample sizes and | | | |
| | samplin | g interval len | gths. <i>Internati</i> | onal Journal |
| | of Reli | ability, Qualit | y and Safety | Engineering, |
| | Vol. | 20, | No. 4, | , DOI: |
| | 10.1142 | 2/80218539313 | 500150 | |
| | 4. Mahadi | k, S. B. (2013) |). Variable sar | nple size and |
| | samplin | g interval \overline{X} | charts with r | uns rules for |
| | switchin | ng between sa | ample sizes a | nd sampling |
| | interval | lengths. | Quality and | Reliability |
| | Enginee | ering Internation | onal, Vol 29, 1 | No.1, pp. 63- |
| | /6. | | | |
| | 5. Mahadik, S. B. (2013). \overline{X} charts with variable | | | |
| | sample size, sampling interval, and warning | | | |
| | limits. | Quality and | Reliability | Engineering |
| | Internat | tional, Vol 29, | No. 4, pp. 535 | -544. |

| | 6. Mahadik, S. B. (2012). Variable sampling interval Hotelling's T^2 charts with runs rules for switching between sampling interval lengths. <i>Quality and Reliability Engineering International</i> , Vol. 28 No. 2, pp. 131-140. |
|-----------------------------------|---|
| | 7. Mahadik, S. B. (2012). Exact results for variable sampling interval Shewhart control charts with runs rules for switching between sampling interval lengths. <i>Communications in statistics – Theory and Methods</i> , Vol. 41 No. 24, pp. 4453-4469. |
| | 8. Mahadik, S. B. and Shirke, D. T. (2011). A special variable sample size and sampling interval Hotelling's T^2 chart. <i>The International Journal of Advanced Manufacturing Technology</i> , Vol. 53 Nos. 1-4, pp. 379-384. |
| | 9. Mahadik, S. B. and Shirke, D. T. (2009). A special variable sample size and sampling interval \overline{X} chart. <i>Communications in Statistics – Theory and Methods</i> , Vol. 38 No. 8, pp. 1284-1299. |
| | 10. Mahadik, S. B. and Shirke, D. T. (2007). On superiority of a variable sampling interval control chart. <i>Journal of Applied Statistics</i> , Vol. 34 No. 4, pp. 443-458. |
| Environmental outreach activities | 1. Conducted line-transect sample surveys to estimate peafowl abundance in Shivaji University campus in years 2017, 2018, and 2019. |
| | 2. Conducted sample surveys to estimate per day release of plastic carry-bags from Rajarampuri Market, Kolhapur in years 2017 and 2018. |

5. Dr. D. M. Sakate



| Contact no | Mo: +91-77680957 | 57, Office: +91-231 | -2609243 |
|-----------------------------|--|---------------------|---------------------|
| E-mail ID | dms_stats@unishivaji.ac.in; dms.stats@gmail.com | | |
| Designation | Assistant Professor | | |
| Research Areas | Regression Models, | Nonparametric Infe | erence, Data |
| | Mining | _ | |
| No of Research papers | 10 | | |
| published in last 5 years | | | |
| Research Projects in last 5 | Ongoing: 01 | | |
| years (Give details) | Variable Selection i | n Zero Inflated Mod | dels for regression |
| | Analysis of Count I | Data, Funding Agen | cy: DST-SERB |
| | under EEQ Scheme | , Amount Mobilized | l: Rs. 16.91 Lakh, |
| | Duration: 07/03/201 | 18 to 06/03/2021. | |
| Research impact | Citation | H-Index | RG Score |
| | 17 | 3 | 8.67 |
| Total no of Ph.D. Students: | Working 02 | | |
| Visits Abroad | Augusta University | , Augusta, Georgia, | USA as |
| | Postdoctoral Fellow | during August, 201 | 15 to July, 2016 |
| Selected Publications (10) | Koli, R. R., Phadatare, M. R., Sinha, B. B., Sakate, D. M., Ghule, A. V., Ghodake, G. S., & Fulari, V. J. (2019). Gram bean extract-mediated synthesis of Fe3O4 nanoparticles for tuning the magneto- structural properties that influence the hyperthermia performance. Journal of the Taiwan Institute of Chemical Engineers, 95, 357-368. | | |
| | Salamwade, R. L., Sakate D. M. and Mathur S. K. (2018) φ-Divergence loss based Artificial Neural Network, Journal of Modern Applied Statistical Methods, 17 (2), 7. | | |
| | 3. Kamble T. S., Kashid D. N. and Sakate D. M. (2018) Consistent and robust variable selection in regression based on Wald test, <i>Communications in</i> <i>Statistics - Theory and</i> <i>Methods, DOI: 10.1080/03610926.2018.1440598</i> | | |
| | 4. Mathur, S. K., and Sakate, D. M. (2017). A new test for two-sample location problem based on empirical distribution function. <i>Communications in Statistics-Theory and Methods</i> , 46 (24), 12345-12355. | | |

| 5. | Mathur S. K., Sakate D. M. and Datta S. (2016) A new scale-invariant nonparametric test for two- sample bivariate location problem with application. In <i>Robust Rank-Based and Nonparametric Methods</i> , Springer Proceedings in Mathematics & Statistics, 168, R.Y. Liu, J.W. McKean (eds.), 175-187. |
|-----|---|
| 6. | Sakate D. M. and Kashid D. N. (2014) Comparison of Estimators in GLM with Binary Data, <i>Journal of</i> <i>Modern Applied Statistical Methods</i> , 13 (2), 185- 200. |
| 7. | Sakate D. M. and Kashid D. N. (2014) A Deviance- Based Criterion for Model Selection in GLM, <i>Statistics: A Journal of Theoretical and Applied</i> <i>Statistics</i> , 48 (1), 34-48. |
| 8. | Sakate D. M. and Kashid D. N. (2013) Variable Selection via Penalized Minimum ϕ -Divergence Estimation in Generalized Linear models with Binary Data, <i>Journal of Applied Statistics</i> , 41 (6), 1233-1246. |
| 9. | Sakate D. M. and Kashid D. N. (2013). Model selection in GLM based on the distribution function criterion, <i>Model Assisted Statistics and Applications</i> , 8(4), 321-332. |
| 10. | Sakate D. M. Kashid D. N. and Shirke D. T. (2011). Subset Selection in Poisson Regression, <i>Journal of</i> <i>Statistical Theory and Practice</i> , 5(2), 207-219. |

6. Mr. S. D. Pawar



| Contact no | 0231-2609243 | | | |
|-----------------------|----------------------------|---|--|--|
| E-mail ID | sdn_stats@unishivaii.ac.in | | | |
| Designation | Assistant Professor | | | |
| Research Areas | Assistant Floressol | | | |
| No of Research | | | | |
| napers published in | 04 | | | |
| last 5 years | | | | |
| Research Projects in | Completed:00 | Ongoing: 02 | | |
| last 5 years (Give | | ongoing. 02 | | |
| details) | 1. Principal Ir | nvestigator of research project entitled | | |
| | "Development | t of Statistical Techniques to Compare | | |
| | Multivariate | Distributions" sponsored by Shivaji University, | | |
| | Kolhapur und | der the "Research Initiation Scheme". (Amount: | | |
| | 50,000/- Dura | ation: August 03, 2018 to August 02, 2020) | | |
| | 2. Co-Principal | Investigator of Major research project entitled | | |
| | "Nonparamet | tric Inference Based on Notion of Data Depth | | |
| | and its Appl | lications" sponsored by DST-SERB under the | | |
| | and its Apple | a Bassanch Crante ² (Amount: 17.21.111/ June | | |
| | | e Research Grants . (Amount. 17,21,111/-June | | |
| | 05, 2018 to Ju | ane 4, 2021) | | |
| Research impact | Citation | H-Index RG Score | | |
| | 01 | 01 1.90 | | |
| Selected Publications | 1. Pawar, S. D. | ., and Shirke, D. T. (2019). Nonparametric tests | | |
| | for multivar | riate multi-sample locations based on data | | |
| | depth. Journa | al of Statistical Computation and Simulation. 1- | | |
| | 18 | | | |
| | 10. | | | |
| | 2. Pawar, S. D., | ., and Shirke, D. T. (2017). Nonparametric tests | | |
| | for multi | ivariate locations based on data | | |
| | depth. Comm | unications in Statistics-Simulation and | | |
| | Computation | a, 1-24. | | |
| | | | | |
| | 3. Bilawar, P. I | B., Pujar, S. M., and Pawar, S. D. (2017). E- | | |
| | Information | Literacy Index of University Teachers of | | |
| | Maharashtra, | , India: A Case Study. DESIDOC Journal of | | |
| | Library & Inf | formation Technology, 37(6), 432. | | |
| | 4 Chougale P | and Pawar S D (2015) Understanding | | |
| | organizationa | al culture through $OCT \Delta P \Delta CE$ profile: an | | |
| | ompirical sty | udy of the university International Isurral of | | |
| | empirical stu | auy of the university. International Journal of | | |
| | Research in C | <i>Commerce, IT and Management</i> , 5(7), 13-17. | | |

7. Mr. S. V. Rajguru



| Contact no | +917276347613 |
|---|---|
| E-mail ID | svr_stats@unishivaji.ac.in |
| Designation | Assistant Professor |
| Research Areas | Statistical Inference |
| Research Projects in last 5 years (Give details) | Ongoing:01 Co-PI of the project entitled 'Goodness of fit and multisample inference procedures in the presence of |
| | nuisance parameters, 2017-2020, NBHM/DAE, Rs. 13 |
| | Lakhs |
| | |

Research and Consultancy

Research thrust areas

- 1. Statistical Modeling and Inference
- 2. Statistical Process Control and Optimization

Research Contributions

The research in the Department is mostly related to the development of various parametric and nonparametric tests, confidence and tolerance intervals, new probability distributions, graphical tools, estimation and subset selection procedures in regression analysis, control charts, training algorithms for artificial neural network, and estimation procedure for support vector machines.

Publications

| | All | Since 2014 |
|-----------------------------|-----|------------|
| Number of Publications | 151 | 69 |
| Citations | 873 | 130 |
| h-index | 18 | 06 |
| i10-index | 32 | 03 |
| Number of distinct journals | 73 | 40 |

Recognitions Received During 2014-19

| | Total Inlay | Rs. 235.01 Lakh |
|---|------------------------------------|-----------------|
| • | RUSA | Rs. 46.28 Lakh |
| • | UCG Innovative Programme (2014-18) | Rs. 73.78 Lakh |
| • | DST-PURSE Phase II (2018-2020) | Rs. 16.29 Lakh |
| • | UGC-SAP DRS – I (2016-2021) | Rs 36.66 Lakh |
| • | DST-FIST level I (2016-2021) | Rs. 62 Lakh |

The grants were utilized for up gradation of the library and laboratories. The superlative specialization research laboratories have been created through RUSA grants.

Research projects

Till date, **fifteen research projects** have been sanctioned to the faculty members from different funding agencies including UGC, DST, CSIR, NBHM, and Shivaji University. During 2014-2019, two projects have been completed while seven are ongoing. Total grant sanction for these nine projects is **Rs. 86.55 lakh**.

Research Fellows

Since 2014, in all **14 research scholars received fellowships** under the research schemes and projects mentioned above, under the INSPIRE Programme of DST, and under the RJNF scheme of UGC.

Ph. D. Scholars

Till date, 37 students have been awarded Ph. D. degree among which 10 were awarded during 2014-19. Presently, 20 students are pursuing their Ph. D.

Consultancy

The Department has *Statistical Consultancy Unit*. The unit provides statistical consultancy to the researchers in Social Sciences, Education, Management, Medical science, Engineering, Life Sciences, Sports, Environment Science, etc by charging nominal fees. The revenue generated through consultancy during last five years (2014-19) is Rs 81300/-.

Infrastructure

| Sr. No. | Item | No./Description |
|------------|-----------------------------|---|
| 1 | Classrooms | 04 |
| 2 | Laboratories | 02 |
| 3 | Research Laboratories | 01 |
| 4 | Specialization Laboratories | 05 |
| 5 | Desktop computers | 112 |
| 6 | Printers | Dot matrix: 8, All in One: 8 Multifunctional Printers: 3 |
| 8 | LCD Projectors | 03 |
| 9 | Internet facilities | 142 nodes, wifi zone |
| 10 | UPS | 5 KVA – 02, 7.5 KVA – 01, 20 KVA -01 |
| 11 | Software | Commercial software: SAS, MINITAB, MATLAB, SPSS, SYSTAT, STATISTICA. Freeware: R, Python, LaTeX. |
| 12 | Departmental Library | Books: 645, Journal issues: 591, Theses: 111 |





Students Qualifying CSIR-NET and SET since 2008

1. CSIR-NET (12)

| Sr. No. | Name of the student | Year of passing NET | Year of Passing PG | PG Programme |
|---------|-------------------------------|------------------------|-----------------------|-----------------|
| 1 | Suryawanshi Shivali Suryakant | 2019 | 2018 | M.Sc. (Stat) |
| 2 | Rajashri Laxman Salamwade | 2017 | 2014 | M.Sc. (Stat) |
| 3 | Sukumar Vitthal Rajguru | 2013 | 2012 | M.Sc. (Stat) |
| 4 | Santosh Dilip Kamble | 2013 | 2012 | M.Sc. (Stat) |
| 5 | Swapnil Dattatray Khorate | 2013 | 2012 | M.Sc. (Stat) |
| 6 | Somanth Dasharath Pawar | 2013 | 2012 | M.Sc. (Stat) |
| 7 | Hemant Kulkarni | 2010 | 2009 | M.Sc. (Stat) |
| 8 | Shivaji Narasu Patil | 2009 | 2010 | M.Sc. (Stat) |
| 9 | Pawan M Jindam | 2009 | 2009 | M.Sc. (Stat) |
| 10 | Rahul H Waliv | 2009 | 2009 | M.Sc. (Stat) |
| 11 | Sagar Balwant Patil | 2009 | 2008 | M.Sc. (Stat) |
| 12 | Deepak Mahadeo Sakate | 2008 | 2009 | M.Sc. (Stat) |

2. SET (37)

| Sr. No. | Name of the student | Year of Passing SET | Year of Passing PG | PG Programme |
|------------|-------------------------------|------------------------|-----------------------|-----------------|
| 1 | Sarita Balaso Warake | 2019 | 2019 | M.Sc. (Stat) |
| 2 | Abhilash Satape | 2019 | 2017 | M.Sc. (Stat) |
| 3 | Pritam Sonmale | 2019 | 2013 | M.Sc. (Stat) |
| 4 | Saleemuddin Qamruddin Panwale | 2018 | 2018 | M.Sc. (Stat) |
| 5 | Parmeshwar Madhukar Patil | 2018 | 2016 | M.Sc.(ASI) |
| 6 | Mashesh Shivaji Barale | 2018 | 2015 | M.Sc. (Stat) |
| 7 | Monica Suresh Rokade | 2016 | 2016 | M.Sc. (Stat) |
| 8 | Pritam Hanmant Mahadik | 2016 | 2016 | M.Sc. (Stat) |
| 9 | Ashok Bapu Bhosale | 2016 | 2015 | M.Sc. (Stat) |
| 10 | Omkar Shamrao Gaikwad | 2016 | 2015 | M.Sc. (Stat) |
| 11 | Suresh Eknath Parit | 2016 | 2015 | M.Sc.(ASI) |
| 12 | Ashwini Ramkrushna Kumthekar | 2016 | 2013 | M.Sc. (Stat) |
| 13 | Uday Pawar | 2016 | 2013 | M.Sc. (Stat) |
| 14 | Kiran Pandurang Patil | 2016 | 2012 | M.Sc. (Stat) |
| 15 | Sunil Bhanudas More | 2016 | 2010 | M.Sc. (Stat) |
| 16 | Sudhir Ramchandra Adsul | 2016 | 2010 | M.Sc. (Stat) |

| r | | | | |
|----|----------------------------|------|------|--------------|
| 17 | Aavi Ashok Koparde | 2016 | 2008 | M.Sc. Stat) |
| 18 | Omkar Shamrao Gaikwad | 2015 | 2015 | M.Sc. Stat) |
| 19 | Rajashri Laxman Salamwade | 2015 | 2014 | M.Sc. Stat) |
| 20 | Suchit Ramchandra Vanjari | 2015 | 2014 | M.Sc. Stat) |
| 21 | Sachin Shamrao Bhaskar | 2015 | 2014 | M.Sc. Stat) |
| 22 | Kundalik Shivaji Shende | 2015 | 2013 | M.Sc. Stat) |
| 23 | Atul Rajaram Chavan | 2015 | 2013 | M.Sc. Stat) |
| 24 | Nalini Krishna Londhe | 2015 | 2011 | M.Sc. Stat) |
| 25 | Shrikant Vitthal Gimavekar | 2013 | 2013 | M.Sc. Stat) |
| 26 | Sukumar Vitthal Rajguru | 2013 | 2012 | M.Sc. Stat) |
| 27 | Santosh Dilip Kamble | 2013 | 2012 | M.Sc. Stat) |
| 28 | Swapnil Dattatray Khorate | 2013 | 2012 | M.Sc. Stat) |
| 29 | Shitalej Gadekar | 2013 | 2011 | M.Sc. Stat) |
| 30 | Nilesh Hindurao Jadhav | 2013 | 2009 | M.Sc. Stat) |
| 31 | Somanth Dasharath Pawar | 2011 | 2012 | M.Sc. Stat) |
| 32 | Santosh Shashikant Sutar | 2011 | 2009 | M.Sc. Stat) |
| 33 | Sachin Adnaik | 2011 | 2008 | M.Sc. Stat) |
| 34 | Latika Uttam Shinde | 2010 | 2011 | M.Sc. Stat) |
| 35 | Pournima P Joshilkar | 2010 | 2011 | M.Sc. Stat) |
| 36 | Sagar Balwant Patil | 2010 | 2008 | M.Sc. (Stat) |
| 37 | Shivaji Narasu Patil | 2009 | 2010 | M.Sc. Stat) |

Students' Placements

The Department has a dedicated placement cell. Presently, Mr. S. D. Pawar, Assistant Professor, is the Placement Officer. The cell organizes on-campus and off-campus placement drives. Every year the placement brochure of the Department is shared with several companies in various sectors including data analytics, manufacturing, service and consultancy, finance, and clinical trial. Companies are encouraged to arrange on-campus placement drives. Besides this, the cell also organizes special training programs on interview techniques, sessions on recent and advanced technologies, etc. The cell has maintained a good rapport with alumni of the Department working in various sectors and facilitated to build a network of alumni that assists the cell in placement activities. The Placement Officer tries to maintain the up to date employment-records of the placed students in recent past.

The students have been placed in various government and private sectors. Following are some of the recruiters of our students.



The details of the placement in last **ten years** are as below:

Government Sector

Indian Statistical Services through UPSC (05)

| Sr.No. | Name | Year of Passing |
|--------|-----------------------|-----------------|
| 1 | Pujari Sujeet Bapu | 2014 |
| 2 | Honrao Jayprakash S | 2013 |
| 3 | Bamane Mohan Jinnappa | 2013 |
| 4 | Patil Shivaji Narasu | 2010 |
| 5 | Sakate Deepak Mahadeo | 2009 |

Officers in Maharashtra government through MPSC: (54)

| Sr.No. | Name Of The Student | Post | Year of Passing |
|--------|-----------------------------|--|--------------------|
| 1 | Chavan Atul Rajaram | Coordinator(Evaluation), District Project Management Section (Chanda to Bandha Scheme) | 2018/2019 |
| 2 | Pawar Uday Himmatrao | Planning Officer | 2018/2019 |
| 3 | Vanjare Suchit Ramchandra | Coordinator(Evaluation), District Project Management Section (Chanda to Bandha Scheme) | 2018/2019 |
| 4 | Khorate Swapanil Dattatray | Assistant District Planning Officer | 2018/2019 |
| 5 | Jadhav Sarika Bhimrao | Research Officer | 2018/2019 |
| 6 | Ithape Bhagyshri Sudam | Research Officer | 2018/2019 |
| 7 | Rokade Monica Suresh | Assistant District Planning Officer | 2018/2019 |
| 8 | Pawar Sangram Jagannath | Planning Officer | 2018/2019 |
| 9 | Malekar Vaishali Bharat | Assistant District Planning Officer | 2018/2019 |
| 10 | Patil Pooja Sandeep | Assistant District Planning Officer | 2018/2019 |
| 11 | Khorate Swapanil Dattatray | District Statistical Officer | 2015/2016 |
| 12 | Rayate Shubhangi Vishnu | Assistant District Planning Officer | 2015/2016 |
| 13 | Ghadge Prasad Dhanraj | District Statistical Officer | 2015/2016 |
| 14 | Mulik Savita Bhaskar | District Statistical Officer | 2015/2016 |
| 15 | Kulkarni Abhijit Atmaram | Assistant District Planning Officer | 2015/2016 |
| 16 | Pawar Bhagawan Shankar | District Statistical Officer | 2015/2016 |
| 17 | Gurav Nayan Namdev | Assistant District Planning Officer (Human Development) | 2015/2016 |
| 18 | Hajare Supriya Jaysing | Assistant District Planning Officer (Human Development) | 2015/2016 |
| 19 | Kuntla Shrikant Deshikendra | Assistant District Planning Officer (Human Development) | 2015/2016 |
| 20 | Korade Swapnil Dilip | Assistant District Planning Officer (Human Development) | 2015/2016 |
| 21 | Dhaygude Lata Nana | | 2015/2016 |
| 22 | Devasthali Sayali Dilip | Assistant District Planning Officer | 2015/2016 |
| 23 | Adsul Sudhir Ramchandra | Assistant Project Officer | 2015/2016 |
| 24 | Sonavale Suvarna Vasant | Planning Officer | 2015/2016 |
| 25 | Raste Satish Vasant | Planning Officer | 2015/2016 |

| 26 | Sutar Amit Shamrao | Planning Officer | 2015/2016 |
|----|----------------------------|-------------------------------------|-----------|
| 27 | Guray Rekhatai Dinkar | Assistant District Planning Officer | 2015/2016 |
| | | (Human Development) | |
| 28 | Salunkhe Prajakta Vilasrao | Assistant Project Officer | 2015/2016 |
| 29 | Patil Sagar Shamrao | District Statistical Officer | 2015/2016 |
| 30 | Patil Amar Sambhaji | District Statistical Officer | 2015/2016 |
| 31 | Chavan Navnath Hanmant | District Statistical Officer | 2015/2016 |
| 32 | Ghadage Prasad Dhanraj | Assistant Forest Statistician | 2013/2014 |
| 33 | Mulik Savita Bhaskar | Assistant Forest Statistician | 2013/2014 |
| 34 | Kumbhar Vishvajit Vikar | Assistant Forest Statistician | 2013/2014 |
| 35 | Salunkhe Prajakta Vilasrao | Assistant Forest Statistician | 2013/2014 |
| 36 | Khorate Swapnil Dattatray | Research Assistant | 2013/2014 |
| 37 | Ghadage Prasad Dhanraj | Research Assistant | 2013/2014 |
| 38 | Patil Sagar Shamrao | Research Assistant | 2013/2014 |
| 39 | Kambale Tejaswini Sanjay | Research Assistant | 2013/2014 |
| 40 | Belagaokar Ketaki Manoj | Research Officer | 2012/2013 |
| 41 | Patil Ashok Bhagwan | Assistant District Planning Officer | 2012/2013 |
| 42 | Yadav Nivas Vitthal | Planning Officer | 2012/2013 |
| 43 | Ardalkar Seema Suresh | Assistant District Planning Officer | 2012/2013 |
| 44 | Sutar Santosh Shashikant | Statistical Officer | 2012/2013 |
| 45 | Bamne Mohan Jinnappa | District Statistical Officer | 2012/2013 |
| 46 | Dudhagaokar Abhishek Ashok | Assistant District Planning Officer | 2012/2013 |
| 47 | Thorat Yashwant Vikramsinh | Assistant Project Officer | 2012/2013 |
| 48 | Dhanawade Gajanan Sadanand | District Statistical Officer | 2012/2013 |
| 49 | Pujari Sarita Ankush | District Statistical Officer | 2012/2013 |
| 50 | More Sangita Pankaj | Assistant District Planning Officer | 2012/2013 |
| 51 | Kamble Bhushan Raosaheb | Research Officer | 2012/2013 |
| 52 | Maske Abhijeet Dipak | District Statistical Officer | 2012/2013 |
| 53 | Bhudhawale Yashwant Mohan | District Statistical Officer | 2012/2013 |
| 54 | Deshamukh Vikram P | Assistant District Planning Officer | 2012/2013 |

Research Officer in Reserve Bank of India : (02)

| Sr.No | | | Year of passing |
|-------|------------------|-----------------|-----------------|
| | Name | Year of Passing | PG |
| 1 | Shinde Vishal V. | 2012 | 2009 |
| 2 | Jindam Pavan M. | 2010 | 2009 |

Assistant Professors in colleges and Universities: (18)

| Sr_ | Name | Year of | Year of | Present Institute |
|-----|---------------------------|-----------|---------|----------------------------|
| No | | appointme | Passing | |
| | | nt | PG | |
| 1 | Kundalik Shivaji Shende | 2019 | 2013 | Garware College Pune |
| 2 | Tejaswi S Kamble | 2019 | 2010 | Z B Patil College, Dhule |
| 3 | Swapnil Dattatray Khorate | 2018 | 2012 | YC College, Solankur |
| 4 | Kiran Pandurang Patil | 2017 | 2012 | ARACS, College Vaibhavwadi |

| 5 | Sachin Shamrao Bhaskar | 2016 | 2014 | ARACS, College Vaibhavwadi |
|----|--------------------------|------|------|--------------------------------------|
| 6 | Shitalej Gadekar | 2016 | 2011 | Fergusson College, Pune |
| 7 | Santosh Dilip Kamble | 2015 | 2012 | PDVP College, Tasgaon |
| 8 | Nilesh Hindurao Jadhav | 2014 | 2009 | DRK College of Commerce, Kolhapur |
| 9 | Santosh Shashikant Sutar | 2014 | 2009 | Shivaji University, Kolhapur |
| 10 | Sarjerao K Powar | 2014 | 2008 | KWC College Sangli |
| 11 | Sukumar Vitthal Rajguru | 2013 | 2012 | Shivaji University, Kolhapur |
| 12 | Somanth Dasharath Pawar | 2013 | 2012 | Shivaji University, Kolhapur |
| 13 | Latika Uttam Shinde | 2013 | 2011 | Balwant College, Vita |
| 14 | Manik Shankar Aawale | 2012 | 2007 | University of Pune |
| 15 | Rahul H Waliv | 2010 | 2009 | KisanVeer Mahavidyalaya, Wai |
| 16 | Deepak Mahadeo Sakate | 2010 | 2009 | Shivaji University, Kolhapur |
| 17 | Sagar Balwant Patil | 2010 | 2008 | Bhogawati Mahavidyalaya, Kurukali |
| 18 | Asmita T Kamble | 2010 | 2008 | Modern College, Pune |

Divisional Statistical Officers in MSRTC: (03)

| Sr. No. | Name | Year of Passing | Year of Passing PG |
|---------|--------------------------|-----------------|--------------------|
| 1 | Gawade Dadasaheb Damodar | 2014 | 2012 |
| 2 | Parte Anil Dinkaer | 2014 | 2009 |
| 3 | Sutar Amit Shamrao | 2011 | 2008 |

Private sector

Many of our students have been placed in private sector and are working in the various fields including Pharma/Bio, Engineering, Consultancy/Service, Software, Market research, Data Science/Analytics, etc. Our alumni's have been employed by

Pharma / Bio

- CYTEL*
- NOVARTIS
- Syneos Health Clinical Solutions
- Torrent Pharmaceuticals

Finance/Insurance

- CRISIL*
- Kotak Mahindra Bank
- American Express
- Kotak Mahindra Life Insurance
- RBL Bank
- Bank of Baroda
- Tata Capital Financial Services
- Bajaj Finserv
- Bank of England
- HSBC
- Franklin Templeton Investment
- Fidelity Investments

Engineering

- KPIT Technologies*
- Tata Technologies
- Tata Motors
- Fiords Technologies
- John deere

Software

- IBM
- SAS
- Nvidia

Consultancy/Service

- TCS*
- Capgemini
- Technosoft
- SYNTEL
- GENPACT
- Cognizant
- Sutherland Global Service
- Wipro
- CitiusTech

Market research

- Nielsen*
- Goibibo

Data Science/Analytics

- Mahindra Integrated Business Solutions
- DataMetica
- Quantific Business Solutions
- Pivotchain Solution*
- RainMain
- Asset Analytics
- Alpha Predictions
- Alpha Analytics
- Clinnex
- Datacrux Insight
- Genie Infotech
- Lambros Analytics
- OHUM Healthcare Solutions
- Senquire Analytic
- Xeco Media

*These companies have conducted campus recruitment drives during last five years.

Co-curricular Activities

1. Organization of Academic Events

The Department frequently organizes conferences, seminars, and workshops at local as well as national levels. The details of such events organized since 2014 are as given below.

| Sr No. | Title | Date | Funding Agency | No. of participants |
|-----------|--|-------------------------|-------------------|------------------------|
| 1 | Training Programe on Computational Statistics Using R | 17-22 Nov, 2014 | UGC | 20 |
| 2 | National Conference on Applied Statistics | 11-12 March, 2016 | UGC | 134 |
| 3 | Workshop on Statistical Data Analysis Using SPSS | 06-11 June, 2016 | | 12 |
| 4 | Workshop on Statistical Data Analysis Using SPSS | 26-31 Dec, 2016 | | 08 |
| 5 | National Conference on Applied Statistics and informatics | 10-11 March, 2017 | UGC | 100 |
| 6 | National Seminar on Statistical Modelling and Applications | 23-24 February, 2018 | UGC | 90 |





2. Guest Lectures

Guest lectures of Academicians, Government Officers, and Data Practitioners from various corners of country like Pune, Mumbai, Bangalore, Kolkata, Hyderabad, Dharwad, Gulbarga, Solapur, Jalgaon, Nashik, and New Delhi were organized.



Following is list of the expert visited during last few years.

- Academicians
 - 1. Prof. J. K. Wani, University of Calgary, Canada
 - 2. Prof. Ashis SenGupta, Professor, Indian Statistical Institute, Kolkata
 - 3. Prof. M. S. Prasad, Retired Professor, Shivaji University, Kolhapur
 - 4. Prof. R. N. Rattihalli, Retired Professor, Shivaji University, Kolhapur
 - 5. Prof. S. R. Deshmukh, SP Pune University, Pune. Maharashtra
 - 6. Prof. Sanjay Shete, UT MD Anderson Cancer Center Houston TX USA.
 - 7. Prof. T. V. Ramanathan, SP Pune University, Pune. Maharashtra
 - 8. Prof. K Muralidharan, The Maharaja Sayajirao University of Baroda
 - 9. Prof. Rahul Gupta, University of Jammu
 - 10. Prof. Susham Bendre, ISI Chennai
 - 11. Prof. B. V. Dhandra, Gulbarga University Gulbarga, Karnataka
 - 12. Prof. V. B. Ghute, Solapur University, Solapur
 - 13. Prof. R. L. Shinde, North Maharashtra University, Jalgaon
 - 14. Prof. S. V. Bhat, Karanataka University, Dharwad
 - 15. Prof. P. V. Pandit, Bangalore University, Bangalore
 - 16. Dr. V. U. Dixit, University of Mumbai, Mumbai
 - 17. Dr. Dipesh Bhati, Central University of Rajasthan
 - 18. Dr. Santu Ghosh, Augusta University Georgia (US)

Government officers

- 1. Dr. DVS Sastry, Former Principal Advisor, RBI, Mumbai
- 2. Mr. B. J. Jagadale, District Planning Officer, Kolhapur
- 3. Mrs. Sarita Yadav, Dy.Director at NSSO, Mumbai.
- 4. Mr. Shivaji Patil, Assistant Director, MOSPI, Delhi
- 5. Mr. Bhushan Deshpande, Assistant District Planning Officer, Kolhapur
- 6. Mr. Gajanan Dhanawade, District Statistical officer, Sangli
- 7. Mr. Yashwant Thorat, District Statistical Officer, Alibag
- 8. Mr. Nivas Yadav, Planning Officer, Tribal Development Department, Jawahar, Palghar

• Experts from Corporate Sector

- 1. Dr. Anil P. Gore, Cytel, Pune
- 2. Dr. S. R. Kulkarni, Data Scientist, [24] 7 Inc., Innovations Labs, Bangalore
- 3. Dr. Sayaji Hande, Freelance Data Scientist, New Delhi
- 4. Mr. S. Rath, Technical Officer(SQC), Indian Statistical Institute Pune
- 5. Mr. Shivaji Disale, Chief Manager, Kotak Mahindra Bank
- 6. Mr. Bhushan Kamble, Senior Manager, Bank of Baroda
- 7. Mr. Sumedh Ghare, Jain Irrigation Jalgaon
- 8. Mr. Samadhan Ghubade, Biostatistician, Cytel
- 9. Mr. Adarsh Nagare, Biostatistician, Cytel

3. Students Seminars

Students' seminar is a **beyond curricula activity**. Every semester each student has to give a seminar to the teachers and students in the Department. Sometimes students give the seminars on specific theme. Some of the themes recently chosen include

- Clinical trials
- Stress strength reliability
- Nonparametric inference
- Rank based tests
- Exploratory data analysis
- Inventory models
- Robust regression
- Multivariate symmetry



4. Training and Counseling for NET, SET, and government examinations

Every year the Department organizes a workshop for the preparation of NET and SET consisting of about 35 sessions each of 1 hour. Experts from other institutions/universities are also invited as the resource persons for such workshops.

5. Remedial coaching

Every year the Department organizes remedial coaching for PG students from SC, ST and minority communities.

6. Sessions on state-of-the-art techniques and technologies

The Department organizes sessions on state-of-the-art techniques and technologies in Statistics. In recently, sessions were organized on image processing, deep learning, and statistical software R, SAS, Python, SPSS, etc. Faculty members, experts from other institutions/universities, and alumni of the Department were the resource persons.

7. Students, participation in national level competitions

PG and research students are encouraged to participate in various national level competitions such as project competition, paper presentation competition, etc. In year 2018, **Mr. D. G. Godase**, INSPIRE Fellow in the Department, received the *ISPS Young Statistician Award* in the paper presentation competition held in the ISPS Conference at M D University, Rohtak.

8. Alumni-student interactions

Alumni-student interactions are frequently organized. The alumni share their work experiences and expertise with students in such interactions. Also, they make students aware of job opportunities in various sectors and provide them with interview tips.





Environmental and Societal Outreach Activities

1. Line-transect sample surveys to estimate the Peafowl abundance in the University Campus

In recent years, Shivaji University campus has been emerged as a biodiversity hotspot. It is an ideal habitat of Indian Peafowl. Since 2017, line-transect sample surveys are being organized every year to estimate the Peafowl abundance in the Campus. About 50 PG students, research scholars, and faculty members participate in these surveys.



2. Sample surveys to estimate per day release of plastic carry-bags from Rajarampuri Market, Kolhapur

In the light of the ban to be imposed by the Government of Maharashtra on the use of plastic carry-bags, sample surveys were carried out in year 2017-18 to estimate per day release of plastic carry-bags from Rajarampuri Market, Kolhapur. About 50 PG students of the Department were involved in these surveys.

3. Tree plantation and cleanliness drives

Faculty members, administrative staff, and students participate in tree plantation and cleanliness drives organized by the University.



4. The socio-economic survey of Basarge village

Analysis of the socio-economic survey of Basarge village in Gadhinglaj tehsil of Kolhapur district was carried out by the NSS unit of the Department in 2018.

5. Third-party audit of election booths in Sangli-Miraj-Kupwad Municipal corporation election

This was carried out by the faculty members and PG students of the Department in association with Election Commission of Maharashtra in 2018.



6. Organization of academic events for UG students

The Department organizes following events in association with *Shivaji University Statistics Teachers' Association* (SUSTA) every year:

- Written quiz for B. Sc. I/II/III (Statistics), B.Sc. Computer Science Part I and B.Com Part II students, with more than **4000 participants** every year.
- Personality development program for B.Sc. II/III (Statistics) students, with more than **100 participants** every year.
- Oral quiz for B. Sc. -II (Statistics) students, with more than **200 participants** every year.

7. Student Attachment Programme

The *Student Attachment Programme* under UGC-SAP scheme was implemented in years 2014 to 2017. Under this programme, PG Statistics students of PAH Solapur University, Solapur and UG Statistics students of some colleges affiliated to Shivaji University were provided two-week trainings of Statistics. The participants were provided free on-campus hospitality.

8. Training of Statistics to other Departments in the University

The faculty members regularly extend their expertise to other departments in the University by delivering lectures on various statistical techniques related to their domains. During last five year, such lectures were organized in the departments of Botany, Marathi, Hindi, English, Commerce and Management, Journalism, Education, Economics, etc.

9. Assistance to autonomous colleges and PG departments of Statistics in colleges

Faculty members work as members of Board of Studies in Statistics of *Yashwantrao Chavan Institute of Science, Satata, Sadguru Gadage Maharaj College, Karad*, and *Vivekanand College, Kolhapur*. Also, they assist in teaching to PG departments of Statistics in *Yashwantrao Chavan Institute of Science, Satata, Sadguru Gadage Maharaj College, Karad*, and *Padmabhushan Dr. Vasantdada Patil College, Tasgaon* by delivering lectures on some topics.

10. Training to Industry

The faculty members provided training to the employees in *Gokul Milk Dairy, Kolhapur* for process optimization. Also, training on MINITAB software is provided to the engineers in *Saroj Group of Industries, Kolhapur*.

11. Statistical Assistance to the University Authorities

The Department extends statistical expertise to the University authorities as and when required. Recently, the faculty members analyzed the data on the survey carried out by the University in its jurisdiction for formation of the Five-year Prospective Plan. Also, expertise is being provided for analyzing feedback of stakeholders.

Extension Activities

1. National Service Scheme

Department has established a unit under NSS. Various activities are being organized by this unit every year. Some of the activities are listed below.

- Celebration of special days: Sadbhawana Diwas, Constitution day, Anti-terrorism day, Martyrs' day
- Celebration of birth anniversaries of special personalities: Mahatma Basweshwar, Swami Vivekananda, Swtrantweer Vinayak Damodar Sawarkar
- Special lectures: Digital India
- Eye donation awareness camp
- Tree plantation near Department and their caring
- Cleaning of Departmental Premises, Rankala premises, Dr. Appasaheb Pawar statue premises.
- NSS volunteers voluntarily works in National events organized in University and Department: All India Inter University National Youth Festival 2016-17 (SHIVOTSAV- 2017), National conferences/seminars organized by Department.
- Participation in University level residential camps (July 2016, August 2017)



2. Celebration of Special days and Organization of Cultural Events

Department celebrates special days including Yoga Day, Cleanliness Day, Statistics Day, Birth anniversary of Prof. P. V. Sukhatme. Activities like group discussion, debate, quiz, students' presentations on specific topics, etc are organized on those days. Also, the students enthusiastically organize the events like Welcome and Farewell functions, Traditional day, Teacher's Day, Gurupournima, etc.



3. Mentoring Scheme

Each teacher is assigned a mentoring group consisting of about 15 students. Mentoring meetings are organized ones in a semester. Feedbacks provided by the students in these meetings are discussed in the Departmental Committee meetings and appropriate actions are taken.

Distinguished Alumni



Dr. D. T. Shirke Pro-Vice-Chancellor, Shivaji University, Kolhapur



Dr. V. B. Ghute Registrar, Solapur University, Solapur



Dr. Sanjay S. Shete Professor, The University of Texas MD Anderson Cancer Center, Houston, TX



Mr. B. S. Birajdar Assistant Advisor, Reserve Bank of India, Mumbai



Mr. Sanjay Ganjave Chief Statistical Officer, MSRTC, Mumbai.



Mr. Jitendra Patil Senior Manager, Banking Policy Division, Bank of England, London.



Mr. Shivaji Patil Deputy Passport Officer, Ministry of External Affairs, Government of India.



Mrs. Sarita Yadav-Patil Deputy Director Directorate of Economics and Statistics, Planning Department, Government of Maharashtra



Mr. Shivaji A. Disale Assistant Vice President, Kotak Mahindra Bank, Mumbai



Mr. Vaibhav Kenjale SAS Consultant, Tata Consultancy Services, Edinburgh, United Kingdom.

Future Roadmap

- To strengthen M. Sc. (ASI) programme by offering more job oriented courses
- To undertake research projects in core as well as interdisciplinary areas
- To enhance consultancy and inter-departmental training activities.
- To enhance interdisciplinary involvement by organizing academic events
- To strengthen collaborations at national and international level
- To further strengthen research activity and to encourage M. Sc. students for research programmes
- To emerge the Department as a center for advanced statistical computing and simulation

Media Coverage





प्लास्टिक वापराची मानसिकताच घातक

कापड दुकानांत मोठा वापर; प्रा. डॉ. महाडिक यांच्या मार्गदर्शनाखाली राजारामपुरीत सर्वेक्षण

सकाळ वृत्तसेवा

तर प्लास्टिक पिशवीतूनच, अशी

मानसिकता प्लास्टिक पिशव्यांबाबत

केलेल्या सर्वेक्षणातून पुढे आली.

शहरातील राजारामपरी परिसरातील

३८० दुकानांतून प्लास्टिक पिशव्यांची

मोठ्या प्रमाणात विक्री झाली आहे

या परिसरातून ८ ऑक्टोबर २०१७

ला कपड्यांच्या दुकानांतून १२

हजार ४६७, तर याच दिवशी अन्य

दुकानांतून ८ हजार ९०० पिशव्यांची खरेदी झाल्याचे दिसून आले.

संख्याशास्त्र अधिविभागातील प्रा.

डॉ. शशिभूषण महाडिक यांनी सर्वेक्षण

केले. सहा महिन्यांत वेगवेगळ्या तीन

दिवसांत हे सर्वेक्षण केले. प्लास्टिक

पिशव्यांचा वापर टाळण्यासंदर्भात सुरू

केली आहे

शिवाजी

सर्वेक्षणासाठी दकाने अशी 💿 कपडे १९५, अन्य दुकाने १८५, एकूण ३८० कोल्हापूर, ता. २२ : घेईन

- 💿 वीस मिनिटांसाठी एक दुकान असे सॅम्पलिंग युनिट
- वेळ सकाळ, दुपार, सायंकाळ व दुकानांचा आकार (लहान,
- मध्यम, मोठे) यानुसार सॅम्पलिंग युनिट नऊ गटांत वर्गीकरण निवडलेल्या बेळेत ग्राहकांना दिलेल्या प्लास्टिक पिशव्यांची
- संख्या प्रत्यक्ष निरीक्षणाहारे नोंद 💿 अन्य दुकानांत मेडिकल, किराणा माल, फूटवेअर, बेकरी,
- कॉस्मेटिक, स्टेशनरी, गिफ्ट शॉप्स, खेळण्यांची दुकाने, फळ विक्रेते व भाजी विक्रेत्यांचा समावेश
- 💿 सर्वेक्षणात चाळीस विद्यार्थ्यांचा सहभाग

असलेल्या जागृतीच्या पार्श्वभूमीवर 'टू वे स्ट्रॅटिफाइड रॅंडम सॅम्पलिंग' सहा महिन्यांतील ग्राहक-विक्रेत्यांचा संख्याशास्त्रीय प्रणालीच्या सर्वेक्षणातन आकडेवारी संकलित प्लास्टिक पिशव्यांच्या वापराचा कल यातून जाणून घेण्यात आला. विद्यापीठातील

निरीक्षण असे :

🔵 कपड्यांच्या दुकानांव्यतिरिक्त अन्य दुकानांतून प्लास्टिक पिशव्यांच्या वितरणाचे प्रमाण संथ गतीने घटत आहे.

🔵 सर्वेक्षणाच्या काळात दिवाळी आल्याने कपड्यांच्या दुकानांतून फ्लास्टिक पिशव्यांचे प्रमाण वाढले. 🔵 त्यामुळे पिशव्यांचे प्रमाण वाढत चालले आहे, की घटत चालले आहे, याबाबत स्पष्ट निष्कर्ष काढता येत नाही.

 नोव्हेंबरमध्ये कपडे खरेदी कमी झाल्याने प्लास्टिक पिशव्यांचे वितरण कमी झाले.

| वितरित प्लास्टिक पिशव्या | | | | |
|--------------------------|---------------------|-----------------|--|--|
| कपड्याचे दुकान | संख्या | वजन (किलोग्रॅम) | | |
| ८ ऑक्टोबर २०१७ | १२ हजार ४६७ (+-४४४) | २६३ (+-१०) | | |
| २९ नोव्हेंबर २०१७ | १ हजार ७२१ (+-१०६) | ३१ (+-२) | | |
| २३ फेब्रुवारी २०१८ | ५ हजार ५५१ (+-४५४) | (۲-۶) کې | | |
| अन्य दुकाने | | | | |
| ८ ऑक्टोबर २०१७ | ८९०० (+-५४८) | ५९ (+-४) | | |
| २९ नोव्हेंबर २०१७ | ६६९५ (+-३८३) | 88 (+-3) | | |
| २३ फेब्रुवारी २०१८ | ६१९४ (+-३६७) | ४१ (+-5) | | |

प्लास्टिक पिशव्यांचा वापर टाळण्याबाबत अजूनही जनजागृती नाही. शासनाने प्लास्टिक पिशव्यांच्या वापरावर घातलेली सरसकट बंदी स्वागताई आहे; पण सर्व काही सरकारनेच करावे, ही अपेक्षा सुजाण नागरिकांकडून अजिबात नाही. मनुष्याप्रमाणे प्राणी, वनस्पती, जलचरांना जगण्याचा अधिकार आहे, याचे भान ठेवणे आवश्यक आहे. मोठमोठे स्मार्ट फोन, हॅंडसेट सतत ठेवण्याची सवय ठेवली आहे. मग एक कापडी पिशवी जवळ ठेवण्यात अडचण असण्याची गरजच नाही. - डॉ. शशिभूषण महाडिक संख्याशास्त्र अधिविभाग, शिवाजी विद्यापीठ

🔳 प्रा. शशीभूषण महाडिक 🔳 प्रा. सोमनाथ पवार

प्रा. २(मामनाथ पदार माहिती-तंत्रज्ञानास्य आजच्या यांना अतन्य साधारण महत्व प्राप्त शाले आहे. हावंड विक्वनेस रिंद्धु या नियत्वातीरकाय्या आवंत्येर २०२१ या वंत्र्यमच्ये प्रसिद्ध हालेत्त्या एका लेखामच्ये संख्याराज्यातील करिश्त हे २१ व्या प्रराप्तातील सर्वाध्या अकर्षक करिश सार्यपाय उल्लेख अकर्षक करिश साम्यपाय उल्लेख अकर्षक करिश साम्यपाय उल्लेख

शाह्योप्य क्षित्रवित्ता जाते तरम. स्टेंट हा अभ्यासक्रम इंडियन स्टेंटीस्टकल इंस्टिव्यूष्ट्या जेलसता आणि इतन कहीं शाह्यांग्ये शिक्सितामध्ये शिकसिता जाते. या अभ्यास्क्रमंध्य प्रवेशासठी संवर्धित संयथ्वी प्रवेश परिहा असते व त्यासंवेशी युच्चना तत्वा वा संस्थेम्या संतेत स्वजवत प्रसिद्ध केली जाते. आकषण कार्रजर असल्याचा उल्लख करण्यात आला आहे. मात्र पारंपारिक करिअर संघीच्या माहितीच्या तुलनेत संख्याशास्त्रातील करिअर संघीविषयी संख्याशास्त्रताल कारव्यर संभाववया विद्यार्थ्यांन च पालकांन कहीशा कमी प्रमाणात माहिती आहे असे दिसते, त्यामुळे या विषयगतील विविध अभ्यासक्रमांची तसेच ते अभ्यासक्रम पूर्ण केल्यानंतर उपलब्ध असणाऱ्या करिअर संर्धीची माहिती देणे हा या

भारतार संचाया माहता दण हा वा लेखाचा उद्देश आहे. बारावी (सायन्स) उत्तीर्ण झाल्यानंतर बी. एस्सी. (संख्याशास्त्र) किंवा बी. स्टॅट या अभ्यासक्रमासाठी प्रवेश पेता येतो. बी.



🗂 मटा एज्युकेशन 🗸

विविध शिखर संस्थांकडून आकर्षक रिकविल वाली. या अभ्याक्रमांच्या विविध प्रिवर संवयंकडूरा अक्षर्यक प्रयोगसाठी संवर्षेत प्रयोग संत्रोधन प्रयास विक्रिया संवर्धकडूरा आकर्षक परिहा असते व त्यासंवेधीची मुचना आहे. वॉचित प्रदस्ततित विद्यार्थ्यना कले वाते. रोहार्सिंग्रेस स्वर्धनरा प्रयेत संत्रीभाष्यना संत्री प्ररत्नक स्वर्धना रेही कोटे. रोहार्सिंग्रेस संत्रिक्त संत्री प्रयास संत्री प्रयान विद्यार्थनन वी. एस्सी. (संव्यवासाठ) या अज्यमनव्या व संत्रीभनाच्या संत्री परवेनेतर वी. एड. ही परवी संवर्धन उनलाव्या की प्रयत्नेतर वी. एड. ही परवी संवर्धन उनलाव्या अन्ति कहन नाध्यमिक शिवक होता वेते. प्रासाद तीय स्वर्धना

योजना व धोरणे निश्चित करण्यासाठी उपयोग केला जातो. रिझवं बँक ऑफ इंडियामध्ये एम. एस्सी. (संख्याशास्त्र) पदवीधारकांना संशोधक अधिकारी

वायनाभय पर (२३), (उजनाता) (दवीपार्वत) सांत्रीपक अधियां) (वार-1) व पदावती संपी खाँ, राज्य पार्वायम सराप्रद त्रीकंसी आवीपार्थी (अपरध)) व संतोषभ अधिवारी (अपरध)) व संतोषभ अधिवारी (अपरध)) व संतोषभ व पदांसार्ट केवळ (पर),स्स वा पदांसार्ट केवळ (पर),स्स सांहर्ग्स तिरक्ष साठिष्ठमं अधिवारी ब्लानितर विल्हा निर्वेषन अधिकारी केठ परकारा, सामनाष्ठ साम

राखे आ दूश जात. बावे (यास्स) उतीप बाल्योन बावे (यास्स) उतीप बाल्योन वा एस. (. संख्याराव) विवा ते. प्रस्थ (. संख्याराव) वा से (. संख्याराव) वा स्ट. वा एस. (. संख्याराव) वा संचे (. संख्याराव) वा संच का संघ्या का संघ का संघ्या का संघ का संच का संच का संघ का संच का स का संच साका का का संच स



खाजगी क्षेत्र

संख्याशास्त्राताल । तथाण्याना ६२॥ सार्याटेस्ट, तिडानेस अन्तितर, स्टीर्टस्टिकल प्रोग्रॅमर, व्यवस्थापक इत्यादी पदांसाठी आकर्षक तेतनासह मोठ्या प्रमणात मागणी आहे. शिवाय खावगी बेका, उत्पादन उद्योग, प्रयेटन उद्योग, कृषी उद्योग, विविध सेवा उद्योग, व्यवस्थापक (उत्तरहार) व्यवस्थापक (सॉख्यिकीशास्त्रज्ञ / बोखीम) यांसारख्या पदांसाठी पदवीधारकांची आवश्यकता असते. रवेणं, कुम्मे व्योग, विषिभ सेन व्योग, तत्वेस व्यापर, आरोप्य, तिमा, इरवादी क्षेत्रोमच्ये भोग्धा तायर करणे, कल जापून पेगे, गुम्बता, निरंत्रण आणि पूर्वप्राप्य, प्रक्रित रोग देखरे, इरलारीताती याप्य महिती गोळ्ळ करणे व तिथे विसर्रोष्य करणे आव्यस्व असते. वा वामाराती व धेर्मजाप्र विपुल प्रमाणत मार्गणे आहे. स्टार्ट्साडासार औषधनिर्माण क्षेत्रामध्ये घेतल्या

घरबसल्या जगातील कोणालाही आपल्या वेळेनुसार सांख्यिकीय सेवा देऊन भरपोस उत्पन्न मिळवू शकतात. तसेच जगातील बहुतांशी अभ्रासक्रमांमध्ये संख्याशात्र विषयाचा जगातील समावेश असल्यामुळे cheggindia. com , brainfuse.com यासारख्या संकेतस्थळांच्या साह्याने संख्याशास्त्रज्ञ e-tutor म्हणन काम करू शकतात

शिवाजी विद्यापीठाशी संलग्नित असणाऱ्या अनेक महाविद्यालयांमध्ये बी. एस्सी. (संख्याशास्त्र) अभ्यासक्रम उपलब्ध आहे. तसेच विद्यापीठाच्या संख्याशास्त्र अधिविभागामध्ये एम. एस्सी (संख्याशास्त्र), एम.एस्सी. (उपयोजित संख्याशास्त्र व माहितीशास्त्र

(उपयोजित संख्यासारत व माहेतीशाख, — Applied Statistics and Informatics), एस. किल व पीएच, डी. या अन्यसक्रमांची सांस आहे. दे संखं अन्यसक्रम अद्यायत व गातिक दर्जाचे आहेत. एम. एससे (उपयोजित संख्याशास्त्र व माहितीशास्त्र) हा अन्यसक्रम खासकरून खानगी क्षेत्रामचे करिंउस करू इंडिणाऱ्या विद्यार्थ्यासाठी आहे. मात्र हा अभ्यासक्रम पूर्ण करणारे विद्यार्थी शैक्षणिक व इतर क्षेत्रांमधील पदांसाठीही पात्र आहेत.

एम. एस्सी (संख्याशास्त्र) अभ्यासंक्रमाची सोय विद्यापीठाव्यतिरिक्त यसंवतराव चव्हाण इन्स्टिट्यूट ऑफ सायन्स सातारा, पद्मभूषण डॉ. वसंतदादा पाटील महाविद्यालय तासगाव आणि सद्मुफू गाडगे महाराज कॉलेज कराड या महाविद्यालयामध्येही आहे.

अधिविभागात कार्यरत आहेत.)

संख्याशास्त्रातील करिअर संधी



Survey to estimate Peafowl abundance in Shivaji University campus