*Progressive Education Society's*

# Modern College of Arts, Science and Commerce,

**Shivajinagar, Pune 5**

**(An Autonomous College Affiliated to Savitribai Phule Pune University)**


# Framework of Syllabus

# For M. Sc. Statistics

# (2019-20 Course)

# (with effect from  2019-20 )

# Semester 1  (Part 1 )

| Course Type | Course Code | Course / Paper Title | Hours / Week | Credit | CIA | End Sem Exam | Total |
|---|---|---|---|---|---|---|---|
| CCT-1 | 19ScStaP101 | Basics of Real Analysis and Calculus | 4 | 4 | 50 | 50 | 100 |
| CCT-2 | 19ScStaP102 | Linear algebra and Numerical methods | 4 | 4 | 50 | 50 | 100 |
| CCT-3 | 19ScStaP103 | Probability Distributions | 4 | 4 | 50 | 50 | 100 |
| CCT-4 | 19ScStaP104 | Sampling Theory | 4 | 4 | 50 | 50 | 100 |
| CCP-5 | 19ScStaP105 | Practical I | 4 | 4 | 50 | 50 | 100 |
| AECCT-1 | 19CpCysP101 | Cyber Security-I | 1 | 1 | - | - | 25 |
| AECCT-2 | 19CpHrtP102 | Human Rights-I | 1 | 1 | - | - | 25 |
| Total | | | | **22** | | | |

# Semester II  (Part 1)

| Course Type | Course Code | Course / Paper Title | Hours / Week | Credit | CIA | End Sem Exam | Total |
|---|---|---|---|---|---|---|---|
| CCT-6 | 19ScStaP201 | Probability Theory | 4 | 4 | 50 | 50 | 100 |
| CCT-7 | 19ScStaP202 | Regression Analysis | 4 | 4 | 50 | 50 | 100 |
| CCT-8 | 19ScStaP203 | Statistical Inference I | 4 | 4 | 50 | 50 | 100 |
| CCT-9 | 19ScStaP204 | Multivariate Analysis | 4 | 4 | 50 | 50 | 100 |
| CCT-10 | 19ScStaP205 | Practical II | 4 | 4 | 50 | 50 | 100 |
| AECCT-3 | 19CpCysP201 | Cyber Security-II | 1 | 1 | - | - | 25 |
| AECCT-4 | 19CpHrtP202 | Human Rights-II | 1 | 1 | - | - | 25 |
| Total | | | | **22** | | | |

# Semester III  (Part 2 )

| Course Type | Course Code | Course / Paper Title | Hours / Week | Credit | CIA | End Sem Exam | Total |
|---|---|---|---|---|---|---|---|
| CCT-11 | 19ScStaP301 | Stochastic Processes | 4 | 4 | 50 | 50 | 100 |
| CCT-12 | 19ScStaP302 | Statistical Inference II (Asymptotic Inference) | 4 | 4 | 50 | 50 | 100 |
| CCP-1 | 19ScStaP307 | Practical III and Project | 4 | 4 | 50 | 50 | 100 |
| DSET-1 | 19ScStaP303 | Time Series Analysis | 4 | 4 | 50 | 50 | 100 |
| | 19ScStaP304 | Artificial Intelligence | 4 | 4 | 50 | 50 | 100 |
| DSET-2 | 19ScStaP305 | Data Mining (Machine Learning) | 4 | 4 | 50 | 50 | 100 |
| | 19ScStaP306 | Categorical Data Analysis | 4 | 4 | 50 | 50 | 100 |
| AECCT-5 | 19CpCysP301 | Cyber Security-III | 1 | 1 | - | - | 25 |
| AECCT-6 | 19CpSkdP302 | Skill Development-I | 2 | 2 | - | - | 50 |
| Total | | | | 23 | | | |

# Semester IV  (Part 2 )

| Course Type | Course Code | Course / Paper Title | Hours / Week | Credit | CIA | End Sem Exam | Total |
|---|---|---|---|---|---|---|---|
| CCT-13 | 19ScStaP401 | Design of Experiments | 4 | 4 | 50 | 50 | 100 |
| CCT-14 | 19ScStaP402 | Computer Intensive Statistical Methods | 4 | 4 | 50 | 50 | 100 |
| CCP-2 | 19ScStaP408 | Practical IV | 4 | 4 | 50 | 50 | 100 |
| DSET-3 | 19ScStaP403 | Bayesian Inference | 4 | 4 | 50 | 50 | 100 |
| | 19ScStaP404 | Actuarial Statistics | 4 | 4 | 50 | 50 | 100 |
| | 19ScStaP405 | Statistical Methods in Epidemiology | 4 | 4 | 50 | 50 | 100 |
| DSET-4 | 19ScStaP406 | Design and Analysis of Clinical Trials | 4 | 4 | 50 | 50 | 100 |
| | 19ScStaP407 | Survival Analysis and Statistical Quality Control | 4 | 4 | 50 | 50 | 100 |
| AECCT-5 | 19CpCysP401 | Cyber Security-IV | 1 | 1 | - | - | 25 |
| AECCT-6 | 19CpSkdP402 | Skill Development-II | 2 | 2 | - | - | 50 |
| Total | | | | 23 | | | |