

*Progressive Education Society's*  
**Modern College of Arts, Science and Commerce (Autonomous),**  
Shivajinagar, Pune – 411005

**Department of Mathematics**

**Program Specific Outcomes (PSOs)**

**Program: M. Sc. Mathematics**

**After successful completion of B.Sc. Mathematics, the student will be able to:**

<b>PSO No.</b>	<b>Program Specific Outcomes (PSOs)</b>
<b>PSO1</b>	<b>Academic Expertise:</b> <ol style="list-style-type: none"><li>i. On completion of the course, the student will be able to impart his knowledge in the field of education till post graduate level.</li><li>ii. The students can also contribute in research.</li><li>iii. The students can enter into have an opportunity to become an entrepreneurship in the teaching field and professional field.</li><li>iv. The students also have an opportunity to work in Civil services, Banking sectors and software industries.</li></ol>
<b>PSO2</b>	<b>Inquisitive Learner :</b> <ol style="list-style-type: none"><li>i. The students learn various subjects in this course which make him capable of handling various real life situations and making an appropriate decision.</li><li>ii. Various courses are designed to increase analytical thinking and logical reasoning of the students. This helps the students in handling situations at management level.</li></ol>
<b>PSO3</b>	<b>Social Competence:</b> <ol style="list-style-type: none"><li>i. The students are tasked to handle organisation of various activities conducted in the department, which increases the self confidence of the students.</li><li>ii. The capability to tackle problems by using various mathematical techniques and handle real life situations using mathematics also helps in building social awareness.</li><li>iii. A high level of intellectual skills developed due to the course helps the students to succeed and contribute the society.</li></ol>
<b>PSO4</b>	<b>Effective Communication :</b> <ol style="list-style-type: none"><li>i. Techniques used in proving mathematical facts involve quantifiers. The use of these quantifiers increase the expression of thought in precise way. This helps the students of mathematics to express their thoughts in a precise and logical manner.</li><li>ii. Students are very sound in communication with others in a very effective way being less elaborative as compared to other students.</li></ol>
<b>PSO5</b>	<b>Environmental Awareness :</b> <ol style="list-style-type: none"><li>i. Some major problems related to the environment are handled by various tools in mathematics. Modelling of such problems is a part of this course.</li><li>ii. To find solutions of environment related problems is also done in this course.</li><li>iii. Data collection and prediction of data related to environment issues in an effective way plays an important role in the society.</li></ol>

<b>PSO6</b>	<p><b>Digital Competence:</b></p> <ol style="list-style-type: none"> <li>i. Use of ICT plays an important role in the study of mathematics. Use of Powerpoint presentations using various typesetting softwares helps the students to grasp the concepts easily.</li> <li>ii. 2D and 3D animation related subjects in this course helps them to create their own digital content.</li> <li>iii. Use of various mathematical softwares helps them to visualize some mathematical concepts. It helps them to develop digital content.</li> </ol>
<b>PSO7</b>	<p><b>Experiential Learning:</b></p> <ol style="list-style-type: none"> <li>i. The students are given Research paper reading activity and Journal Review activity.</li> <li>ii. The students are given various assignments based on their subjects. These assignments are designed in such a way that the student gets exposure to the subject.</li> <li>iii. As a part of assignment, students are required to submit a book-review related to the subject. This enhances the reading habits and increases their knowledge.</li> <li>iv. Practical courses are done using a Journal as a record.</li> </ol>
<b>PSO8</b>	<p><b>Ethical and Moral Values:</b></p> <ol style="list-style-type: none"> <li>i. Mathematics enables the students to think in many directions. Thinking in higher dimensions and abstract levels is possible for the students.</li> <li>ii. Submitting the practical in a stipulated time, writing the practical without imitation from others are some of the ethical values the students learn in the course.</li> <li>iii. The course upgrades the ethical values since it has connections to facts, truths and the argument building process.</li> </ol>
<b>PSO9</b>	<p><b>Team work and interdisciplinary studies :</b></p> <ol style="list-style-type: none"> <li>i. Students learn various courses related to Statistics and Finance. This enables the students to work in these fields at professional level and research level.</li> <li>ii. Prediction of weather and prediction of post-pandemic situations are a part of mathematics. Applications of various courses simplify these tasks.</li> </ol>
<b>PSO10</b>	<p><b>Research and problem solving competence :</b></p> <ol style="list-style-type: none"> <li>i. As a part of evaluation students learn writing book reviews, dissertation of some research papers. This gives them an impetus to do research.</li> <li>ii. Students participate in various national workshops, national and international conference.</li> </ol>
<b>PS11</b>	<p><b>Stress Management:</b></p> <ol style="list-style-type: none"> <li>i. Students are used to solving problems in mathematics. A regular practice of solving similar with slight variations makes them expert in solving problems and thereby reduces their stress. This is in fact the key to managing stress in this subject.</li> <li>ii. The course helps students to test and improve their patience.</li> </ol>
<b>PSO12</b>	<p><b>Extramural Skills :</b></p> <ol style="list-style-type: none"> <li>i. Students are able to enter into research areas. Solutions of many practical problems can be obtained using mathematics.</li> <li>ii. Study of abstract situations or problems is usually done in mathematics. An extension of a realistic situation to an abstract level gives rise to many interesting</li> </ol>

	problems in research. This helps to students to think out of the box in many situations.
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