
Program Outcomes

and

Programme Specific Outcomes

Outcome Based Education



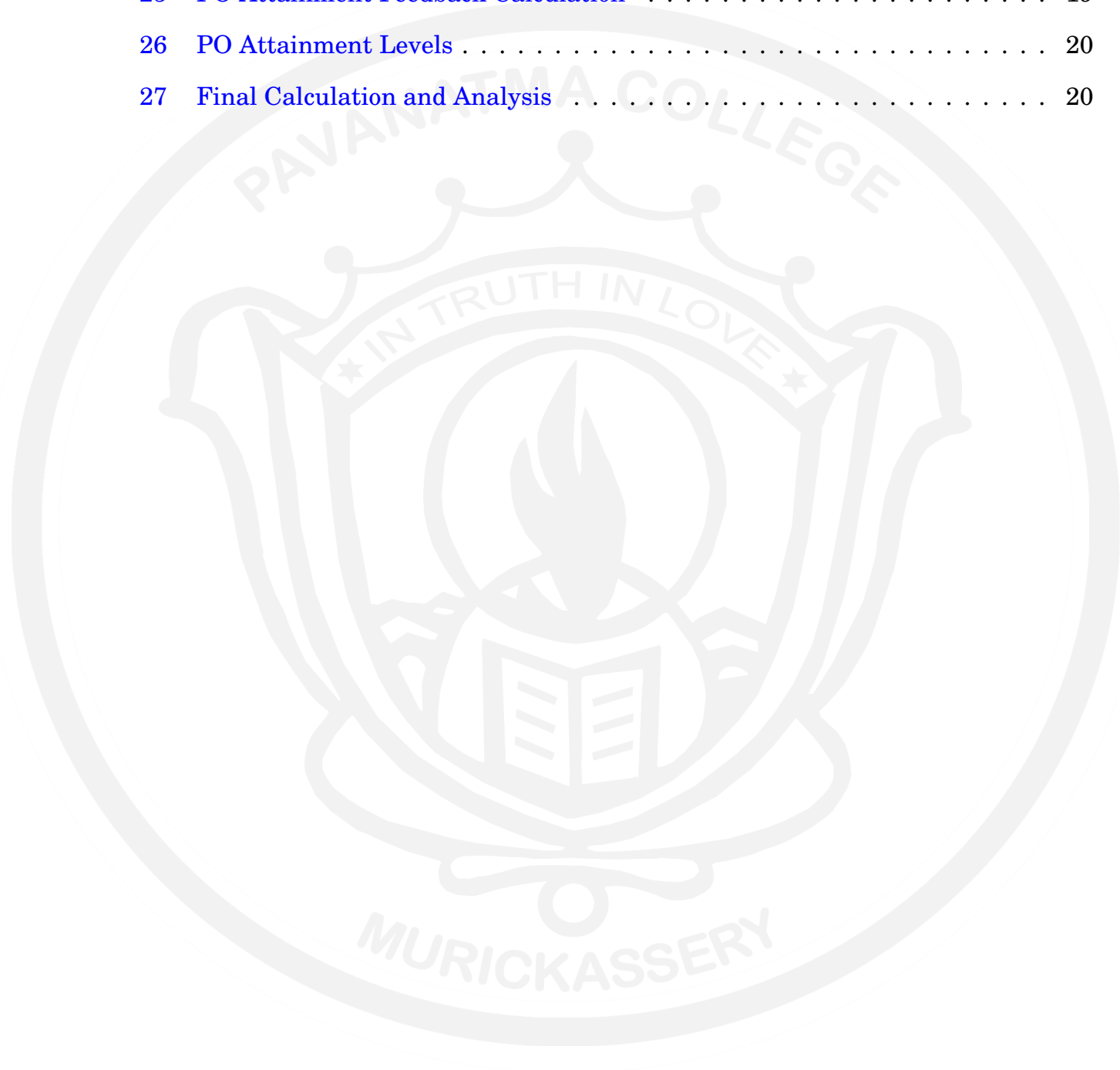
Pavanatma College, Murickassery

Idukki-685604

Table of Contents

1	Our Motto	1
2	Vision	1
3	Mission	1
4	Goals and Objectives	1
5	Program Outcomes	3
6	Program Specific Outcomes of B.Sc. Chemistry	4
7	Program Specific Outcomes of B.Sc. Mathematics	5
8	Program Specific Outcomes of B.Sc. Physics	6
9	Program Specific Outcomes of B. Com.	7
10	Program Specific Outcomes of B.A. History	8
11	Program Specific Outcomes of B.A. English	9
12	Program Specific Outcomes of B.Voc. Accounting and Taxation	10
13	Program Specific Outcomes of B.Voc. D.T.P. and Printing Technology	11
14	Program Specific Outcomes of B.A. Economics	12
15	Program Specific Outcomes of B.Sc. Petrochemicals	13
16	Program Specific Outcomes of M.Com.	14
17	Program Specific Outcomes of M.A. History	15
18	Program Specific Outcomes of M.Sc. Mathematics	16
19	Program Specific Outcomes of M.Sc. Chemistry	17
20	Attainment Calculation Methodology	18

21	CO Attainment Calculation	18
22	CO Attainment Levels	18
23	PSO Attainment Feedback Calculation	19
24	PSO Attainment Levels	19
25	PO Attainment Feedback Calculation	19
26	PO Attainment Levels	20
27	Final Calculation and Analysis	20



1 Our Motto

“ In Truth In Love”

2 Vision

A vibrant, enlightened and responsible community founded on a relentless pursuit of excellence.

3 Mission

- Assist the individual in fostering spiritual and humane values to become a blessing to the society and to the nation at large.
- Enable individuals to become intellectually powerful, socially responsible, emotionally mature and self-reliant.
- Infuse a genuine love for Nature and interest in protecting the Environment.
- Inculcate sound moral values in the individual.
- Be a pioneer in providing quality cum holistic education, responsive to the needs of the society.

4 Goals and Objectives

- To inculcate Christian ideals, intellectual vigour and moral rectitude
- To pursue academic excellence in teaching and learning
- To awaken social consciousness and mould socially committed citizens.
- To equip global ready individuals for employability.

- Enhance teaching and learning through the use of instructional technology.



5 Program Outcomes

A person obtaining a Bachelor's and Master's degree from Pavanatma should demonstrate the following characteristic attributes:

1. Equipped with in-depth and extensive theoretical and practical knowledge and understanding of their disciplines to meet career needs.
2. Equipped with an inter disciplinary perspective.
3. Able to create new knowledge and opportunities for learning through the process of research and inquiry.
4. Able to use a basic range of established techniques to analyse information and propose solutions.
5. Able to communicate accurately and reliably to a range of audiences.
6. Able to exercise personal responsibility and decision-making and able to work in a group.
7. Able to identify their own learning needs and to select an appropriate program of further study.
8. Possess behaviour consistent with academic integrity and social responsibility.
9. Be Confident and skilful to take up responsibilities and challenges and able to meet targets and deadlines.
10. Possess capacity to use appropriate technologies recognizing their advantages and limitations, by being aware of technological innovations and advancements.

6 Program Specific Outcomes of B.Sc. Chemistry

On completion of the B.Sc Chemistry programme at Pavanatma, a student should

1. Have acquired the basic knowledge of the discipline of Chemistry including theories, techniques, concepts and general principles.
2. Have acquired skills required for the conduct of documented laboratory procedures involved in synthetic and analytical work, in relation to inorganic, physical and organic systems and be able to develop skills in the proper handling of apparatus and chemicals.
3. Have acquired numerical and mathematical skills, including such aspects as error analysis, estimations, correct use of units and modes of data presentation
4. Be able to appreciate the achievements in Chemistry and to know the role of Chemistry in nature and in society.
5. Be able to read, understand and interpret physical information – verbal, mathematical and graphical.
6. Be able to understand the different processes used in industries and their applications.

7 Program Specific Outcomes of B.Sc. Mathematics

By the end of B.Sc. Programme in Mathematics at Pavanatma, student should

1. Be able to communicate mathematical ideas accurately, precisely and effectively.
2. Have acquired the ability to understand and analyze problems and to form independent judgments.
3. Be able to understand Mathematics as an academic and research field.
4. Have enhanced logical reasoning skills, arithmetic skills and aptitude skills for better employability.
5. Gain exposure to a variety of areas of Mathematics and related fields such as Computer Science, Operation Research etc.
6. Have developed abilities to communicate effectively through written and verbal communications.

8 Program Specific Outcomes of B.Sc. Physics

On completion of the B.Sc Physics programme at Pavanatma, a student should

1. Have acquired the basic knowledge of the discipline of Physics including phenomenology, theories and techniques, concepts and general principles.
2. Be able to ask physical questions and to obtain solutions to physical questions by the use of qualitative and quantitative reasoning and experimental investigation.
3. Be able to appreciate the physical world and possess curiosity, creativity, and reasoned scepticism.
4. Be able to use Information Communication Technology to gather knowledge at will and to understand the links of Physics to other disciplines and to societal issues.
5. Be able to read, understand and interpret physical information- verbal, mathematical, and graphical.
6. Be able to perform experiments and interpret the results of observation.

9 Program Specific Outcomes of B. Com.

On completion of the B.Com. programme at Pavanatma, a student should

1. Have integrated knowledge, skill, and attitude that will sustain an environment of learning and creativity in promoting and managing business units.
2. Have acquired basic and practical accounting knowledge and provide awareness regarding the latest developments in the field of commerce.
3. Have developed the skill of applying concepts and techniques used in commerce and an attitude for working effectively and efficiently in a business environment.
4. Have acquired basic knowledge and understanding in the fields of finance, capital market, taxation, marketing, management, business laws, business economics, auditing, and information technology.
5. Have improved quantitative aptitude and analytical skills to take decisions at personal and professional level.
6. Be able to pursue a career in professional areas of commerce, management, and entrepreneurship.

10 Program Specific Outcomes of B.A. History

On completion of the B.A History programme at Pavanatma, a student should

1. Have acquired knowledge of the chronology, major events, personalities and turning points of history and to learn the basic narrative structure of historians in writing in order to understand the value of diversity.
2. Be able to distinguish primary and secondary sources and evaluate historical ideas, arguments, interpretations and multiple narratives of the past.
3. Have developed positive attitudes to solve the issues related to Environment and Forestry
4. Be able to compare and contrast different processes, modes of thought and expressions from different historical time periods and in different geographical areas.
5. Have gathered and assessed primary and secondary sources and to demonstrate ethical use of sources and provide accurate and properly formatted citations in research papers. Student should acquire the research skills required for methodology and historiography to explore various topics and themes, including social, economic, cultural, political, and technological history.
6. Have access to the facilities in the institution to develop the vocational and problem solving skills
7. Demonstrate proficiency in oral and written communication skills.

11 Program Specific Outcomes of B.A. English

On completion of the BA English programme at Pavanatma, a student should

1. Have understood the evolution and development of English literature.
2. Be able to appreciate the story, plot, characterization and tone of a work of literature in English
3. Have acquired knowledge on various aspects of the language such as syntax, word classes, common errors, vocabulary, spelling etc.
4. Be able to use the language with correct pronunciation, stress, intonation, and pause and have a rich vocabulary to articulate ideas accurately.
5. Have an understanding of the different points of grammar with regard to time, tense and voice in written/verbal communications.
6. Be able to compare and contrast different social and literal environments of different cultures

12 Program Specific Outcomes of B.Voc. Accounting and Taxation

On completion of the B.Voc. Accounting and Taxation programme at Pavanatma, a student should

1. Have acquired the basic knowledge of accounting practices in the discipline of B Voc including practical, theories, techniques, concepts and general principles.
2. Have acquired practical cum skill based education.
3. Be well trained and skilled in accordance with the norms laid down as per employment criteria
4. Have participated in internship and training programmes with expert trainers to equip themselves as professionals.
5. Have understood the links of B Voc to other disciplines and to societal issues.
6. Be able to fulfil the criteria and standards prescribed by NSQF so as to meet the global industrial needs.

13 Program Specific Outcomes of B.Voc. D.T.P. and Printing Technology

On completion of the B.Voc. DTP and Printing Technology programme at Pavanatma, a student should

1. Be equipped to cope with the emerging trends and challenges in the field of business.
2. Have possessed curiosity, creativity, and reasoned skepticism.
3. Have acquired the basic knowledge of the disciplines in graphic designing and a mix of skills, professional education related DTP and Printing Technology and also appropriate content.
4. Be able to use Information Communication Technology to gather knowledge at will.
5. Have acquired knowledge in the basics of advertising and print media and their role in society.
6. Have participated in internships, trainings with expert trainers to equip themselves as professionals.
7. Be equipped as professionals and will be placed in various industries across the globe.

14 Program Specific Outcomes of B.A. Economics

On completion of the BA Economics programme at Pavanatma, a student should

1. Have acquired a well- founded education in Economics.
2. Be able to prepare themselves for employment and further study as economists.
3. Be able to understand quantitative and theoretical aspects of economics.
4. Be able to focus on applied and policy issues in economics.
5. Have acquired information about major economic reforms.
6. Be able to understand and analyse day to day happenings of Indian economy.
7. Be able to do research works by using scientific methods.

15 Program Specific Outcomes of B.Sc. Petrochemicals

On completion of the B.Sc. Petrochemicals programme at Pavanatma, a student should

1. Have acquired the basic knowledge of the discipline of Chemistry including theories and techniques, concepts and general principles.
2. Have acquired skills required for the conduct of documented laboratory procedures involved in synthetic and analytical work, in relation to inorganic, physical, organic and petrochemical systems and be able to develop skills in the proper handling of apparatus and chemicals.
3. Have acquired numerical and mathematical skills, including such aspects as error analysis, estimations, correct use of units and modes of data presentation
4. Be able to appreciate the achievements in Chemistry and to know the role of Chemistry in nature and in society.
5. Have gained exposure to a variety of areas of chemistry and related fields such as computer science and mathematics etc.
6. Be exposed to the different processes used in petrochemical industries and their applications.

16 Program Specific Outcomes of M.Com.

On completion of the M.Com. programme at Pavanatma, a student should

1. Have inculcated managerial skills and theoretical knowledge for managing business units with special focus on functional areas of business and management.
2. Have acquired advanced accounting knowledge and skills and provide awareness regarding latest developments in the field of accounting.
3. Have acquired advanced theoretical knowledge on research methods and techniques and have developed capabilities in the application of research in solving business related problems.
4. Have acquired expertise in specialized fields like finance, taxation, marketing, management, and information technology.
5. Have developed quantitative aptitude and analytical skills of the learner.
6. Be able to pursue career in professional areas of commerce and management such as taxation, financial services, consultancy etc.

17 Program Specific Outcomes of M.A. History

On completion of the M.A History programme at Pavanatma, a student should

1. Have gained knowledge of the chronology, major events, personalities and turning points of the history and to learn the basic narrative structure of historians in writing in order to understand the value of diversity.
2. Be able to distinguish primary and secondary sources, understand and evaluate historical ideas, arguments, interpretations and multiple narratives of the past.
3. Be able to compare and contrast different processes, modes of thought and expression from different historical time periods and in different geographical area.
4. Gather and assess primary and secondary sources and to demonstrate ethical use of sources and provide accurate and properly formatted citations in research papers. Student should obtain research skills required for methodology and historiography to explore various topics and themes, including social, economic, cultural, political, and technological history.
5. Be able to demonstrate proficiency in oral and written communication skills.
6. Have learned to evaluate and draw information from the narratives of past events that participants and observers produced and be able to recognize differences in the methods and techniques of historians and learn to compare and critique them.
7. Have acquired familiarity with a range of historical subjects that span distinct eras, recognize how different individuals, groups, organizations, societies, cultures, countries, and nations have interacted in the past and how those interactions have affected history, gain familiarity with the aims and achievements of different schools of historical thought, practice, and analysis, develop an appreciation of themselves and of others through the study of the past in local, regional, national, and global contexts.

18 Program Specific Outcomes of M.Sc. Mathematics

By the end of M.Sc. Programme in Mathematics at Pavanatma, a student will

1. Have improved the logical and abstract thinking in Mathematics.
2. Have developed problem solving skills and enable them to use mathematical theories practically for competitive exams.
3. Have become familiar with e-resources and modern technologies for understanding and communicating mathematical ideas effectively.
4. Have formed strong foundation for their career improvements and have developed need based mathematical teaching learning capacity.
5. Be able to perform Researches and publishing articles.

19 Program Specific Outcomes of M.Sc. Chemistry

On completion of the M.Sc. Chemistry programme at Pavanatma, a student should

1. Apply quantitative thinking process and reasoning skills in upper division academic work
2. Communicate chemical concepts to varied audience
3. Use mathematical tools essential to success upper division chemistry course
4. Design an appropriate response to a research problem
5. Solve problems collaboratively
6. Use software and hardware to successive analyse of experimental data

20 Attainment Calculation Methodology

We have completed the implementation of outcome based education system in our institution which is a student-centered instruction model that focuses on measuring student performance through outcomes.

Every departments have defined Programme Specific Outcomes [PSO] of each programme and Course Outcomes[CO] of each courses . Each student attain Programme Specific Outcomes and Programme Outcomes by the end of the Programme through achieving Course Outcomes of each course. So to find the attainment level of PSO's and PO's we use the CO-PSO mapping matrices and CO-PO mapping matrices. The mapping factor shows the level of contribution towards achievement of PO's and PSO's.

- 3 High/Substantial mapping.
- 2 Moderate/Medium mapping.
- 1 Slight/Low mapping.
- 0 No mapping

21 CO Attainment Calculation

For finding CO attainment we use 4 direct assessment tools which are marks of first and second internal examinations, assignment and university examination. There are 3 attainment levels for CO's.

22 CO Attainment Levels

1. Level 0 Not attained
2. Level 1 50% of students scored above 35% of marks
3. Level 2 60% of students scored above 35% of marks

4. Level 3 70% of students scored above 35% of marks

We find the internal CO attainment and attainment of CO's from university examination marks separately and final CO attainment for each CO is calculated by

$$\text{CO attainment} = 50\% \text{Internal attainment} + 50\% \text{University attainment.}$$

23 PSO Attainment Feedback Calculation

Using CO-PSO mapping matrix and final CO attainments we calculate PSO Actual and PSO attainment of each PSO.

$$\text{PSO feedback\%} = \frac{\text{PSO Attained}}{\text{PSO Actual}} \times 100.$$

There are 3 attainment levels for PSO's.

24 PSO Attainment Levels

- Level 0 Not attained
- Level 1 Feedback % between 0.01 % to 33.33 %
- Level 2 Feedback % between 33.34 % to 66.67%
- Level 3 Feedback % between 66.68 % to 100 %

25 PO Attainment Feedback Calculation

Using CO-PO mapping matrix and final CO attainments we calculate PO Actual and PO attainment of each PO.

$$\text{PO feedback\%} = \frac{\text{PO Attained}}{\text{PO Actual}} \times 100.$$

There are 3 attainment levels for PO's.

26 PO Attainment Levels

- Level 0 Not attained
- Level 1 Feedback % between 0.01 % to 33.33 %
- Level 2 Feedback % between 33.34 % to 66.67 %
- Level 3 Feedback % between 66.68 % to 100 %

27 Final Calculation and Analysis

After calculating the attainment levels of PO's and PSO's from each course we combine these to calculate the final attainment levels. Then we check whether our target is achieved or not. If not achieved we have to take corrective measures to improve the attainment level.

