ANNAMACHARYA UNIVERSITY

EXCELLENCE IN EDUCATION; SERVICE TO SOCIETY

(ESTD, UNDER AP PRIVATE UNIVERSITIES (ESTABLISHMENT AND REGULATION) ACT, 2016)

Rajampet, Annamayya District, A.P – 516126, INDIA

MEETING MINUTES

of

BOARD OF STUDIES

ACADEMIC YEAR: 2024-25

ANNAMACHARYA UNIVERSITY

EXCELLENCE IN EDUCATION; SERVICE TO SOCIETY

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Ref.No.:/AU/SoE/H&S/BOS-01/2024-25/MOM-01 Date: 24/08/2024

Department of Humanities and Sciences

1st BoS Minutes of Meeting

The 1st meeting of the Board of Studies (BoS) for the Department of Humanities and Sciences was held in hybrid mode on 30/08/2024 (Mathematics), 31/08/2024 (Physics), 02/09/2024 (Chemistry) and 06/09/2024 (English), with the following members of the board present.

Members Present:

S. No.	Name of the member	Affiliation	Role in BOS
1	Dr. B. Bala Nagendra Prasad	Associate Professor & Head Dept. of H&S, Annamacharya University Rajampet, Ph: 7732089991 bbnp@aitsrajampet.ac.in	Chairman
2	Dr. M. Uma Maheswar	Assistant Professor Dept. of H&S (Mathematics) Annamacharya University Rajampet, Ph:9441544880 mum@aitsrajampet.ac.in	Senior faculty – Member
3	Dr. L. Obulapathi	Associate Professor Dept. of H&S (Physics) Annamacharya University Rajampet, Ph:9885792205 lop@aitsrajampet.ac.in	Senior faculty – Member (Physics)
4	Dr. I. Pugazhenthi	Assistant Professor Dept. of H&S (Chemistry) Annamacharya University Rajampet, Ph:7550309876 ipz@aitsrajampet.ac.in	Senior faculty – Member
5	Mrs. P. Suneetha Naidu	Assistant Professor Dept. of H&S (English) Annamacharya University Rajampet, Ph: 8074037953 psn@aitsrajampet.ac.in	Senior faculty – Member
6	Dr. V. Ravi Kumar	Assistant Professor Dept. of H&S (Mathematics) Annamacharya University Rajampet, Ph: 7780488591 vrk@aitsrajampet.ac.in	Course Coordinator – Member
7	Dr. B. Sreenivasulu	Assistant Professor Dept. of H&S (Physics) Annamacharya University Rajampet, Ph:9492666682 bsl@aitsrajampet.ac.in	Course Coordinator – Member
8	Mr. J. Siva Krishna	Assistant Professor	Course Coordinator – Member

		Dept. of H&S (Chemistry) Annamacharya University Rajampet, Ph; 8500227480 jsk@aitsrajampet.ac.in	
9	Dr. S. Ansar Hussain	Assistant Professor Dept. of H&S (English) Annamacharya University Rajampet, Ph: 9533172875 Dash@aitsrajampet.ac.in	Course Coordinator – Member
10	Dr. M. Raja Vishwanathan	Department of Humanities & Social Science National Institute of Technology Warangal – 506004, Telangana Ph: 9908858942, vishwanathan@nitw.ac.in	Subject Expert – Member
11	Dr. V.B. Chitra	Professor of English JNTUA, Anantapuramu Ph:6301799895 chitravb1@gmail.com	Subject Expert – Member
12	Prof. K.C. Sivakumar	Dept. of Mathematics IIT Madras, Ph: 044-22574622 kcskumar@iitm.ac.in	Subject Expert – Member
13	Dr. M.C. Raju	Dept. of Mathematics JNTU Kalikiri Ph: 9555936944 mcrmaths@gmail.com	Subject Expert – Member
14	Prof. D. Dinakar	Dept. of Physics NIT Warangal Ph: 9866948560 dinakar@nitw.ac.in	Subject Expert – Member
15	Prof. K. Thyagarajan	Dept. of Physics JNTU College of Engineering Kalikiri, Ph:9440874936 ktrjntu@gmail.com	Subject Expert – Member
16	Dr. K. Vijayakrishna	Associate Professor Dept. of Chemistry IIT, Bhuvaneswar Ph: 6747135122, kvijayakrishna@iitbbs.ac.in	Subject Expert – Member
17	Prof. A. Gangaiah Damu	Dept. of Chemistry Yogi Vemana University Kadapa, Ph:9177888961 agdamu01@gmail.com	Subject Expert – Member
18	Prof P.V Satya Narayana	Professor, Department of Mathematics, VIT University Vellore, Ph:9789574488	University Nominee – Member

19	Dr. A. Pitchaiah	Principal Scientist in drug discovery Sai Life sciences Genome valley, Hyderabad, Telangana Contact: 9959153685 e-mail: pitchaiah80@gmail.com	Industry Representative – Member

Members of Absence:

S. No.	Name of the member	Affiliation	Role in BOS
1	Mr. P. Rizwan Khan	Dept. of CSE Equinox, Bangalore Ph: 7382449546 Rizwanpatan569@gmail.com	Alumni Representative – Member

Agenda of the Meeting:

Item No	Particulars
BoS/2024/H&S/1.1	Welcome and Introduction
BoS/2024/ H&S /1.2	Review and Approval of First-Year Undergraduate (i.e., B.Tech. & B.Sc.) Course Structure and Syllabi under AU24 Regulations
BoS/2024/ H&S /1.3	Introduction of New Programs (if applicable)
BoS/2024/ H&S /1.4	Review and Approval of Postgraduate (i.e., M.Tech., M.B.A., M.C.A., M.Sc. and M.A.) Course Structure and Detailed Syllabi under AU24 Regulations
BoS/2024/ H&S /1.5	Discussion and Approval of the Annamacharya University Research Admission Test -2024 (AURAT) syllabus for the respective department
BoS/2024/ H&S /1.6	Discussion and Approval of the course work, including Core subjects and Research Methodology, for Research Programs
BoS/2024/ H&S /1.7	Approval of the List of Examiners for First-Year Courses/Subjects
BoS/2024/ H&S /1.8	Any other item with permission of the Chair

MINUTES OF THE MEETING

Agenda Item No. BoS/2024/H&S/1.1: Welcome and Introduction

Welcome:

Dr. B. Bala Nagendra Prasad, Head, Department of Humanities and Sciences has extended warm welcome to all the members.

Introduction:

At the outset, Dr. B. Bala Nagendra Prasad, Head, Department of Humanities and Sciences introduced all the members of the Board of Studies and thanked them for accepting the invitation to the 1st BoS meeting.

Agenda Item No. BoS/2024/H&S/1.2: Review and Approval of First-Year Undergraduate (i.e., B.Tech. & B.Sc.) Course Structure and Syllabi under AU24 Regulations

1.2.1. Review and approval of first-year undergraduate B.Tech. course structure and syllabi under AU24 regulations (Annexure-1)

1.2.1.ENG.1: English for Engineers

Recommendations:

Dr M Raja Viswanathan suggested modifying the course outcomes.

Resolutions:

- The committee agreed with the suggestions and verified the previous course outcomes and revised the suggested outcomes.

1.2.1.ENG.2: English Language Communication Skills Lab

Recommendations:

- Prof V B Chitra suggested revising the course outcomes according to Blooms Taxonomy levels.
- The external subject experts also suggested deleting the advanced topics namely, E-mail Writing, Resume Writing, Cover Letter, SOP, Group Discussions, Debates, and Interview Skills.
- Dr M Viswanathan suggested of removing the topic 'Neutralization of Accent' as the topic is advanced for Under Graduation level.
- The experts also suggested to follow MLA Style for prescribed and reference books.

Resolutions:

- The committee approved the modifications and revised the course outcomes according to the guidelines.
- The suggestion was accepted by the committee and deleted the advanced topics along with 'Neutralization of Accent'.
- The recommendation was accepted and followed MLA Style for references.

1.2.1.MAT.1: Matrix Theory and Calculus

Recommendations:

- Prof. K.C. Siva Kumar suggested to move the topic "Cayley-Hamilton theorem (without proof), Finding inverse and power of a matrix by Cayley-Hamilton theorem" to Unit-1 from Unit-2 and "Eigen values and Eigen vectors and their properties" to Unit-2 from Unit-1 in "Matrix Theory and Calculus" course.
- Prof. K.C. Siva Kumar advised to change the title of Unit2 from "Quadratic forms" to Eigen Values and Eigen Vectors" in Matrix Theory and Calculus
- Prof. K.C. Siva Kumar suggested to keep "Erwin Kreyszig, Advanced Engineering Mathematics, 10/e, John Wiley & Sons, 2011" as first prescribed Textbook and "B. S. Grewal, Higher Engineering Mathematics, 44/e, Khanna Publishers, 2017" as second prescribed Textbook.
- Prof. K.C. Siva Kumar and Prof. M.C. Raju advised to specify the topic "Taylor's theorem and Maclaurin's theorem" as "Taylor's theorem and Maclaurin's theorem for one Variable".
- Prof. K.C. Siva Kumar and Prof. M.C. Raju proposed to rewrite the Course objectives in "Matrix Theory and Calculus".

Resolutions: The committee agreed with the suggestions. The following changes were made:

- The topic "Cayley-Hamilton theorem (without proof), Finding inverse and power of a matrix by Cayley-Hamilton theorem" has been moved to Unit-1 from Unit-2. The topic "Eigen values and Eigen vectors and their properties" has been moved to Unit-2 from Unit-1 in the "Matrix Theory and Calculus" course.
- The title of Unit-2 has been changed from "Quadratic forms" to "Eigen Values and Eigen Vectors" in the Matrix Theory and Calculus course.
- The prescribed textbooks have been updated to reflect that "Erwin Kreyszig, Advanced Engineering Mathematics, 10/e, John Wiley & Sons, 2011" will be the first prescribed textbook and "B. S. Grewal, Higher Engineering Mathematics, 44/e, Khanna Publishers, 2017" will be the second prescribed textbook.
- The BOS committee agreed and approved the recommendation by Prof. K.C. Siva Kumar and Prof. M.C. Raju to specify "Taylor's theorem and Maclaurin's theorem" as "Taylor's theorem and Maclaurin's theorem for one variable" to enhance clarity.
- The course objectives for "Matrix Theory and Calculus" will be rewritten to enhance clarity and relevance.

1.2.1.MAT.2: Differential Equations and Vector Calculus

Recommendations:

- Prof. K.C. Siva Kumar and Prof. M.C. Raju suggested to add the topics "Unit step function and Second shifting theorem" in Unit-3: **Laplace transforms.**
- Prof. K.C. Siva Kumar and Prof. M.C. Raju suggested to rewrite the Course objectives in "Differential Equations and Vector Calculus".

Resolutions: The committee agreed with the suggestions. The following changes were made:

- The topics "Unit step function and Second shifting theorem" were added to Unit-3: Laplace transforms.

The course objectives for "Differential Equations and Vector Calculus" were rewritten to improve clarity and alignment with course outcomes.

1.2.1.CHE.1: Engineering Chemistry

Recommendations:

- Prof. K. Vijay Krishna suggested that students at the undergraduate level should focus more on the mechanical properties of polymers, such as stress-strain behaviour, rather than the mechanisms of polymer formation.
- He recommended removing the topics on "Mechanism of chain growth, step-growth, and co-polymerization."
- He proposed including topics related to properties like "Fibres, Polyesters, mechanical requirements, crystallinity, and stress-strain curves."
- The preparation methods for PVC and Bakelite were considered less relevant, and their removal was suggested.
- Prof. A.G. Damu recommended adding biodegradable polymers, emphasizing the properties and applications of "Poly Glycolic Acid (PGA)" and "Polylactic Acid (PLA)."
- Prof. K. Vijay Krishna noted that the total lecture hours prescribed for all five units exceeded the permissible limits. He suggested revising the distribution of lecture hours across the units to ensure the course could be completed within the allotted time.

Resolutions: The committee agreed with the suggestions. The following changes were made:

- Removed the topics related to polymer formation mechanisms (chain growth, step-growth, co-polymerization).
- Included new topics on the mechanical properties of polymers such as "Fibres, Polyesters, crystallinity, and stress-strain curves."
- The preparation methods of PVC and Bakelite were removed.
- Added the topics "Biodegradable polymers - properties and applications of PGA and PLA."
- The lecture hours have been adjusted to allocate 9 hours for Unit 1, 8 hours for Unit 2, 8 hours for Unit 3, 9 hours for Unit 4, and 8 hours for Unit 5. This revision ensures a balanced distribution of lecture hours and has been formally adopted.

1.2.1.CHE.2: Chemistry

Recommendations:

- During the review of the syllabi for the Engineering Chemistry and Chemistry courses, Prof. K. Vijay Krishna recommended similar modifications to Polymer Chemistry (Unit 3) in both courses.
- Prof. K. Vijay Krishna suggested a revision to Unit 4 of the Chemistry course, recommending the inclusion of a section on "IR Spectroscopy – Principle, instrumentation, and applications" and the removal of the current section on "Chromatography".

Resolutions:

- The committee approved the modifications to Unit 3 - Polymer Chemistry in both courses
- The committee approved the changes to Unit 4, adding "IR spectroscopy – Principle, instrumentation, and applications" and removing "Chromatography – basic principle, types, TLC – principle and applications."

1.2.1.CHE.3: Engineering Chemistry Lab

Recommendations:

- Prof. K. Vijay Krishna noted that the Bakelite and Thiokol synthesis experiments exceeded the 2-hour lab limit and recommended replacing them with the synthesis of PMMA and PGMA, which fit within the time constraints.

Resolutions:

- The recommendation was accepted, replacing the synthesis experiments for Bakelite and Thiokol with those for PMMA and PGMA polymers

1.2.1.CHE.4: Chemistry Lab

Recommendations:

- Prof. K. Vijay Krishna recommended replacing Bakelite and Thiokol synthesis experiments with the synthesis of PMMA and PGMA, which fit within the time constraints.
- Since chromatography topics were removed from the theory course, Prof. A.G. Damu suggested replacing the TLC experiment in the lab syllabus with an IR Spectroscopy experiment, specifically "Identification of Simple Organic Compounds by IR Spectroscopy."

Resolutions:

- Synthesis experiments for Bakelite and Thiokol were replaced with those for PMMA and PGMA polymers.
- The recommendation was approved, removing the TLC experiment and adding "Identification of Simple Organic Compounds by IR Spectroscopy" to align the lab syllabus with the revised theory.

1.2.1.PHY.1: Applied Physics

Recommendations:

- Prof. D. Dinakar suggested that the third reference book is not relevant and replace the book.
- He recommended removing the super conductivity and include principles of quantum mechanics.
- Prof. K. Thyagarajan proposed include the number of hours for unit wise

Resolutions: The committee agreed with the suggestions. The following changes were made:

- Removed the third reference book and included new one.
- Inclusion of principles of quantum mechanics is not done where the syllabus covered in chemistry, so the members suggested to retain the syllabus.
- Included the number of lecture hours in unit wise.

1.2.1.PHY.2: Engineering Physics

Recommendations:

- During the review of the syllabi for the Engineering Physics, in unit five Prof. D. Dinakar suggested change the topic name as fibre optic sensor instead of fibre optic method of pressure sensor.
- Prof. D. Dinakar suggested that the third reference book is not relevant and replace the book.

Resolutions:

- The committee approved the modifications done as per recommendation in Unit 5.
- Removed the third reference book and included new one.

1.2.1. PHY.3: Applied Physics Lab and Engineering Physics Lab

Resolutions: The syllabus was reviewed and approved without any modifications for the courses Applied Physics Lab and Engineering Physics Lab.

1.2.2. Review and approval of first-year undergraduate B.Sc. course structure and syllabi under AU24 regulations (Annexure-2)

1.2.2.ENG.1: Communicative English

Recommendations:

- Dr M Raja Viswanathan advised to write the full form for the course category titled as 'Humanities' instead of HSM.
- The external subject experts approved the course syllabus without any modifications.

Resolutions:

- The committee agreed with the advice in changing the course category title 'Humanities'.

1.2.2.ENG.2: Communicative English Lab

Recommendations:

- Prof V B Chitra suggested revising the course outcomes according to Blooms Taxonomy levels.
- The external subject experts also suggested deleting the advanced topics namely, E-mail Writing, Resume Writing, Cover Letter, SOP, Group Discussions, Debates, and Interview Skills.
- Dr M Viswanathan suggested of removing the topic 'Neutralization of Accent' as the topic is advanced for Under Graduation.
- The experts also suggested following MLA Style for referred books.

Resolutions:

- The committee approved the modifications and revised the course outcomes according to the guidelines.
- The suggestion was accepted by the committee and deleted the advanced topics along with 'Neutralization of Accent'.
- The recommendation was accepted and followed MLA Style for references.

1.2.2. UHV.1: Human Values

Recommendations: The external subject experts approved the existing topics in Human Values Course hence no modifications were added.

1.2.2.MAT.1: Matrices and Calculus

Recommendations:

- Prof. K.C. Siva Kumar suggested to move the topic "Cayley-Hamilton theorem (without proof), Finding inverse and power of a matrix by Cayley-Hamilton theorem" to Unit-1 from Unit-2 and "Eigen values and Eigen vectors and their properties" to Unit-2 from Unit-1 in "Matrix Theory and Calculus" course.
- Prof. K.C. Siva Kumar advised to change the title of Unit2 from "Quadratic forms" to Eigen Values and Eigen Vectors" in Matrix Theory and Calculus
- Prof. K.C. Siva Kumar and Prof. M.C. Raju advised to specify the topic "Taylor's theorem and Maclaurin's theorem" as "Taylor's theorem and Maclaurin's theorem for one Variable".

Resolutions: The committee agreed with the suggestions. The following changes were made:

- The topic "Cayley-Hamilton theorem (without proof), Finding inverse and power of a matrix by Cayley-Hamilton theorem" was moved to Unit-1 from Unit-2. Conversely, "Eigen values and Eigen vectors and their properties" was relocated from Unit-1 to Unit-2 in the "Matrix Theory and Calculus" course.
- The title of Unit-2 was changed from "Quadratic forms" to "Eigen Values and Eigen Vectors" in the Matrix Theory and Calculus course.
- The BOS committee agreed and approved the recommendation by Prof. K.C. Siva Kumar and Prof. M.C. Raju to specify "Taylor's theorem and Maclaurin's theorem" as "Taylor's theorem and Maclaurin's theorem for one variable" to enhance clarity.

1.2.2.MAT.2: Probability theory and Statistics

Recommendations:

- Prof. K.C. Siva Kumar suggested to keep "Unit-1: Introduction of statistics" as UNIT-3 and "Unit-2: Probability and Unit-3: Probability Distributions" as "Unit-1: Probability and Unit-2: Probability Distributions".
- Prof. M.C. Raju recommended to change the title of "Unit-1: Probability" to "Unit-1: Probability and Random Variables".

Resolutions:

- Prof. K.C. Siva Kumar suggested that "Unit-1: Introduction to Statistics" be designated as UNIT-3, while "Unit-2: Probability" and "Unit-3: Probability Distributions" were renamed to "Unit-1: Probability" and "Unit-2: Probability Distributions."
- Prof. M.C. Raju suggested changing the title of "Unit-1: Probability" to "Unit-1: Probability and Random Variables."

1.2.2.CHE.1: Environmental Studies

- Recommendations: Prof. K. Vijay Krishna recommended inclusion of topics related to Solid waste management, recycling of e waste.
- Resolutions: The recommendation was accepted, and the topics "Solid waste management: Causes, effects and control measures of urban and industrial wastes. e-waste: sources and health hazards. Need for e-waste management, recycling and recovery" are included in unit-3 Environmental pollution.

<u>Agenda Item No. BoS/2024/H&S/1.3</u>: Introduction of New Programs (if applicable): Justification for the need, objectives, and feasibility of new programs

1.3.ENG.M.A. English

Justification of the Need of M.A.(English) Programme:

Introducing an M.A. in English Literature course is essential to meet the increasing interest in literary studies and critical analysis in our culturally diverse society. This program fosters deep engagement with literary texts of world literature and explores the themes of identity, history, and social issues, which enhances students' critical thinking and analytical skills. It prepares graduates for careers in education,

publishing, and the arts while also promoting cultural literacy and appreciation. By offering this course, the institution can enrich its academic environment and cultivate a new generation of thinkers and creators who can navigate and contribute to the complexities of contemporary literature and society.

Objectives:

1. Analyze complex literary texts and their historical and cultural contexts to evaluate their significance and themes.

2. Interpret diverse narratives and critical theories, demonstrating an understanding of various perspectives in literary analysis.

3. Create original literary critiques and research projects that can contribute to scholarly conversations in the field.

4. Evaluate the impact of literature on social issues and cultural identities, fostering a deeper awareness of contemporary societal dynamics.

5. Apply interdisciplinary approaches to literature, integrating insights from other fields to enrich literary interpretation and understanding.

1.3.MAT.M.Sc. Applied Mathematics

Justification for the need of M.Sc. Applied Mathematics: The need for an M.Sc. in Applied Mathematics arises from the increasing complexity of real-world problems across various fields, including engineering, finance, and data science. This program equips students with advanced mathematical techniques and computational skills essential for modeling and solving practical issues. As industries demand professionals who can analyze data and develop algorithms, a strong foundation in applied mathematics becomes crucial. Additionally, the interdisciplinary nature of this field fosters innovation and collaboration, making graduates valuable assets in research and industry settings. Ultimately, an M.Sc. in Applied Mathematics prepares students for diverse career paths and contributes to technological advancements.

Objectives

1. To provide students with a comprehensive understanding of fundamental mathematical concepts, theories, and techniques, enabling them to apply these principles across various domains of pure and applied mathematics.
2. To cultivate students' abilities to approach complex problems systematically, employing critical thinking and logical reasoning to develop effective solutions in both theoretical and practical contexts.
3. To train students in the formulation and analysis of mathematical models, allowing them to simulate real-world phenomena and solve practical problems in fields such as engineering, physics, finance, and the social sciences.
4. To foster an appreciation for the role of mathematics in interdisciplinary research and its application in diverse areas, including computer science, data analysis, economics, and the natural sciences.
5. To equip students with the skills necessary for conducting independent research, encouraging them to contribute to the advancement of mathematical knowledge through original investigations and scholarly publications.

6. To ensure students are proficient in the use of mathematical software, computational tools, and programming languages, preparing them for careers in data science, algorithm development, and other technology-driven fields.
7. To prepare graduates for further academic pursuits in mathematics or related disciplines, as well as for professional roles in education, industry, finance, and research, where advanced mathematical skills are in high demand.

Feasibility: The feasibility of an M.Sc. in Applied Mathematics is underscored by several key factors. There is a growing demand for professionals with expertise in applied mathematics across sectors such as finance, engineering, data science, and healthcare, ensuring ample job opportunities. The interdisciplinary nature of applied mathematics enables graduates to work in diverse industries, fostering innovation and collaboration. Additionally, the program offers robust research opportunities, allowing students to engage with industry partners and academic institutions. Graduates acquire critical skills in data analysis, mathematical modeling, and computational techniques, significantly enhancing their employability. With the rise of big data and computational methods, the relevance of applied mathematics is increasing globally, attracting interest from both students and employers. A well-structured curriculum can adapt to emerging trends, and the presence of qualified faculty with expertise in the field contributes to a high-quality educational experience. Finally, positive outcomes for alumni in terms of employment and career advancement further validate the program's viability. Overall, the M.Sc. in Applied Mathematics is strategically positioned to meet current and future needs across various domains.

1.3.CHE.M.Sc. Chemistry

Justification for the need of M.Sc. Chemistry: The field of Chemistry is a cornerstone of scientific advancement, playing a critical role in industries ranging from pharmaceuticals to environmental management. With the rapid development of new materials, technologies, and sustainable practices, there is an increasing demand for highly skilled professionals with advanced knowledge in Chemistry. The introduction of an M.Sc. Chemistry program aligns with the need to produce graduates who are well-equipped to contribute to research, innovation, and industrial applications, both locally and globally. Moreover, this program will cater to students aspiring for careers in academia, research institutions, and various industries, addressing the growing need for experts in the field.

Objectives

1. To provide students with an in-depth understanding of advanced chemical concepts and techniques.
2. To foster critical thinking, problem-solving, and research skills necessary for addressing complex scientific challenges.
3. To prepare graduates for careers in research, industry, and academia, with the ability to contribute to technological and scientific advancements.
4. To develop proficiency in the use of modern chemical instrumentation and methodologies, ensuring students are well-versed in current and emerging technologies.
5. To encourage interdisciplinary collaboration and innovation in chemical sciences.

Feasibility: The M.Sc. Chemistry program is highly feasible given the current infrastructure, faculty expertise, and research facilities available at our institute. We have a strong team of faculty members with diverse specializations in chemistry, supported by state-of-the-art laboratories equipped for advanced research and practical learning. Additionally, the program will be supported by collaborations with industry partners and research institutions, providing students with opportunities for internships, projects,

and hands-on experience. The program's curriculum is designed to be flexible and adaptive, meeting the evolving needs of the chemical sciences sector, thereby ensuring its long-term sustainability and relevance

1.3.PHY.M.Sc. Physics

Justification for the need of M.Sc. Physics: The field of Physics is a cornerstone of scientific advancement, playing a critical role in technology. With the rapid development of new materials, technologies, and sustainable practices, there is an increasing demand for highly skilled professionals with advanced knowledge in physics to extend for research. The introduction of an M.Sc. Physics program aligns with the need to produce graduates who are well-equipped to contribute to research, innovation, and industrial applications, both locally and globally. Moreover, this program will cater to students aspiring for careers in academia, research institutions, and various industries, addressing the growing need for experts in the field.

Objectives

1. To provide students with an in-depth understanding of advanced physics principles and concepts.
2. To foster critical thinking, problem-solving, and research skills necessary for addressing complex scientific challenges.
3. To prepare graduates for careers in research, industry, and academia, with the ability to contribute to technological and scientific advancements.
4. To develop proficiency in the use of modern physical instruments and methodologies, ensuring students are well-versed in current and emerging technologies.
5. To encourage interdisciplinary collaboration and innovation in physical sciences.

Feasibility: The M.Sc. physics program is highly feasible given the current infrastructure, faculty expertise, and research facilities available at our institute. We have a strong team of faculty members with diverse specializations in physics, supported by state-of-the-art laboratories equipped for advanced research and practical learning. Additionally, the program will be supported by collaborations with industry partners and research institutions, providing students with opportunities for internships, projects, and hands-on experience. The program's curriculum is designed to be flexible and adaptive, meeting the evolving needs of the chemical sciences sector, thereby ensuring its long-term sustainability and relevance.

<u>Agenda Item No. BoS/2024/H&S/1.4</u>: Review and approval of Postgraduate (i.e., M.Tech., M.B.A, M.C.A. M.Sc. & M.A.) course structure and detailed syllabi under AU24 Regulations

1.4.1. Review and approval of Courses offered under M.C.A. Programme in AU24 Regulations (Annexure-3)

14.1.ENG.1: Technical Communication

Recommendations:

- Prof V B Chitra suggested revising the course outcomes according to Blooms Taxonomy levels.
- Dr M Viswanathan suggested removing 'Classification of Barriers' in Unit I.
- The external subject experts advised to remove 'Technology in Communication' in Unit II as the technological devices are not being dealt with.
- It is also advised to remove 'Non-verbal communication' aspects, as they are already covered in Unit II.

- Dr M Viswanathan advised to specify the type of report writing as Technical Report Writing in Unit IV.
- The external members asked to redefine the sub-topics of Group Discussion.

Resolutions:

- The committee approved the modifications and revised the course outcomes accordingly.
- The suggestion was accepted by the committee and deleted 'Classification of Barriers' in Unit I, 'Technology in Communication' in Unit II.
- The recommendation was accepted and removed Non-verbal communication topic as it is repeated in Unit II.
- Following the advice of the subject experts, the committee redefined the sub topics of Group Discussion in Unit V.

14.1.ENG.2: English Language Communication Skills Lab

Recommendations:

- Dr M Viswanathan suggested to simplify the lab syllabus by removing the subtopic of Phonetics namely, Word Stress and also advised to delete 'Research Paper and Abstract'. Instead, it is recommended replacing it with other MCA related concept.

Resolutions:

- The suggestions and recommendations were accepted by the committee and removed 'Word Stress' and 'Research Paper and Abstract' topics from the syllabus and replaced with Power Point Presentations.

1.4.1.MAT.1: Mathematical Foundations of Computer Science

Recommendations:

- Prof. K.C. Siva Kumar and Prof. M.C. Raju advised listing prescribed textbooks in the following format: **Author(s) Name(s)**, Textbook Title, Edition, Publisher, Year. For example: D. S. Chandra Sekharaiah. *Mathematical Foundations of Computer Science*. 3 Ed., Prism Books, 2010. This format ensures clarity by presenting all necessary details in a systematic order.

Resolution:

- The committee resolved to adopt the prescribed format for listing textbooks as advised by Prof. K.C. Siva Kumar and Prof. M.C. Raju. The format was established as follows: Author(s) Name(s), Textbook Title, Edition, Publisher, Year. For example: D. S. Chandra Sekharaiah. *Mathematical Foundations of Computer Science*. 3 Ed., Prism Books, 2010. This format ensured clarity by presenting all necessary details in a systematic order.

1.4.1.MAT.2: Probability and Statistics

Recommendations:

- Prof. K.C. Siva Kumar and Prof. M.C. Raju advised listing prescribed textbooks in the following format: Author(s) Name(s). Textbook Title. Edition, Publisher, Year. For example: S. C. Gupta and V. K. Kapoor. Fundamentals of Mathematical Statistics. 12 Ed., Sultan Chand & Sons, 2020. This format ensures clarity by presenting all necessary details in a systematic order.

Resolution:

- The committee resolved to adopt the format for listing prescribed textbooks as advised by Prof. K.C. Siva Kumar and Prof. M.C. Raju. The format was established as follows: Author(s) Name(s). *Textbook Title*. Edition, Publisher, Year. For example: S. C. Gupta and V. K. Kapoor. *Fundamentals of Mathematical Statistics*. 12 Ed., Sultan Chand & Sons, 2020. This format ensured clarity by presenting all necessary details in a systematic order.

1.4.2 Review and approval of the courses offered under M. A. and M.Sc. Programmes in AU24 Regulations

1.4.ENG.1: M.A.(English) Course-Structure **(Annexure-4)**

Recommendations:

- The external subject experts recommended limiting each semester to six courses (Four Core -Theory and Two Foundation Electives), with each course containing only four units.
- As the syllabus in each unit is overloaded with many subtopics, the experts also recommended to reduce the topics to only one.

Resolutions:

- All the recommendations and suggestions were accepted and approved in reducing the number of courses in each semester and reduced the number of topics in each unit to one.

1.4.2.ENG.2:

In the First Semester of the programme four core-theory courses and two foundation electives were offered.

The following are the common recommendations for the courses offered in M.A. English, I Semester: Poetry-I, Drama-I, Fiction-I, Prose, English Language and Linguistics, Classical Criticism, American Literature, Technical Communication.

Recommendations:

- It is advised to make 'English Language and Linguistics' as a Foundation Elective Course.
- The subject experts suggested to reduce the number of topics in each unit to one only.
- Prof V B Chitra advised to reconstruct the course outcomes of each course.

Resolutions:

- According to the suggestion of the subject experts, English Language and Linguistics has been added as a core theory course in the first semester of the programme.
- The committee approved the modifications and revised the course outcomes according to the guidelines.

1.4.2.ENG.3:

In the Second Semester of the programme four core-theory courses and two foundation elective courses were offered.

The following are the common recommendations for the courses offered in M.A. English, II Semester: Poetry-II, Shakespearean Studies, Fiction-II, Literary Masterpieces, New Literatures in English, Diasporic

Literatures, Post Colonial Studies, Landmarks in World Drama.

Recommendations:

- Dr M Viswanathan suggested to choose the title of 'Post Colonial Literature' instead of 'Post Colonial Study'.
- The subject experts suggested reducing the number of topics in each unit to only one.
- Prof V B Chitra advised to modify the course outcomes of each course.
- The experts also suggested following MLA Style for referred books.

Resolutions:

- According to the suggestion of the subject experts, the course title 'Post Colonial Study' is modified as 'Post Colonial Literature'.
- The committee agreed the suggestions and reduced the topics in each unit into only one in each unit.
- All recommendations regarding adherence to MLA format for reference books and the rewriting of course outcomes were approved and modified accordingly.

1.4.2.MAT.1: M. Sc. Applied Mathematics Course Structure **(Annexure-5)**

Resolutions: The course structure was reviewed and approved without any modifications.

1.4.2.MAT.2: Methods of Applied Mathematics

Recommendations:

- Prof. K.C. Siva Kumar suggested that the course objectives and outcomes needed to be rewritten using verbs in accordance with Bloom's taxonomy, as these would ultimately determine the weight of the course.
- Prof. K.C. Siva Kumar advised that uniformity should be followed in citing authors in the list of references, specifically recommending the use of only the last name.

Resolutions:

- The committee resolved that the course objectives and outcomes would be rewritten using verbs in accordance with Bloom's taxonomy, as suggested by Prof. K.C. Siva Kumar, since these would ultimately determine the weight of the course.
- the committee agreed to ensure uniformity in citing authors in the list of references, specifically by using only the last name, as advised by Prof. K.C. Siva Kumar.

1.4.2.MAT.3: Real Analysis

Resolutions: The syllabus was reviewed and approved without any modifications.

1.4.2.MAT.4

Resolutions: The syllabus was reviewed and approved without any modifications for the courses Complex Analysis, Discrete Mathematics, Ordinary Differential Equations, Viscous Flows, Numerical Methods and Boundary Value Problems.

1.4.2.MAT.5: Mathematical Modeling

Recommendations:

- Prof. K.C. Siva Kumar noted that the contents of the course on Mathematical Modelling were very sparse and indicated that much more detail needed to be provided.

Resolutions:

- The committee resolved that the contents of the course on Mathematical Modelling needed to be expanded, as Prof. K.C. Siva Kumar had noted that they were very sparse and required much more detail.

1.4.2.MAT.6

Resolutions: The syllabus was reviewed and approved without any modifications for the courses Partial Differential Equations, Measure and Integration, Mathematical Statistics, Linear Algebra, Magneto Hydro Dynamics, Advanced Complex Analysis, Nonlinear Analysis.

1.4.2.CHE.1: M. Sc. Chemistry Course structure **(Annexure-6)**

Recommendations: While reviewing the course structure of M.Sc. program Prof. K. Vijay Krishna suggested removing the course "Co-ordination compounds, Organometallic Chemistry of non-Transition elements" which is offered in the fourth semester as it seems it is having topics of other inorganic courses offered in the previous three semesters.

Resolutions: Considering the recommendation, we replaced the course with the course "Medicinal chemistry and Natural products".

1.4.2.CHE.2: Inorganic Chemistry – I

Resolutions: The syllabus was reviewed and approved without any modifications for the courses Inorganic Chemistry – I, Organic Chemistry – I, Physical Chemistry – I, General Topics in Chemistry, Pharmaceutical Quality Control and Quality assurance, Inorganic Chemistry Practicals, Organic Chemistry Practicals – I, Inorganic Chemistry – II, Organic Chemistry – II, Physical Chemistry – II.

1.4.2.CHE.3: Applied and Environmental Aspects

Recommendations: It was suggested to incorporate a related lab course in future curriculum revisions.

Resolutions: The suggestion was accepted and will be considered during the next syllabus revision for this course.

1.4.2.CHE.4: Chemistry in day-to-day life

Recommendations: Upon reviewing the syllabus of the "Chemistry in Day-to-Day Life" course, it was found that all five units were too basic. It was recommended to revise the course content with more detailed subtopics to provide a deeper understanding of the subject.

Resolutions: The recommendation was accepted, and the syllabus has been revised with the inclusion of detailed topics.

1.4.2.CHE.5

Resolutions: The syllabus was reviewed and approved without any modifications for the courses Organic Chemistry Practicals – II, Physical Chemistry Practicals.

1.4.2. PHY.1: M.Sc. Physics Course structure **(Annexure-7)**

Recommendations:

- While reviewing the course structure of M.Sc. program Prof. D. Dinakar suggested altering the courses from elective to core for the design of laboratory.
- Prof. D. Dinakar suggested to follow as prescribed and reference books in separate and follow the same pattern in all cases.

Resolutions:

- Considering the recommendation, we altered the courses with the advisable manner.
- Considering the recommendation, we modified the textbooks and reference books and followed the same pattern.
- The course structure and detailed syllabi have been attached as Annexure

1.4.2. PHY.2 (Classical Mechanics and Theory of Relativity)

Resolutions: The syllabus was reviewed and approved without any modifications for the courses Classical Mechanics and Theory of Relativity, Computational methods and C-programming, Analog and Digital Electronics, Sensors and Transducers, Mathematical Physics, Practical - I (General lab-1), CMP Lab (General lab-2), Solid State Physics, Statistical Mechanics, Physics of Semiconductor Devices, Photonics, Electromagnetic Theory, Lasers and Modern Optics, Practical - I (General lab-3), Practical - II (Electronics lab-1).

Agenda Item No. BoS/2024/H&S/1.5: Discussion and Approval of the Annamacharya University Research Admission Test - 2024 (AURAT) syllabus for the Respective Department

1.5.ENG.1: AURAT English syllabus

Recommendations: The BOS members recommended adopting the APSET syllabus for the AURAT Test conducted by the university.

Resolutions: The recommendation was accepted, and the APSET syllabus will be used for the upcoming AURAT tests conducted by the university.

1.5.MAT.1: AURAT Applied Mathematics syllabus

Recommendations: The BOS members recommended adopting the APSET syllabus for the AURAT Test conducted by the university.

Resolutions: The recommendation was accepted, and the APSET syllabus will be used for the upcoming AURAT tests conducted by the university.

1.5. CHE.1: AURAT Chemistry syllabus

Recommendations: The BOS members recommended adopting the CSIR syllabus for the AURAT Test conducted by the university.

Resolutions: The recommendation was accepted, and the CSIR syllabus will be used for the upcoming AURAT tests conducted by the university.

1.5. PHY.1: AURAT Physics syllabus

Resolutions: The syllabus was reviewed and approved without any modifications.

Agenda Item No. BoS/2024/H&S/1.6: Discussion and Approval of Course Work, including Core Subjects and Research Methodology, Research & Publication Ethics for Research Programs

i. The Credit requirement for the Ph.D. coursework is a minimum of 12 credits, including a "Research Methodology" course and a "Research and Publication Ethics" course.

ii. Subjects 1 & 2: Two courses (4 credits each) relevant to the research area. These courses, offered by the concerned school / Department or through the concerned PG program of the University, or through online certification via NPTEL/SWAYAM which must be approved by the supervisor.

iii. Subject 3 and Subject 4: Research Methodology (2 Credits) and Research & Publication Ethics (2 Credits) offered within the University or available through online certification provided by NPTEL/SWAYAM (Minimum of 8 weeks).

1st BOS meeting Video Links:

1) **Mathematics**
   https://youtu.be/W2V1q-i8T1k

2) **Physics**
   https://youtu.be/n6tg8DrR-5U

3) **Chemistry**
   https://youtu.be/9LjaHOcE3rY

4) **English**
   https://youtu.be/Ww_1w5nSKw4