SCHOOL OF SCIENCE

Name of the Degree Programme: B.Sc. Mathematics- Computer Science

Programme Outcomes/ Programme Specific Outcomes

PO1- Disciplinary Knowledge

(i) To create the facilities and environment to consolidate the knowledge acquired and to motivate and inspire the students to create deep interest in Mathematics and Computer Science.

(ii) Analyse a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.

PO2-Communication and Interpersonal Skills

(i) To develop the ability to communicate various concepts effectively using examples and their geometrical visualisation.

(ii) To master analytical reasoning which can be used for modelling and solving real life problems.

PO3- Critical thinking and Problem-solving capabilities

(i) To acquire the ability of critical thinking and logical reasoning and capability of recognizing and distinguishing the various aspects of real life problems.

(ii) To utilise the knowledge gained to develop an ability to analyse the problems, identify and define appropriate computing requirements for its solutions.

PO4- Teamwork and respect for diversity

(i) To Function effectively as a member or leader of a team engaged in activities appropriate to the disciplines computer Science and electronics.

To develop an ability of working independently and pursue higher education and/or research in interdisciplinary and multidisciplinary areas.

PO5- Information and Communication Technology (ICT) digital fluency

(i) To enable the students to think independently and develop algorithms and computational skills for solving real word problems.

(ii) To equip the learner to use appropriate softwares to solve systems of algebraic equations and differential equations.

PO6 -Self -directed Lifelong Learning

(i) To develop the capability of inquiring about appropriate questions relating to concepts in different areas of Mathematics and computer science.

(ii) To create the ability to pursue advanced studies and research in pure and applied sciences.

PO7 -Moral and Ethical Awareness/Reasoning

(i) Recognize professional responsibilities and make informed judgments in computing practice.

(ii) Exhibit an ability to identify unethical behaviour such as fabrication, falsification or misinterpretation of data and adopting objectives; unbiased and truthful actions in all aspects of life in general and their specialised subjects in particular.

PSO 1: Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements.

PSO 2: To equip with mathematical modelling ability and problem solving skill.

PO-PSO- CO MAPPING

Cognitive Levels (Blooms taxonomy)

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C– Create

COMPUTER SCIENCE **I SEMESTER**

Name of the Course: Problem Solving Techniques Using C
Name of the Subject Matter Expert: Prof. Kalpana R.

CO	Course Outcome The learner will be able to	PO and PSOs Addressed	Cognitive Level
CO1	Illustrate the flowchart and design an algorithm for a given problem and to develop C programs using operators, develop conditional and iterative statements to write C programs	PSO1,PO6	U,C
CO2	Exercise user defined functions to solve real time problems, Exercise files concept to show input and output files in c	PO5,PSO1	U,C,Ap
CO3	Inscribe C programs that use Pointers to access arrays, strings and functions.	PSO1	An,Ap
CO4	Exercise user defined data types including structures and unions to solve problems	PO3,PO5	U,Ap
CO5	Inscribe C programs using pointers and to allocate memory using dynamic memory management functions.	PO3,PSO1	R,Ap

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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COMPUTER SCIENCE **I SEMESTER**

Name of the Course: PROBLEM SOLVING TECHNIQUES USING C PRACTICAL

Name of the Subject Matter Expert: Kalpana R.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand Basic Structure of C Programming , declaration and usage of variables and be able to write basic C programs.	PO1,PO6, PSO1	U,R
CO2	Write C Program using data types, variables and pointers	PO3,PSO1	R,U,A
CO3	Exercise Conditional and Iterative statements to write C programs	PO1,PO3, PSO1	C,An
CO4	Write C programs using pointers to access arrays, strings and functions.	PO5,PSO1	C,Ap
CO5	Write C programs and allocate memory using dynamic memory management functions and user defined datatypes.	PO3,PO5, PSO1	C,An,E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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MATHEMATICS **I SEMESTER**

Name of the Course: Algebra -I and Calculus I
Name of the Course Faulty: Prof. Roshini Anne Koshy

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand, create, and identify types of matrices. Apply elementary transformations to reduce the matrix into the echelon form to determine its rank and interpret the various solutions of system of linear equations.Identify consistent and inconsistent systems of linear equations by the row reduced echelon form of the augmented matrix, using rank. Evaluate and find eigen values and eigenvectors. Apply the concept of Caley Hamilton theorem for finding the inverse of a matrix.	PO1, PO2, PO3, PO4, PO6	R, U, Ap, E,
CO2	Recall the basic concepts in differentiation and get the knowledge of p-r equation, Curvature, Radius of curvature, apply it in problems. Determine the arc length of a cartesian and polar curve. Analyse, interpret and evaluate the concept of asymptotes, evolutes, and envelopes.	PO1, PO2, PO3, PO4, PO6	R, U, An, E
CO3	Compare and contrast the ideas of continuity and differentiability. Calculate the limit and examine the continuity of a function at a point. Understand and apply the concept of various mean value theorems for differentiable functions. Identify, analyse, and evaluate limit of a function by using L 'Hospital rule and Simple basic rules.	PO1, PO2, PO3, PO4, PO6	U, Ap, E
CO4	Evaluate the nth order derivatives using successive differentiation. Apply the nth order derivatives to solve the given function.Evaluate nth derivative by applying the concept of partial fractions. Analyse and interpret how to find the product of two functions using Leibnitz's theorem.	PO1, PO2, PO3, PO4, PO6	U, An, Ap, E, C
CO5	Formulate and Sketch curves in Cartesian and polar forms.	PO1, PO2, PO3, PO4, PO6	Ap, An, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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MATHEMATICS **I SEMESTER**

Name of the Course: Algebra -I and Calculus I practical
Name of the Course Faulty: Prof. Roshini Anne Koshy

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Learn *Free and Open Source Software (FOSS)* tools for computer programming	PO3, PO6, PSO2	R,U,E, Ap,An
CO2	Solve problems related to Analytical Geometry and Vector Calculus using FOSS software.	PO3, PO6, PSO2	R,U,E,A p,An
CO3	Solve problems related to Analytical Geometry and Vector Calculus using FOSS software.	PO3, PO6, PSO2	R,U,E,A p,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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OPEN ELECTIVE **I SEMESTER**

Name of the Programme: BSC B OEC- Writing for Media
Subject matter experts: Kusuma R.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To familiarise the students with writing skills for media	PSO1, PSO2	R, U, E
CO2	To enhance the student's interest in writing for media	PSO1, PSO2	U, Ap, An, E
CO3	To equip the students with recent trends in media writing.	PSO1, PSO2,PSO 4	U, Ap, An, E
CO4	Proficiency will extend to applying storytelling techniques and journalistic principles, ensuring adaptable writing styles for various platforms while maintaining ethical standards.	PSO3,PSO2	U, Ap, An, E
CO5	Through case studies and discussions, students will explore the ethical complexities of media communication, gaining the ability to evaluate information credibility, address misinformation, and contribute to responsible media consumption.	PSO1,PSO4	R, U, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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ENGLISH **I SEMESTER**

Name of the Course Generic English
Subject matter experts: Dr. Tharini

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Acquire the LSRW (Listening, Speaking, Reading, Writing) skills and Learn to appreciate literary art.	PO2	R, U, AP
CO2	Obtain the knowledge of literary devices and genres and Acquire the skills of creativity to express one's experiences.	PO6	R, U, AP
CO3	Know how to use digital learning tools and Be aware of their social responsibilities.	PO5	R, U, An
CO4	Develop their ability as critical readers and writers and Increase their reading speed.	PO3	R, U, E
CO5	Be able to give presentations and Increase their analytical skills.	PO2	R, U, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

P. Tharini
Subject Matter Expert

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KANNADA **I SEMESTER**

Name of the Course: Vijnana Kannada
Name of the Subject Matter Expert: Dr.Shantharaju & Prof. Kittappa

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	ಒಂದನೇ ಘಟಕದಲ್ಲಿ ನಾಡು ನುಡಿ ಚಿಂತನೆ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಕರ್ನಾಟಕದ ಇತಿಹಾಸ ಮತ್ತು ಏಕೀಕರಣ ಆಡು ಭಾಷೆ ಮತ್ತು ಗ್ರಾಂಥಿಕ ಭಾಷೆಯ ಅಂತರ ಮತ್ತು ಮಹತ್ವ ತಜ್ಞರು ಉದ್ಯಮ ಮತ್ತು ಉದ್ಯೋಗದ ವಿಷಯದಲ್ಲಿ ಕನ್ನಡ ಭಾಷೆಗೆ ಕೊಡಬೇಕಾದ ಸ್ಥಾನಮಾನದ ಬಗ್ಗೆ ಅರಿಯುವುದು.	PO1, PO3	U, An
CO2	ಎರಡನೇ ಘಟಕದಲ್ಲಿ ಭೂಮಿ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಜಾನಪದ ಮತ್ತು ಶಿಷ್ಟ ಪದದ ಪರಿಕಲ್ಪನೆ, ರಾಜನಾದ ಮನುಷ್ಯನ ಒಳಗಿರುವ ಆಸ್ತಿ ಮತ್ತು ಅಧಿಕಾರದ ಹಂಬಲ, ಭೂಮಿಯ ಮೇಲಿನ ಒಡೆತನ ಮತ್ತು ಹಕ್ಕು ಸಾಧಿಸುವ ಬಯಕೆ ಮನುಷ್ಯನಿಗೆ ಹೊಸದೇನಲ್ಲ ಎಂಬುದನ್ನು ತಿಳಿಯುವುದು.	PO2, PO6	U, Ap
CO3	ಮೂರನೆಯ ಘಟಕದಲ್ಲಿ ವೈಜ್ಞಾನಿಕ ಮನೋಧರ್ಮ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಹನ್ನೆರಡನೆಯ ಶತಮಾನದ ವಚನ ಚಳುವಳಿಯನ್ನು ಕರ್ನಾಟಕದ ಸಾಂಸ್ಕೃತಿಕ ಚರಿತ್ರೆಯಲ್ಲಿ ಒಂದು ಅಭೂತಪೂರ್ವ ಕಾಲ ಎನ್ನಬಹುದು? ವಿಜ್ಞಾನದ ಮಹತ್ವ ಮತ್ತು ಅಂಧ ಶ್ರದ್ಧೆಯ ಬಗ್ಗೆ ಅರಿಯುವುದು. ಮೂಢನಂಬಿಕೆಗಳ ಬಗ್ಗೆ ಅರಿವು ಮೂಡಿಸುವುದು	PO6, PO7	U, Ap, An,
CO4	ನಾಲ್ಕನೆಯ ಘಟಕದಲ್ಲಿ ಸಂಕೀರ್ಣ ಲೇಖನಗಳು ಎಂಬ ಲೇಖನಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ವಿಜ್ಞಾನದ ಸಾಧನೆಗಳ ಬಗ್ಗೆ ತಿಳಿಯುವುದು? ಪ್ರಕೃತಿ ಮತ್ತು ಪರಿಸರದ ಮಹತ್ವವನ್ನು ಅರಿಯುವುದು. ಕೃಷಿ ಮತ್ತು ಸಾಹಿತ್ಯಿಕ ಮಹತ್ವವನ್ನು ತಿಳಿಯುವುದು	PO6, PO7	U, Ap, An
CO5	ಈ ಭಾಗದಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳು ವ್ಯಾಕರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಪಾರಿಭಾಷಿಕ ಪದಗಳ ಪರಿಚಯ, ವಿಶೇಷ ಪದಗಳ ಅರ್ಥ ಗ್ರಹಿಕೆ, ವಾಕ್ಯ ಜೋಡಣೆ ಮುಂತಾದ ಕೌಶಲ್ಯಗಳನ್ನು ಬೆಳೆಸಿಕೊಳ್ಳುವುದರ ಜೊತೆಗೆ ಮಾಹಿತಿ ಹಕ್ಕು ಅಧಿನಿಯಮಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಅರ್ಜಿ ಬರೆಯುವ ಕೌಶಲ್ಯಗಳನ್ನು ಅರ್ಥೈಸಿಕೊಳ್ಳುತ್ತಾರೆ	PO6, PO5	Ap, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert **HoD**

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HINDI **I SEMESTER**

Name of the Course: I SEM BSC HINDI
Name of the Subject Matter Expert: Madhuri Kshirsagar

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Students will be familiar with different genres of hindi prose.	PO 1, 2, 3, 6, 7	R, U, Ap,
CO2	The study of prose will generate interest in creative writing.	PO 2,3,6	Ap, C
CO3	Students will develop their language skills.	PO 1,2,6	U, Ap
CO4	Students can gain Reading, writing, Oratory skills.	PO 2,6	U, Ap
CO5	Students can acquire the knowledge of Hindi grammar and utilize it in day-to-day life.	PO 1,2,6	R, U, Ap

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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ABILITY ENHANCEMENT COMPULSORY COURSE **I SEMESTER**

Name of the Programme: Environmental Studies
Subject matter experts: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Bring about an awareness of a variety of environmental concerns.	PO4	R,U
CO2	Understand the concepts of ecosystem, natural resources, biodiversity as well as to discuss the factors impacting biodiversity loss and ecosystem degradation.	PO6, PO7	U, Ap
CO3	Develop an understanding of pollution and sensitize to adverse health impacts of pollution.	PO6, PO7	U. An
CO4	Learn about major international institutions and programmes and the role played by them in the protection and preservation of the environment.	PO6, PO7	R,U
CO5	Create a pro-environmental attitude and a behavioral pattern in society that is based on creating sustainable lifestyles.	PO7	E, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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COMPUTER SCIENCE **III SEMESTER**

Name of the Course: Object Oriented Programming Using Java
Name of the Subject Matter Expert: Dr. S. Sivagami

CO	Course Outcome The learner will be able to	PO and PSOs Addressed	Cognitive Level
CO1	Identify Java language components and how they work together in applications.	PO1	U,An
CO2	Design and program stand-alone Java applications.	PO5	C
CO3	Learn how to design a graphical user interface (GUI) with Java Swing.	PO5	C
CO4	Understand how to use Java APIs for program development.	PSO1	U & C
CO5	Develop an API application for real life application.	PO5	C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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Subject Matter Expert **HOD**

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COMPUTER SCIENCE **III SEMESTER**

Name of the Course: Object Oriented Programming Using Java Lab
Name of the Subject Matter Expert: Dr. S. Sivagami

CO	Course Outcome The learner will be able to	PO and PSOs Addressed	Cognitive Level
CO1	Identify Java language components and how they work together in applications.	PO1	U,An
CO2	Design and program stand-alone Java applications.	PO5	C
CO3	Learn how to design a graphical user interface (GUI) with Java Swing.	PO5	C
CO4	Understand how to use Java APIs for program development.	PSO1	U & C
CO5	Develop an API application for real life application.	PO5	C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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Subject Matter Expert

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MATHEMATICS **III SEMESTER**

Name of the Course: : Ordinary Differential Equations & Real Analysis-I
Name of the Course Faulty: Prof. Rashmi N

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Solve first-order non-linear differential equations and linear differential equations. To model problems in nature using Ordinary Differential Equations.	PO1, PO2, PO3,PO4,PO6	E,C
CO2	Formulate differential equations for various mathematical models. Apply these techniques to solve and analyse various mathematical models	PO1, PO2, PO3,PO4,PO6	Ap, An, C
CO3	Understand the fundamental properties of the real numbers that lead to define sequence and series, the formal development of real analysis.	PO1, PO2, PO3,PO4,PO6	R, U
CO4	Learn the concept of Convergence and Divergence of a sequence. Able to handle and understand limits and their use in sequences, series, differentiation, and integration.	PO1, PO2, PO3,PO4,PO6	U, R, E
CO5	Apply the ratio, root, alternating series, and limit comparison tests for convergence and absolute convergence of an infinite series.	PO1, PO2, PO3,PO4,PO6	Ap

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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MATHEMATICS **III SEMESTER**

Name of the Course: : Ordinary Differential Equations & Real Analysis-I Practical
Name of the Course Faulty: Prof. Rashmi N

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Free and Open Source software (FOSS) tools or computer programming.Solving exact differential equations.	PO3, PO6, PSO2	R,U,E, Ap,An
CO2	Plotting orthogonal trajectories.	PO4, PO3,	R,U,E,Ap ,An
CO3	Finding complementary function and particular integral of linear and homogeneous differential equations.	PO3, PO6	R,U,E,Ap ,An
CO4	Acquire knowledge of applications of real analysis and differential equations.	PO3, PO6,, PSO2	An, Ap, C
CO5	Verification of convergence/divergence of different types of series.	PO3, PO6	An, Ap, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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OPEN ELECTIVE **III SEMESTER**

Name of the Course: BSc B- Entrepreneurship Skills
Name of the Course Faulty: Dr. N.K. Chitra, Department of Commerce

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	CO1- Identify the Factors that influence Entrepreneurship.	PO2, PO3	U, Ap
CO2	CO2-Understand the Skill Sets required for Entrepreneur	PO2, PO4,	Ap, U,An, E
CO3	CO3-Identify the opportunities for developing Entrepreneurship skills through National and State Level Institutions.	PO2, PO3	R, U, An
CO4	CO4-Role played by MSME in the development of Indian Economy.	PO2, PO4,	R, U, An
CO5	CO5-Identify the different Government Schemes available for promoting Entrepreneurs in India.	PO3, PO4	U,An, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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ENGLISH **III SEMESTER**

Name of the Programme: BSc - Generic English

Subject matter experts: Anusha C V

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Acquire the LSRW (Listening, Speaking, Reading, Writing) skills	PO1, PO2	U, A, C
CO2	Analyze and interpret a wide range of literary texts, including poetry, prose and drama.	PO3 PO6,	R, U, Ap, An
CO3	Develop critical thinking and analytical skills to evaluate literary works.	PO1, PO3	U, A, C
CO4	Apply research and critical writing skills to explore contemporary issues related to English Literature.	PO3, PO7	R, U, Ap, An
CO5	Develop a passion for reading and a lifelong appreciation for the richness of English.	PO2, PO5	U, A, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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KANNADA **III SEMESTER**

Name of the Course: Vijnana Kannada - 3
Name of the Subject Matter Expert: Dr. Shantharaju, Prof. Kumara C

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮಾನವೀಯತೆಯ ಸ್ವರೂಪವನ್ನು ಕುರಿತು ಆಲೋಚಿಸುವಂತೆ ಮಾಡುತ್ತದೆ. ಜಗತ್ತಿನೆಲ್ಲೆಡೆ ನಡೆಯುತ್ತಿರುವ ಅಮಾನವೀಯ ವಿದ್ಯಮಾನಗಳು, ಆಧುನಿಕತೆ, ನಾಗರೀಕತೆ, ಅಭಿವೃದ್ಧಿಯ ಬಗೆಗಿನ ನಮ್ಮ ತಿಳುವಳಿಕೆಯನ್ನೇ ತಿರುವು ಮುರುವಾಗಿಸುತ್ತವೆ. ಇಂತಹ ಸಂದರ್ಭದಲ್ಲಿ ಈ ಪಠ್ಯವು ಮನುಷ್ಯರ ಸಂವೇದನೆಗಳಲ್ಲಿ ಉಂಟಾಗಬೇಕಾದ ಬದಲಾವಣೆಯನ್ನು ತಿಳಿಸುವುದರ ಜೊತೆಗೆ ಸ್ವಕೇಂದ್ರಿತ ಆಲೋಚನೆಗಳ ಆಪಾಯವನ್ನೂ ತಿಳಿಸುತ್ತದೆ.	PO1	U, An
CO2	ಪ್ರವಾಸದ ಬಹುಮುಖಿ ಅನುಭವಗಳನ್ನು ಕಥನಗಳ ಮೂಲಕ ಓದುಗರೊಂದಿಗೆ ಹಂಚಿಕೊಳ್ಳುವ ಕೆಲಸ ವಿಶೇಷವಾದುದು. ಆ ಭಿನ್ನ ಸಾಂಸ್ಕೃತಿಕ ನಕಾಶೆಯನ್ನು ಎಲ್ಲಡೆ ಹರಡುವ, ಆ ಮೂಲಕ ರಾಜ್ಯ, ರಾಷ್ಟ್ರ, ಜ್ಞಾನ, ತಿಳುವಳಿಕೆ, ಅನುಭವ - ಹೀಗೆ ಎಲ್ಲದರ ಗಡಿಗಳನ್ನೂ ಅಳಿಸಿಹಾಕುವ ಒಂದು ಸೃಜನಶೀಲ ಸಾಂಸ್ಕೃತಿಕ ಚಲನೆಯಾದ ಪ್ರವಾಸದ ಅನುಭವಗಳು ಈ ಘಟಕದಲ್ಲಿ ಕಾಣಸಿಗುತ್ತವೆ.	PO2, PO6	U, Up
CO3	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳ ಮನಸ್ಸುಗಳಲ್ಲಿ ವಿಚಾರ ಕ್ರಾಂತಿಯ ಬೀಜವನ್ನು ಬಿತ್ತುವ ಉದ್ದೇಶವನ್ನು ಇಟ್ಟುಕೊಂಡಿದೆ. ವೈಚಾರಿಕ ಪ್ರಜ್ಞೆಯನ್ನು ವಿಕಾಸವಾಗಿಸುವುದಕ್ಕೆ ಪೂರಕವಾದ ಸಮಾಜವನ್ನು ಕಟ್ಟಿದ್ದು, ಆಧುನಿಕ ಕಾಲದ ಬಹಳ ದೊಡ್ಡ ಕಾಣಿಕೆ. ಇಂತಹ ವೈಚಾರಿಕ ಮತ್ತು ವೈಜ್ಞಾನಿಕ ಮನೋಭಾವನೆಯನ್ನು ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಬೆಳೆಸುವುದು ಈ ಘಟಕದ ಮುಖ್ಯ ಧ್ಯೇಯವಾಗಿದೆ.	PO6, PO7	U, Ap, An,
CO4	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಪರಿಸರದ ಬಗ್ಗೆ ಅರಿವು ಮೂಡಿಸುವುದರೊಂದಿಗೆ ಪರಿಸರ ಪ್ರಜ್ಞೆ ಹಾಗೂ ಪರಿಸರ ಸಂರಕ್ಷಣೆಯ ಮಹತ್ವದ ಅನಿವಾರ್ಯತೆಗಳನ್ನು ಹೇಳುತ್ತಾ ಪರಿಸರ ಸಂರಕ್ಷಣೆಯಲ್ಲಿ ದೇಶದ ಪ್ರಜೆಯಾಗಿ ನಮ್ಮ ಕರ್ತವ್ಯಗಳನ್ನು ಎಂಬುದನ್ನು ಸ್ಪಷ್ಟಪಡಿಸುತ್ತದೆ ಜೊತೆಗೆ ಪತ್ರ ವ್ಯವಹಾರದ ಅನುಭವಗಳನ್ನು ಕಟ್ಟಿಕೊಡುತ್ತದೆ.	PO6, PO7	U, Ap, An
CO5	ಈ ಭಾಗದಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳು ವ್ಯಾಕರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಪಾರಿಭಾಷಿಕ ಪದಗಳ ಪರಿಚಯ, ವಿಶೇಷ ಪದಗಳ ಅರ್ಥ ಗ್ರಹಿಕೆ, ವಾಕ್ಯ ಜೋಡಣೆ ಮುಂತಾದ ಕೌಶಲ್ಯಗಳನ್ನು ಬೆಳೆಸಿಕೊಳ್ಳುವುದರ ಜೊತೆಗೆ ಮಾಹಿತಿ ಹಕ್ಕು ಅಧಿನಿಯಮಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಅರ್ಜಿ ಬರೆಯುವ ಕೌಶಲ್ಯಗಳನ್ನು ಅರ್ಥೈಸಿಕೊಳ್ಳುತ್ತಾರೆ.	PO6, PO5	Ap, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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HINDI **III SEMESTER**

Name of the Course: Hindi
Name of the Subject Matter Expert: Prof. Devidas Tukaram

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Students will get knowledge of drama literature and develop their language skills.	PO 1, PO2	R,U.Ap
CO2	Students can acquire the knowledge of Hindi grammar and utilize it in day-to-day life.	PO1,2,6	R,U,Ap
CO3	Students can gain Reading, Writing and Oratory skills.	PO 2,6	R,U,Ap
CO4	Students understand the themes, plot and characterization of the drama- Ek aur Dronacharya.	PO1,2,3	AP, An, E
CO5	Students learn about human values and emotions like empathy, honesty, truthfulness and humanity etc.	PO 3,6,7	AP, An, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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AECC **III SEMESTER**

Name of the Course: India and Indian Constitution

Subject matter experts: Prof. Sampath Kumar

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Explain the philosophy and structure of Constitution	PO4, PO7	U
CO2	Contextualise the depth of India as a nation with its diverse socio-political culture and philosophical values	PO4, PO6	U, AN
CO3	Give the knowledge to expand the breadth of freedom struggle and its significance in nation building	PO4, PO6	An, E
CO4	Measure the powers, functions and limitations of various offices under the constitution.	PO4, PO6	Ap,
CO5	Demonstrate the values, ideals and the role constitution in India	PO4, PO6	An, E

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COMPUTER SCIENCE **V SEMESTER**

Name of the Course: DBMS

Name of the Subject Matter Expert: Saranya C

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Basic concepts and the applications of database systems.to have broad understanding of the three level architecture of DBMS. Database System Environment, Classification of Database Management Systems.	PO1, PO3	U,AP
CO2	Identify the basic concepts and various data models used in database design. Design ER-models to represent simple database application scenarios. Explain the basic concepts of relational data model.	PSO 1, PO3, PO6	U, E,AP
CO3	Apply relational database theory. To be able to describe relational algebra expression, tuple and domain relational expression for queries. Recognize and identify the use of normalisation and functional dependency.	PSO 1, PO3,PO4	U, E,AP
CO4	To formulate SQL queries on data using basic DDL, DML and DCL commands.	PO3, PO4	U,AP
CO5	Understand the Transaction Processing, Properties, Concurrency control, Recovery.	PO5, PO6	U, E,AP

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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COMPUTER SCIENCE **V SEMESTER**

Name of the Course: DBMS Lab

Name of the Subject Matter Expert: Saranya C

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To draw an E-R Diagram and converting the entities and relationship	PO1	U,An
CO2	Performing the database creation, viewing, updating and deleting	PO5	C
CO3	Learning the queries to design a database.	PO5	C
CO4	Understand how to execute the queries in a given set of relations .	PSO1	U & C
CO5	Developing the creation of views, selecting and dropping views.	PO5	C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

C. Saranya 8/1/24

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COMPUTER SCIENCE **V SEMESTER**

Name of the Course: Artificial Intelligence

Name of the Subject Matter Expert: Prof. Thejaswi Nandyala

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the various characteristics of problem solving agents and apply problem solving through search for AI applications.	PO1,PO2, PO3	R,U
CO2	Appreciate the concepts of knowledge representation using Propositional logic and Predicate calculus and apply them for inference/reasoning.	PO1,PO2	R,U,AP
CO3	Obtain insights about Planning and handling uncertainty through probabilistic reasoning and fuzzy systems.	PO1,PO2, PO3	R,U
CO4	Understand basics of computer vision and Natural Language Processing and understand their relevance in AI applications.	PO1	R,U
CO5	Obtain insights about machine learning, neural networks, deep learning networks and their significance.	PO1,PO2	R,U

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Name of the Course: Artificial Intelligence Lab

Subject matter expert: Thejaswi Nandyala

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Solve search problems including heuristic search and constraint satisfaction search	PO1, PO2	R, U
CO2	Understand and apply image processing techniques for image enhancement, image detection and recognition.	PO1, PO2, PO3	R, U, Ap
CO3	Understand and implement supervised machine learning and probabilistic machine learning algorithms	PO1, PO2, PO3	U, An
CO 4	Implement unsupervised learning through clustering	PO1, PO3, PO4	R, U, Ap, E
CO 5	Perform NLP operations to gain understanding of text processing and analytics	PO1, PO2, PO3	R, U, An

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MATHEMATICS **V SEMESTER**

Name of the Course: Vector Calculus & Analytical Geometry

Name of the Subject Matter Expert: Prof. Rashmi N

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Get introduced to the fundamentals of vector differential and integral calculus.	PO1, PO2, PO3,PO4,PO6	R, U
CO2	Get familiar with the various differential operators and their properties.	PO1, PO2, PO3,PO4,PO6	R, An, C
CO3	Get acquainted with the various techniques of vector integration.	PO1, PO2, PO3,PO4,PO6	U, Ap, C
CO4	Learn the applications of vector calculus.	PO1, PO2, PO3,PO4,PO6	U, R, An, C
CO5	Recollect the fundamentals of Analytical Geometry and interpret the geometrical aspects of planes and lines in 3D.	PO1, PO2, PO3,PO4,PO6	R, An, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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MATHEMATICS **V SEMESTER**

Name of the Course: Vector Calculus & Analytical Geometry Practical

Name of the Subject Matter Expert: Prof. Rashmi N

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Learn *Free and Open Source Software (FOSS)* tools for computer programming	PO3, PO6, PSO2	R,U,E, Ap,An
CO2	Solve problems related to Analytical Geometry and Vector Calculus using FOSS software.	PO3, PO6, PSO2	R,U,E,A p,An
CO3	Solve problems related to Analytical Geometry and Vector Calculus using FOSS software.	PO3, PO6, PSO2	R,U,E,A p,An

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MATHEMATICS **V SEMESTER**

Name of the Course: Real Analysis-II and Complex Analysis

Name of the Subject Matter Expert: Roshini Anne Koshy

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand Riemann integrals their properties and describe various criteria for integrability of functions.	PO1, PO2, PO3, PO4, PO6	R, U, Ap, E,
CO2	Have an overview of the gamma and beta functions and their relation to a variety of integrals	PO1, PO2, PO3, PO4, PO6	R, U, An, E
CO3	Comprehend the fundamental concepts of analytic functions, including the Cauchy-Riemann equations and orthogonal systems	PO1, PO2, PO3, PO4, PO6	U, Ap, E
CO4	Analyze the proof of Cauchy's Integral theorem using Green's theorem and understand its implications	PO1, PO2, PO3, PO4, PO6	U, An, Ap, E, C
CO5	Analyze elementary transformations such as translation, rotation, magnification, and inversion.	PO1, PO2, PO3, PO4, PO6	Ap, An, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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MATHEMATICS **V SEMESTER**

Name of the Course: Real Analysis-II and Complex Analysis Practical

Name of the Subject Matter Expert: Roshini Anne Koshy

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Carry out certain computations such as computing upper and lower Riemann sums as well integrals	PO2, PO3, PO4, PO6	R,U,E, Ap,An
CO2	Exhibit certain properties of mathematical objects such as integrable functions, analytic functions, harmonic functions and so on.	PO2, PO3, PO4, PO6	R,U,E,Ap, An
CO3	Describe various criteria for Integrability of functions.	PO2, PO3, PO4, PO6	R,U,E,Ap, An
CO4	Carry out the existing algorithms to construct mathematical structures such as analytic functions	PO3, PO4, PO6, PSO2	R,U,E,Ap, An
C05	Prove some statements related to Riemann integration as well as in complex analysis	PSO -4,3,2,6	R,U,E,Ap, An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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SKILL ENHANCEMENT COURSE (SEC) **V SEMESTER**

Name of the Course: Cyber Security
Subject matter expert: Dr. S.Sivagami

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand cyber crimes, their nature, legal remedies.	PO1,PO2	U,R
CO2	Understand how to report the crimes through available platforms and procedures.	PO1,PO2,	U,R
CO3	Recognize various privacy and security concerns on Social media and e-commerce platforms.	PO3	U,R
CO4	Use basic tools and technologies to protect their devices.	PO4,PSO1	U,R,E,An
CO5	Understand the digital environment and issues in it.	PO1,PO2	U,R

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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PRINCIPAL
St. Francis de Sales College
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SCHOOL OF SCIENCE

Name of the Degree Programme: B.Sc. Computer Science- Electronics

Programme Outcomes/ Programme Specific Outcomes

PO1- Disciplinary Knowledge

(i) To create the facilities and environment to consolidate the knowledge acquired and to motivate and inspire the students to create deep interest in Electronics and Computer Science.

(ii) Analyse a complex computing problem and to apply principles of computing and electronics to identify solutions.

PO2-Communication and Interpersonal Skills

(i) To develop the ability to communicate various concepts effectively using examples.

(ii) To master analytical reasoning which can be used for modelling and solving real life problems.

PO3- Critical thinking and Problem-solving capabilities

(i) To acquire the ability of critical thinking and logical reasoning and capability of recognizing and distinguishing the various aspects of real life problems.

(ii) To utilise the knowledge for problem solving in various fields of electronics and computer science.

PO4- Teamwork and respect for diversity

(i) To Function effectively as a member or leader of a team engaged in activities appropriate to the disciplines computer Science and electronics.

To develop an ability of working independently and pursue higher education and/or research in interdisciplinary and multidisciplinary areas.

PO5- Information and Communication Technology (ICT) digital fluency

(i) To enable the students to think independently and develop algorithms and computational skills for solving real word problems.

(ii) To equip the learner to use appropriate softwares for or problem solving in various fields of electronics/computer science.

PO6 -Self -directed Lifelong Learning

(i) To acquire experimental skills, analyse the results, interpret data and use modern tools/techniques.

(ii) To create the ability to pursue advanced studies and research in pure and applied sciences or turn as entrepreneurs.

PO7 -Moral and Ethical Awareness/Reasoning

(i) Recognize professional responsibilities and make informed judgments in computing practice.

(ii) Exhibit an ability to identify unethical behaviour such as fabrication, falsification or misinterpretation of data and adopting objectives; unbiased and truthful actions in all aspects of life in general and their specialised subjects in particular.

PSO 1: Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements.

PSO 2: To formulate and implement solutions to problems related to disciplines and subdisciplines of electronics and computer science

PO-PSO- CO MAPPING

Cognitive Levels (Blooms taxonomy)

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C– Create

COMPUTER SCIENCE **I SEMESTER**

Name of the Course: Problem Solving Techniques Using C
Name of the Subject Matter Expert: Prof. Kalpana R.

CO	*Course Outcome* *The learner will be able to*	*PO and PSOs Addressed*	*Cognitive Level*
CO1	Illustrate the flowchart and design an algorithm for a given problem and to develop C programs using operators, develop conditional and iterative statements to write C programs	PSO1,PO6	U,C
CO2	Exercise user defined functions to solve real time problems, Exercise files concept to show input and output files in c	PO5,PSO1	U,C,Ap
CO3	Inscribe C programs that use Pointers to access arrays, strings and functions.	PSO1	An,Ap
CO4	Exercise user defined data types including structures and unions to solve problems	PO3,PO5	U,Ap
CO5	Inscribe C programs using pointers and to allocate memory using dynamic memory management functions.	PO3,PSO1	R,Ap

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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COMPUTER SCIENCE **I SEMESTER**

Name of the Course: Problem Solving Techniques Using C Practical

Name of the Subject Matter Expert: Prof. Kalpana R.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand Basic Structure of C Programming , declaration and usage of variables and be able to write basic C programs.	PO1,PO6, PSO1	U,R
CO2	Write C Program using data types, variables and pointers	PO3,PSO1	R,U,A
CO3	Exercise Conditional and Iterative statements to write C programs	PO1,PO3, PSO1	C,An
CO4	Write C programs using pointers to access arrays, strings and functions.	PO5,PSO1	C,Ap
CO5	Write C programs and allocate memory using dynamic memory management functions and user defined datatypes.	PO3,PO5, PSO1	C,An,E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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ELECTRONICS **I SEMESTER**

Name of the Course: Electronic Devices and Circuits
Name of the Course Faulty: Prof. Maya Mathew

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To understand the basics of Analog Electronics and Digital Electronics	PO1, PS01 PSO2	U, R
CO2	To analyse the basic analog and digital Electronics Circuits	PO3, PS01 PSO2	U, An
CO3	Capability to understand the working principles of the electronic devices and their applications	PO3, PO4 , PS01 PSO 2	U, An, E
CO4	To acquire experimental skills, analysing the results and interpret data.	PO3, PO5	An, Ap, E
CO5	To design / develop / manage / operation and maintenance of s ophisticated electronic gadgets / systems / processes that conforms to a given specification within ethical and economic constraints.	PO4, PO5, PO6, PO7, PSO1, PSO2	Ap. E, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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ELECTRONICS **I SEMESTER**

Name of the Course: Electronic Devices and Circuits Practical
Name of the Course Faulty: Prof. Maya Mathew

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	CO1- To construct and study the analog electronics circuits	PO3, PS01 PSO2	U
CO2	CO1- To construct and study the digital Electronics Circuits	PO3, PS01 PSO2	U
CO3	CO 3 - To analyse the analog and digital Electronics circuits	PO3, PO4 , PS01 PSO 2	An, Ap, E
CO4	CO4 -To acquire experimental skills, analysing the results and interpret data.	PO3, PO5	An, Ap, E
CO5	C05 - To design / develop / manage / operation and maintenance of s ophisticated electronic gadgets / systems / processes that conforms to a given specification within ethical and economic constraints.	PO4, PO5, PO6, PO7, PSO1, PSO2	Ap. E, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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OPEN ELECTIVE **I SEMESTER**

Name of the Programme: BSC B OEC- Writing for Media
Subject matter experts: Prof. Kusuma R.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To familiarise the students with writing skills for media	PSO1, PSO2	R, U, E
CO2	To enhance the student's interest in writing for media	PSO1, PSO2	U, Ap, An, E
CO3	To equip the students with recent trends in media writing.	PSO1, PSO2, PSO 4	U, Ap, An, E
CO4	Proficiency will extend to applying storytelling techniques and journalistic principles, ensuring adaptable writing styles for various platforms while maintaining ethical standards.	PSO3,PSO2	U, Ap, An, E
CO5	Through case studies and discussions, students will explore the ethical complexities of media communication, gaining the ability to evaluate information credibility, address misinformation, and contribute to responsible media consumption.	PSO1,PSO4	R, U, E

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ENGLISH **I SEMESTER**

Name of the Course Generic English
Subject matter experts: Dr. Tharini

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Acquire the LSRW (Listening, Speaking, Reading, Writing) skills and Learn to appreciate literary art.	PO2	R, U, AP
CO2	Obtain the knowledge of literary devices and genres and Acquire the skills of creativity to express one's experiences.	PO6	R, U, AP
CO3	Know how to use digital learning tools and Be aware of their social responsibilities.	PO5	R, U, An
CO4	Develop their ability as critical readers and writers and Increase their reading speed.	PO3	R, U, E
CO5	Be able to give presentations and Increase their analytical skills.	PO2	R, U, C

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KANNADA **I SEMESTER**

Name of the Course: Vijnana Kannada
Name of the Subject Matter Expert: Dr.Prakasha, Prof. Kumara C.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	ಒಂದನೇ ಘಟಕದಲ್ಲಿ ನಾಡು ನುಡಿ ಚಿಂತನೆ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಕರ್ನಾಟಕದ ಇತಿಹಾಸ ಮತ್ತು ಏಕೀಕರಣ ಆಡು ಭಾಷೆ ಮತ್ತು ಗ್ರಾಂಥಿಕ ಭಾಷೆಯ ಅಂತರ ಮತ್ತು ಮಹತ್ವ ತಜ್ಞರು ಉದ್ಯಮ ಮತ್ತು ಉದ್ಯೋಗದ ವಿಷಯದಲ್ಲಿ ಕನ್ನಡ ಭಾಷೆಗೆ ಕೊಡಬೇಕಾದ ಸ್ಥಾನಮಾನದ ಬಗ್ಗೆ ಅರಿಯುವುದು.	**PO1, PO3**	**U, An**
CO2	ಎರಡನೇ ಘಟಕದಲ್ಲಿ ಭೂಮಿ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಜಾನಪದ ಮತ್ತು ಶಿಷ್ಟ ಪದದ ಪರಿಕಲ್ಪನೆ, ರಾಜನಾದ ಮನುಷ್ಯನ ಒಳಗಿರುವ ಆಸ್ತಿ ಮತ್ತು ಅಧಿಕಾರದ ಹಂಬಲ, ಭೂಮಿಯ ಮೇಲಿನ ಒಡೆತನ ಮತ್ತು ಹಕ್ಕು ಸಾಧಿಸುವ ಬಯಕೆ ಮನುಷ್ಯನಿಗೆ ಹೊಸದೇನಲ್ಲ ಎಂಬುದನ್ನು ತಿಳಿಯುವುದು.	**PO2, PO6**	**U, Up**
CO3	ಮೂರನೆಯ ಘಟಕದಲ್ಲಿ ವೈಜ್ಞಾನಿಕ ಮನೋಧರ್ಮ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಹನ್ನೆರಡನೆಯ ಶತಮಾನದ ವಚನ ಚಳುವಳಿಯನ್ನು ಕರ್ನಾಟಕದ ಸಾಂಸ್ಕೃತಿಕ ಚರಿತ್ರೆಯಲ್ಲಿ ಒಂದು ಅಭೂತಪೂರ್ವ ಕಾಲ ಎನ್ನಬಹುದು? ವಿಜ್ಞಾನದ ಮಹತ್ವ ಮತ್ತು ಅಂಧ ಶ್ರದ್ಧೆಯ ಬಗ್ಗೆ ಅರಿಯುವುದು. ಮೂಢನಂಬಿಕೆಗಳ ಬಗ್ಗೆ ಅರಿವು ಮೂಡಿಸುವುದು	PO6, PO7	U, Ap, An,
CO4	ನಾಲ್ಕನೆಯ ಘಟಕದಲ್ಲಿ ಸಂಕೀರ್ಣ ಲೇಖನಗಳು ಎಂಬ ಲೇಖನಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ವಿಜ್ಞಾನದ ಸಾಧನೆಗಳ ಬಗ್ಗೆ ತಿಳಿಯುವುದು? ಪ್ರಕೃತಿ ಮತ್ತು ಪರಿಸರದ ಮಹತ್ವವನ್ನು ಅರಿಯುವುದು. ಕೃಷಿ ಮತ್ತು ಸಾಹಿತ್ಯಿಕ ಮಹತ್ವವನ್ನು ತಿಳಿಯುವುದು	**PO6, PO7**	**U, Ap, An**
CO5	ಈ ಭಾಗದಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳು ವ್ಯಾಕರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಪಾರಿಭಾಷಿಕ ಪದಗಳ ಪರಿಚಯ, ವಿಶೇಷ ಪದಗಳ ಅರ್ಥ ಗ್ರಹಿಕೆ, ವಾಕ್ಯ ಜೋಡಣೆ ಮುಂತಾದ ಕೌಶಲ್ಯಗಳನ್ನು ಬೆಳೆಸಿಕೊಳ್ಳುವುದರ ಜೊತೆಗೆ ಮಾಹಿತಿ ಹಕ್ಕು ಅಧಿನಿಯಮಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಅರ್ಜಿ ಬರೆಯುವ ಕೌಶಲ್ಯಗಳನ್ನು ಅರ್ಥೈಸಿಕೊಳ್ಳುತ್ತಾರೆ	**PO6, PO5**	**Ap, E**

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HINDI **I SEMESTER**

Name of the Course: I SEM BSC HINDI
Name of the Subject Matter Expert: Prof. Madhuri Kshirsagar

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Students will be familiar with different genres of hindi prose.	PO 2, PO3, PO6 PO7	R, U, Ap,
CO2	The study of prose will generate interest in creative writing.	PO 2,PO3, PO6	Ap, C
CO3	Students will develop their language skills.	PO2, PO6	U, Ap
CO4	Students can gain Reading, writing, Oratory skills.	PO 2, PO6	U, Ap
CO5	Students can acquire the knowledge of Hindi grammar and utilise it in day-to-day life.	PO 1,PO2, PO6	R, U, Ap

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ABILITY ENHANCEMENT COMPULSORY COURSE **I SEMESTER**

Name of the Programme: Environmental Studies
Subject matter experts: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Bring about an awareness of a variety of environmental concerns.	PO4	R,U
CO2	Understand the concepts of ecosystem, natural resources, biodiversity as well as to discuss the factors impacting biodiversity loss and ecosystem degradation.	PO6, PO7	U, Ap
CO3	Develop an understanding of pollution and sensitize to adverse health impacts of pollution.	PO6, PO7	U. An
CO4	Learn about major international institutions and programmes and the role played by them in the protection and preservation of the environment.	PO6, PO7	R,U
CO5	Create a pro-environmental attitude and a behavioral pattern in society that is based on creating sustainable lifestyles.	PO7	E, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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COMPUTER SCIENCE **III SEMESTER**

Name of the Course: Object Oriented Programming Using Java
Name of the Subject Matter Expert: Prof. K. Ashtalaskshmi

CO	Course Outcome The learner will be able to	PO and PSOs Addressed	Cognitive Level
CO1	Identify Java language components and how they work together in applications.	PO1	U,An
CO2	Design and program stand-alone Java applications.	PO5	C
CO3	Learn how to design a graphical user interface (GUI) with Java Swing.	PO5	C
CO4	Understand how to use Java APIs for program development.	PSO1	U & C
CO5	Develop an API application for real life application.	PO5	C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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COMPUTER SCIENCE **III SEMESTER**

Name of the Course: Object Oriented Programming Using Java Lab
Name of the Subject Matter Expert: Prof. K. Ashtalaskshmi

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Identify Java language components and how they work together in applications.	PO1	U,An
CO2	Design and program stand-alone Java applications.	PO5	C
CO3	Learn how to design a graphical user interface (GUI) with Java Swing.	PO5	C
CO4	Understand how to use Java APIs for program development.	PSO1	U & C
CO5	Develop an API application for real life application.	PO5	C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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ELECTRONICS **III SEMESTER**

Name of the Course: : Programming in C and Digital Design using Verilog (Theory)
Name of the Course Faulty: Prof. Jenifer Sujitha G.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the need of Verilog HDL and start learning the Verilog HDL	PSO2,PO1	U,R
CO2	Familiarise the modelling concepts of basic gates, code converters, arithmetic operations etc	PSO2,PO2	U,R,An
CO3	Analyse data flow modelling and VHDL(Very High Speed Integrated Circuit Hardware Descriptive Language)	PSO2,PO2	U,R,An
CO4	Understand the C- language concepts and create various mathematical operations.	PSO2,PO5	U,R,An
CO5	Understand the C- language and create programs for digital circuits to fulfil the basic requirement.	PSO2,PO6	U,R,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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ELECTRONICS **III SEMESTER**

Name of the Course: : Programming in C and Digital Design using Verilog (Practical)
Name of the Course Faulty: Prof. Jenifer Sujitha G.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	O1:Create verilog programs for combinational and sequential logic circuits.	PO2	Ap,C
CO2	Verify Using Verilog Program the concept of delay Simulation.	PO2	Ap,C
CO3	Verify and analyze the Performance of timing Simulation.	PO6	Ap,C
CO4	Program Using C for Various Mathematical operations.	PO5,PO6	Ap,C
CO5	Create C Program for digital Circuits to fulfil the basic requirement.	PO5,PO6	Ap,C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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OPEN ELECTIVE **III SEMESTER**

Name of the Course: Entrepreneurship Skills
Name of the Course Faulty: Dr. N.K. Chitra, Department of Commerce

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	CO1- Identify the Factors that influence Entrepreneurship.	PO2, PO3	U, Ap
CO2	CO2-Understand the Skill Sets required for Entrepreneur	PO2, PO4,	Ap, U,An, E
CO3	CO3-Identify the opportunities for developing Entrepreneurship skills through National and State Level Institutions.	PO2, PO3	R, U, An
CO4	CO4-Role played by MSME in the development of Indian Economy.	PO2, PO4,	R, U, An
CO5	CO5-Identify the different Government Schemes available for promoting Entrepreneurs in India.	PO3, PO4	U,An, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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ENGLISH **III SEMESTER**

Name of the Programme: Generic English

Subject matter experts: Prof. Anusha C V

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Acquire the LSRW (Listening, Speaking, Reading, Writing) skills	PO1, PO2	U, A, C
CO2	Analyze and interpret a wide range of literary texts, including poetry, prose and drama.	PO3 PO6,	R, U, Ap, An
CO3	Develop critical thinking and analytical skills to evaluate literary works.	PO1, PO3	U, A, C
CO4	Apply research and critical writing skills to explore contemporary issues related to English Literature.	PO3, PO7	R, U, Ap, An
CO5	Develop a passion for reading and a lifelong appreciation for the richness of English.	PO2, PO5	U, A, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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KANNADA **III SEMESTER**

Name of the Course: Vijnana Kannada - 3
Name of the Subject Matter Expert: Dr. Shantharaju, Prof. Kumara C

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮಾನವೀಯತೆಯ ಸ್ವರೂಪವನ್ನು ಕುರಿತು ಆಲೋಚಿಸುವಂತೆ ಮಾಡುತ್ತದೆ. ಜಗತ್ತಿನೆಲ್ಲೆಡೆ ನಡೆಯುತ್ತಿರುವ ಅಮಾನವೀಯ ವಿದ್ಯಮಾನಗಳು, ಆಧುನಿಕತೆ, ನಾಗರೀಕತೆ, ಅಭಿವೃದ್ಧಿಯ ಬಗೆಗಿನ ನಮ್ಮ ತಿಳುವಳಿಕೆಯನ್ನೇ ತಿರುವು ಮುರುವಾಗಿಸುತ್ತವೆ. ಇಂತಹ ಸಂದರ್ಭದಲ್ಲಿ ಈ ಪಠ್ಯವು ಮನುಷ್ಯರ ಸಂವೇದನೆಗಳಲ್ಲಿ ಉಂಟಾಗಬೇಕಾದ ಬದಲಾವಣೆಯನ್ನು ತಿಳಿಸುವುದರ ಜೊತೆಗೆ ಸ್ವಕೇಂದ್ರಿತ ಆಲೋಚನೆಗಳ ಆಪಾಯವನ್ನೂ ತಿಳಿಸುತ್ತದೆ.	PO1	U, An
CO2	ಪ್ರವಾಸದ ಬಹುಮುಖಿ ಅನುಭವಗಳನ್ನು ಕಥನಗಳ ಮೂಲಕ ಓದುಗರೊಂದಿಗೆ ಹಂಚಿಕೊಳ್ಳುವ ಕೆಲಸ ವಿಶೇಷವಾದುದು. ಆ ಭಿನ್ನ ಸಾಂಸ್ಕೃತಿಕ ನಕಾಶೆಯನ್ನು ಎಲ್ಲಡೆ ಹರಡುವ, ಆ ಮೂಲಕ ರಾಜ್ಯ, ರಾಷ್ಟ್ರ, ಜ್ಞಾನ, ತಿಳುವಳಿಕೆ, ಅನುಭವ - ಹೀಗೆ ಎಲ್ಲದರ ಗಡಿಗಳನ್ನೂ ಅಳಿಸಿಹಾಕುವ ಒಂದು ಸೃಜನಶೀಲ ಸಾಂಸ್ಕೃತಿಕ ಚಲನೆಯಾದ ಪ್ರವಾಸದ ಅನುಭವಗಳು ಈ ಘಟಕದಲ್ಲಿ ಕಾಣಸಿಗುತ್ತವೆ.	PO2, PO6	U, Up
CO3	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳ ಮನಸ್ಸುಗಳಲ್ಲಿ ವಿಚಾರ ಕ್ರಾಂತಿಯ ಬೀಜವನ್ನು ಬಿತ್ತುವ ಉದ್ದೇಶವನ್ನು ಇಟ್ಟುಕೊಂಡಿದೆ. ವೈಚಾರಿಕ ಪ್ರಜ್ಞೆಯನ್ನು ವಿಕಾಸವಾಗಿಸುವುದಕ್ಕೆ ಪೂರಕವಾದ ಸಮಾಜವನ್ನು ಕಟ್ಟಿದ್ದು, ಆಧುನಿಕ ಕಾಲದ ಬಹಳ ದೊಡ್ಡ ಕಾಣಿಕೆ. ಇಂತಹ ವೈಚಾರಿಕ ಮತ್ತು ವೈಜ್ಞಾನಿಕ ಮನೋಭಾವನೆಯನ್ನು ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಬೆಳೆಸುವುದು ಈ ಘಟಕದ ಮುಖ್ಯ ಧ್ಯೇಯವಾಗಿದೆ.	PO6, PO7	U, Ap, An,
CO4	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಪರಿಸರದ ಬಗ್ಗೆ ಅರಿವು ಮೂಡಿಸುವುದರೊಂದಿಗೆ ಪರಿಸರ ಪ್ರಜ್ಞೆ ಹಾಗೂ ಪರಿಸರ ಸಂರಕ್ಷಣೆಯ ಮಹತ್ವದ ಅನಿವಾರ್ಯತೆಗಳನ್ನು ಹೇಳುತ್ತಾ ಪರಿಸರ ಸಂರಕ್ಷಣೆಯಲ್ಲಿ ದೇಶದ ಪ್ರಜೆಯಾಗಿ ನಮ್ಮ ಕರ್ತವ್ಯಗಳನ್ನು ಎಂಬುದನ್ನು ಸ್ಪಷ್ಟಪಡಿಸುತ್ತದೆ ಜೊತೆಗೆ ಪತ್ರ ವ್ಯವಹಾರದ ಅನುಭವಗಳನ್ನು ಕಟ್ಟಿಕೊಡುತ್ತದೆ.	PO6, PO7	U, Ap, An
CO5	ಈ ಭಾಗದಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳು ವ್ಯಾಕರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಪಾರಿಭಾಷಿಕ ಪದಗಳ ಪರಿಚಯ, ವಿಶೇಷ ಪದಗಳ ಅರ್ಥ ಗ್ರಹಿಕೆ, ವಾಕ್ಯ ಜೋಡಣೆ ಮುಂತಾದ ಕೌಶಲ್ಯಗಳನ್ನು ಬೆಳೆಸಿಕೊಳ್ಳುವುದರ ಜೊತೆಗೆ ಮಾಹಿತಿ ಹಕ್ಕು ಅಧಿನಿಯಮಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಅರ್ಜಿ ಬರೆಯುವ ಕೌಶಲ್ಯಗಳನ್ನು ಅರ್ಥೈಸಿಕೊಳ್ಳುತ್ತಾರೆ.	PO6, PO5	Ap, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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HINDI **III SEMESTER**

Name of the Course: Hindi
Name of the Subject Matter Expert: Dr. Reva Prasad

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Students will get knowledge of drama literature and develop their language skills.	PO 1, PO2	R,U.Ap
CO2	Students can acquire the knowledge of Hindi grammar and utilize it in day-to-day life.	PO1,2,6	R,U,Ap
CO3	Students can gain Reading, Writing and Oratory skills.	PO 2,6	R,U,Ap
CO4	Students understand the themes, plot and characterization of the drama- Ek aur Dronacharya.	PO1,2,3	AP, An, E
CO5	Students learn about human values and emotions like empathy, honesty, truthfulness and humanity etc.	PO 3,6,7	AP, An, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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AECC **III SEMESTER**

Name of the Course: India and Indian Constitution

Subject matter experts: Prof. Sampath Kumar

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Explain the philosophy and structure of Constitution	PO4, PO7	U
CO2	Contextualise the depth of India as a nation with its diverse socio-political culture and philosophical values	PO4, PO6	U, AN
CO3	Give the knowledge to expand the breadth of freedom struggle and its significance in nation building	PO4, PO6	An, E
CO4	Measure the powers, functions and limitations of various offices under the constitution.	PO4, PO6	Ap,
CO5	Demonstrate the values, ideals and the role constitution in India	PO4, PO6	An, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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Subject Matter Expert **HoD**

ST. FRANCIS DE SALES COLLEGE * Bengaluru - 100. *

COMPUTER SCIENCE **V SEMESTER**

Name of the Course: DBMS

Name of the Subject Matter Expert: Prof. Saranya C

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Basic concepts and the applications of database systems.to have broad understanding of the three level architecture of DBMS. Database System Environment, Classification of Database Management Systems.	PSO 1,PO1, PO3	U,AP
CO2	Identify the basic concepts and various data models used in database design. Design ER-models to represent simple database application scenarios. Explain the basic concepts of relational data model.	PO4, PO5	U, E,AP
CO3	Apply relational database theory. To be able to describe relational algebra expression, tuple and domain relational expression for queries. Recognize and identify the use of normalization and functional dependency.	PSO 2, PO3, PO7	U, E,AP
CO4	To formulate SQL queries on data using basic DDL, DML and DCL commands.	PSO 1, PO3, PO7	U,AP
CO5	Understand the Transaction Processing, Properties, Concurrency control, Recovery.	PO5, PO6	U, E,AP

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

C. Saranya 8/1/24

Subject Matter Expert

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HOD

Name of the Course: DBMS Lab

Name of the Subject Matter Expert: Prof. Saranya C

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To draw an E-R Diagram and converting the entities and relationship	PO1	U,An
CO2	Performing the database creation, viewing, updating and deleting	PO5	C
CO3	Learning the queries to design a database.	PO5	C
CO4	Understand how to execute the queries in a given set of relations .	PSO1	U & C
CO5	Developing the creation of views, selecting and dropping views.	PO5	C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

C. Saranya 8/1/24
Subject Matter Expert

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COMPUTER SCIENCE **V SEMESTER**

Name of the Course: Artificial Intelligence

Name of the Subject Matter Expert: Prof. Thejaswi Nandyala

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the various characteristics of problem solving agents and apply problem solving through search for AI applications.	PO1,PO2, PO3	R,U
CO2	Appreciate the concepts of knowledge representation using Propositional logic and Predicate calculus and apply them for inference/reasoning.	PO1,PO2	R,U,AP
CO3	Obtain insights about Planning and handling uncertainty through probabilistic reasoning and fuzzy systems.	PO1,PO2, PO3	R,U
CO4	Understand basics of computer vision and Natural Language Processing and understand their relevance in AI applications.	PO1	R,U
CO5	Obtain insights about machine learning, neural networks, deep learning networks and their significance.	PO1,PO2	R,U

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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COMPUTER SCIENCE **V SEMESTER**

Name of the Course: Artificial Intelligence Lab

Subject Matter Expert: Prof. Thejaswi Nandyala

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Solve search problems including heuristic search and constraint satisfaction search	PO1, PO2	R, U
CO2	Understand and apply image processing techniques for image enhancement, image detection and recognition.	PO1, PO2, PO3	R, U, Ap
CO3	Understand and implement supervised machine learning and probabilistic machine learning algorithms	PO1, PO2, PO3	U, An
CO 4	Implement unsupervised learning through clustering	PO1, PO3, PO4	R, U, Ap, E
CO 5	Perform NLP operations to gain understanding of text processing and analytics	PO1, PO2, PO3	R, U, An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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ELECTRONICS **V SEMESTER**

Name of the Course: Communication -II

Subject matter expert: Prof. Jenifer Sujitha G.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Gain knowledge on the various microwave devices, their working and applications.	PSO2,PO1	R,Ap
CO2	To familiarise with ASK, FSK, PSK, BPSK, QPSK digital modulation techniques.	PSO2,PO2	R,Ap,An
CO3	Understand the basic concepts of cell phone handset	PSO2,PO3	R,U,C
CO 4	To Understand the working principle of cellular communication and wireless technologies.	PSO2,PO3	R,U,Ap,An
CO 5	To understand various OSI layers, Wi-Fi and IEEE standards.	PSO2,PO5	U,Ap,An,C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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ELECTRONICS **V SEMESTER**

Name of the Course: Communication-II Practicals

Subject matter expert: Prof. Jenifer Sujitha G.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Perform and create ASk,FSk,PSK modulation & demodulation and study there differences	PO1	U,Ap,C
CO2	Determine and Study the working of class tuned Amplifier	PO3	U,Ap,C
CO3	Analyse the Performance of Switched Mode Regulator Using PWM	PO4	U,An,C
CO 4	Simulate and analyse the Performance of Pulse Code Modulation and Demodulation System	PO5	U,An,C
CO 5	:Create and verify DPSK and QPSK Transmitter and Receiver using Simulation tools.	PSO2	U,An,C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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ELECTRONICS **V SEMESTER**

Name of the Course: Embedded Controllers

Subject matter expert: Prof. Maya Mathew

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To know the importance of microcontrollers and its applications	PO1, PO5, PSO1 PSO2	U ,R
CO2	Understand the basics of Embedded Systems hardware and software concepts.	PO1, PO5, PSO1 PSO2	U, An
CO3	To develop programming skills for embedded systems	PO2 PO 3 PSO1	An, E
CO 4	To analyse various embedded systems	PO4, PO5 Po6 PSO2	An, E, Ap
CO 5	Design and develop small scale embedded systems.	PO4 PO5 PO6 PO7 PSO1	An, E, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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HOD

ELECTRONICS **V SEMESTER**

Name of the Course: Embedded Controllers Practicals

Subject matter expert: Prof. Maya Mathew

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To understand the 8051 Assembly language and Simulator	PO1, PO5, PSO1 PSO2	U
CO2	To understand the PIC programing Language	PO1, PO5, PSO1 PSo2	U
CO3	To analyse various embedded systems	PO4, PO5 Po6 PSO2	An, E, Ap
CO 4	To develop programming skills for embedded systems using 8051 and PIC	PO2 PO 3 PSO1	An, E
CO 5	Design and develop small scale embedded systems.	PO4 PO5 PO6 PO7 PSO1	An, E, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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SKILL ENHANCEMENT COURSE (SEC) **V SEMESTER**

Name of the Course: Cyber Security
Subject matter expert: Dr. S.Sivagami

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand cyber crimes, their nature, legal remedies.	PO1,PO2	U,R
CO2	Understand how to report the crimes through available platforms and procedures.	PO1,PO2,	U,R
CO3	Recognize various privacy and security concerns on Social media and e-commerce platforms.	PO3	U,R
CO4	Use basic tools and technologies to protect their devices.	PO4,PSO1	U,R,E,An
CO5	Understand the digital environment and issues in it.	PO1,PO2	U,R

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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Science

SCHOOL OF SCIENCE

Name of the Degree Programme: B.Sc. Computer Science- Psychology

Programme Outcomes/ Programme Specific Outcomes

PO1- Disciplinary Knowledge

(i) To create the facilities and environment to consolidate the knowledge acquired and to motivate and inspire the students to create deep interest in psychology and Computer Science.

(ii) Analyse a complex computing problem and to apply principles of computing and psychology to identify solutions.

PO2-Communication and Interpersonal Skills

(i) To develop the ability to communicate various concepts effectively using examples.

(ii) To master analytical reasoning which can be used for modelling and solving real life problems.

PO3- Critical thinking and Problem-solving capabilities

(i) To acquire the ability of critical thinking and logical reasoning and capability of recognizing and distinguishing the various aspects of real life problems.

(ii) To plan, design and conduct research studies and interpret using statistical tools and apply the research findings to real life situations.

PO4- Teamwork and respect for diversity

(i) To develop the ability to understand the behaviour, thoughts, and feelings of the individual and the individual in group settings

(ii) To develop an ability of working independently and pursue higher education and/or research in interdisciplinary and multidisciplinary areas.

PO5- Information and Communication Technology (ICT) digital fluency

(i) To enable the students to think independently and develop algorithms and computational skills for solving real word problems.

(ii) To equip the learner to use appropriate softwares for or problem solving in various fields of psychology/computer science.

PO6 -Self -directed Lifelong Learning

(i) To acquire experimental skills, analyse the results, interpret data and use modern tools/techniques.

(ii) To create the ability to pursue advanced studies and research in pure and applied sciences.

PO7 -Moral and Ethical Awareness/Reasoning

(i) Recognize professional responsibilities and make informed judgments in computing practice.

(ii) Exhibit an ability to identify unethical behaviour and investigate psychological aspects of human behaviour to upgrade moral and ethical values in the society.

PSO 1: Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements.

PSO 2: To become contributing members in the society in terms of mental wellbeing and directing their stakeholders towards responsible citizenship.

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PO-PSO- CO MAPPING

Cognitive Levels (Blooms taxonomy)

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C– Create

COMPUTER SCIENCE **I SEMESTER**

Name of the Course: Problem Solving Techniques Using C
Name of the Subject Matter Expert: Prof. Manoshankari M.

CO	*Course Outcome* *The learner will be able to*	*PO and PSOs Addressed*	*Cognitive Level*
CO1	Illustrate the flowchart and design an algorithm for a given problem and to develop C programs using operators, develop conditional and iterative statements to write C programs.	**PSO1,PO6**	**U,C**
CO2	Exercise user defined functions to solve real time problems, Exercise files concept to show input and output files in C	**PO5,PSO1**	**U,C,Ap**
CO3	Inscribe C programs that use Pointers to access arrays, strings and functions.	**PSO1**	**An,Ap**
CO4	Exercise user defined data types including structures and unions to solve problems	**PO3,PO5**	**U,Ap**
CO5	Inscribe C programs using pointers and to allocate memory using dynamic memory management functions.	**PO3,PSO1**	**R,Ap**

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COMPUTER SCIENCE **I SEMESTER**

Name of the Course: Problem Solving Techniques Using C Practical

Name of the Subject Matter Expert: Prof. Manoshankari M.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand Basic Structure of C Programming , declaration and usage of variables and be able to write basic C programs.	PO1,PO6, PSO1	U,R
CO2	Write C Program using data types, variables and pointers	PO3,PSO1	R,U,A
CO3	Exercise Conditional and Iterative statements to write C programs	PO1,PO3, PSO1	C,An
CO4	Write C programs using pointers to access arrays, strings and functions.	PO5,PSO1	C,Ap
CO5	Write C programs and allocate memory using dynamic memory management functions and user defined datatypes.	PO3,PO5,PSO 1	C,An,E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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PSYCHOLOGY **I SEMESTER**

Name of the Course: Foundations of Psychology

Subject Matter Expert: Prof. Lakshmi Balakrishnan

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To understand the genesis of psychology, it's different perspectives, origin and importance.	PO1, PO2	R, U
CO2	Appreciate and apply various theories of learning and memory.	PO1, PO2	R, U, Ap, An, E
CO3	To comprehend the fundamental mental processes which are base for behaviour and be able to compare them across different perspectives.	PO1, PO2, PO4	U, An, E
CO 4	To understand the connection between body and mind and it's functions	PO1, PO3, PO6, PO7	R, U, Ap, E
CO 5	To gain basic knowledge about the field of Psychology and its applications	PO1, PO2, PO3	R, U, An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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PSYCHOLOGY **I SEMESTER**

Name of the Course: Foundations of Psychology

Subject Matter Expert: Prof. Lakshmi Balakrishnan

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the way in which observation has an impact in individuals	PO1, PO2	U
CO2	To analyse the importance of retrieving information	PO2, PO3	U, An
CO3	To analyse and understand how memory (information retaining) has a useful impact	PO1, PO2	An
CO 4	Understand how to interpret colours to identify colour blindness	PO1	U
CO 5	Understand the moment of illusion	PO1, PO3	U

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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OPEN ELECTIVE **I SEMESTER**

Name of the Programme: BSC A OEC-Speaking and Listening Skills
Subject matter experts: Prof. J.Umamaheswari

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	1. Develop the ability to articulate their thoughts and ideas clearly and effectively in various contexts	PO 2, PO4	U, An, R, E
CO2	2. Demonstrate the capacity to actively listen, comprehend and respond to spoken information with accuracy	PO 2, PO 4	U, Ap, R, An, E
CO3	3. gain confidence in speaking in front of an audience, delivering well - structured and engaging presentations	PO 2, PO 4	U, Ap, An, E
CO4	4. exhibit improved conversational skills including small talks and dialogues	PO 2, PO 4,	U, Ap, An, R
CO5	5. Proficient in interpersonal communication, especially in professional contexts like interviews, and group discussions.	PO 2, PO 4	U, Ap, An, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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ENGLISH **I SEMESTER**

Name of the Programme: Generic English
Subject matter experts: Dr. Tharini

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Acquire the LSRW (Listening, Speaking, Reading, Writing) skills and Learn to appreciate literary art.	PO2	R, U, AP
CO2	Obtain the knowledge of literary devices and genres and Acquire the skills of creativity to express one's experiences.	PO6	R, U, AP
CO3	Know how to use digital learning tools and Be aware of their social responsibilities.	PO5	R, U, An
CO4	Develop their ability as critical readers and writers and Increase their reading speed.	PO3	R, U, E
CO5	Be able to give presentations and Increase their analytical skills.	PO2	R, U, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

P. Tharini
Subject Matter Expert

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KANNADA **I SEMESTER**

Name of the Course: Vijnana Kannada
Name of the Subject Matter Expert: Prof. Kittappa, Dr. Shantharaju

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮಾನವೀಯತೆಯ ಸ್ವರೂಪವನ್ನು ಕುರಿತು ಆಲೋಚಿಸುವಂತೆ ಮಾಡುತ್ತದೆ. ಜಗತ್ತಿನೆಲ್ಲೆಡೆ ನಡೆಯುತ್ತಿರುವ ಅಮಾನವೀಯ ವಿದ್ಯಮಾನಗಳು, ಆಧುನಿಕತೆ, ನಾಗರೀಕತೆ, ಅಭಿವೃದ್ಧಿಯ ಬಗೆಗಿನ ನಮ್ಮ ತಿಳುವಳಿಕೆಯನ್ನೇ ತಿರುವು ಮುರುವಾಗಿಸುತ್ತವೆ. ಇಂತಹ ಸಂದರ್ಭದಲ್ಲಿ ಈ ಪಠ್ಯವು ಮನುಷ್ಯರ ಸಂವೇದನೆಗಳಲ್ಲಿ ಉಂಟಾಗಬೇಕಾದ ಬದಲಾವಣೆಯನ್ನು ತಿಳಿಸುವುದರ ಜೊತೆಗೆ ಸ್ವಕೇಂದ್ರಿತ ಆಲೋಚನೆಗಳ ಆಪಾಯವನ್ನೂ ತಿಳಿಸುತ್ತದೆ.	PO1	U, An
CO2	ಪ್ರವಾಸದ ಬಹುಮುಖಿ ಅನುಭವಗಳನ್ನು ಕಥನಗಳ ಮೂಲಕ ಓದುಗರೊಂದಿಗೆ ಹಂಚಿಕೊಳ್ಳುವ ಕೆಲಸ ವಿಶೇಷವಾದುದು. ಆ ಭಿನ್ನ ಸಾಂಸ್ಕೃತಿಕ ನಕಾಶೆಯನ್ನು ಎಲ್ಲಡೆ ಹರಡುವ, ಆ ಮೂಲಕ ರಾಜ್ಯ, ರಾಷ್ಟ್ರ, ಜ್ಞಾನ, ತಿಳುವಳಿಕೆ, ಅನುಭವ - ಹೀಗೆ ಎಲ್ಲದರ ಗಡಿಗಳನ್ನೂ ಅಳಿಸಿಹಾಕುವ ಒಂದು ಸೃಜನಶೀಲ ಸಾಂಸ್ಕೃತಿಕ ಚಲನೆಯಾದ ಪ್ರವಾಸದ ಅನುಭವಗಳು ಈ ಘಟಕದಲ್ಲಿ ಕಾಣಸಿಗುತ್ತವೆ.	PO2, PO6	U, Up
CO3	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳ ಮನಸ್ಸುಗಳಲ್ಲಿ ವಿಚಾರ ಕ್ರಾಂತಿಯ ಬೀಜವನ್ನು ಬಿತ್ತುವ ಉದ್ದೇಶವನ್ನು ಇಟ್ಟುಕೊಂಡಿದೆ. ವೈಚಾರಿಕ ಪ್ರಜ್ಞೆಯನ್ನು ವಿಕಾಸವಾಗಿಸುವುದಕ್ಕೆ ಪೂರಕವಾದ ಸಮಾಜವನ್ನು ಕಟ್ಟಿದ್ದು, ಆಧುನಿಕ ಕಾಲದ ಬಹಳ ದೊಡ್ಡ ಕಾಣಿಕೆ. ಇಂತಹ ವೈಚಾರಿಕ ಮತ್ತು ವೈಜ್ಞಾನಿಕ ಮನೋಭಾವನೆಯನ್ನು ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಬೆಳೆಸುವುದು ಈ ಘಟಕದ ಮುಖ್ಯ ಧ್ಯೇಯವಾಗಿದೆ.	PO6, PO7	U, Ap, An,
CO4	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಪರಿಸರದ ಬಗ್ಗೆ ಅರಿವು ಮೂಡಿಸುವುದರೊಂದಿಗೆ ಪರಿಸರ ಪ್ರಜ್ಞೆ ಹಾಗೂ ಪರಿಸರ ಸಂರಕ್ಷಣೆಯ ಮಹತ್ವದ ಅನಿವಾರ್ಯತೆಗಳನ್ನು ಹೇಳುತ್ತಾ ಪರಿಸರ ಸಂರಕ್ಷಣೆಯಲ್ಲಿ ದೇಶದ ಪ್ರಜೆಯಾಗಿ ನಮ್ಮ ಕರ್ತವ್ಯಗಳನ್ನು ಎಂಬುದನ್ನು ಸ್ಪಷ್ಟಪಡಿಸುತ್ತದೆ ಜೊತೆಗೆ ಪತ್ರ ವ್ಯವಹಾರದ ಅನುಭವಗಳನ್ನು ಕಟ್ಟಿಕೊಡುತ್ತದೆ.	PO6, PO7	U, Ap, An
CO5	ಈ ಭಾಗದಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳು ವ್ಯಾಕರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಪಾರಿಭಾಷಿಕ ಪದಗಳ ಪರಿಚಯ, ವಿಶೇಷ ಪದಗಳ ಅರ್ಥ ಗ್ರಹಿಕೆ, ವಾಕ್ಯ ಜೋಡಣೆ ಮುಂತಾದ ಕೌಶಲ್ಯಗಳನ್ನು ಬೆಳೆಸಿಕೊಳ್ಳುವುದರ ಜೊತೆಗೆ ಮಾಹಿತಿ ಹಕ್ಕು ಅಧಿನಿಯಮಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಅರ್ಜಿ ಬರೆಯುವ ಕೌಶಲ್ಯಗಳನ್ನು ಅರ್ಥೈಸಿಕೊಳ್ಳುತ್ತಾರೆ.	PO6, PO5	Ap, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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HINDI **I SEMESTER**

Name of the Course: I SEM BSC HINDI
Name of the Subject Matter Expert: Prof. Madhuri Kshirsagar

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Students will be familiar with different genres of hindi prose.	PO2, PO3,PO6, PO7	R, U, Ap,
CO2	The study of prose will generate interest in creative writing.	PO2, PO3, PO6	Ap, C
CO3	Students will develop their language skills.	PO1, PO2, PO6	U, Ap
CO4	Students can gain Reading, writing, Oratory skills.	PO2, PO6	U, Ap
CO5	Students can acquire the knowledge of Hindi grammar and utilise it in day-to-day life.	PO1, PO2, PO6	R, U, Ap

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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ABILITY ENHANCEMENT COMPULSORY COURSE **I SEMESTER**

Name of the Programme: Environmental Studies
Subject matter experts: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Bring about an awareness of a variety of environmental concerns.	PO4	R,U
CO2	Understand the concepts of ecosystem, natural resources, biodiversity as well as to discuss the factors impacting biodiversity loss and ecosystem degradation.	PO6, PO7	U, Ap
CO3	Develop an understanding of pollution and sensitise to adverse health impacts of pollution.	PO6, PO7	U. An
CO4	Learn about major international institutions and programmes and the role played by them in the protection and preservation of the environment.	PO6, PO7	R,U
CO5	Create a pro-environmental attitude and a behavioural pattern in society that is based on creating sustainable lifestyles.	PO7	E, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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COMPUTER SCIENCE **III SEMESTER**

Name of the Course: Object Oriented Programming Using Java
Name of the Subject Matter Expert: Dr. S. Sivagami

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Identify Java language components and how they work together in applications.	PO1	U,An
CO2	Design and program stand-alone Java applications.	PO5	C
CO3	Learn how to design a graphical user interface (GUI) with Java Swing.	PO5	C
CO4	Understand how to use Java APIs for program development.	PSO1	U & C
CO5	Develop an API application for real life application.	PO5	C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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COMPUTER SCIENCE **III SEMESTER**

Name of the Course: Object Oriented Programming Using Java Lab
Name of the Subject Matter Expert: Dr. S. Sivagami

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	dentify Java language components and ow they work together in applications.	PO1	U,An
CO2	Design and program stand-alone Java pplications.	PO5	C
CO3	earn how to design a graphical user terface (GUI) with Java Swing.	PO5	C
CO4	nderstand how to use Java APIs for rogram development.	PSO1	U & C
CO5	Develop an API application for real life pplication.	PO5	C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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PSYCHOLOGY **III SEMESTER**

Name of the Course: Child Development

Subject Matter expert: Prof. Diliya Joseph

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To understand and remember the various historical concepts based on childhood and also various metHoDs and conceptional concepts during development.	PSO3, PSO4	U, R
CO2	To understand and reflect on the physical, cognitive and language development during childhood.	PSO1, PSO5	U, R
CO3	To analyse and understand moral and emotional development.	PO4, PO5, PO7	A, U, An
CO4	To understand and identify the genetic and chromosomal abnormalities	PO1, PO3,	R, U, An
CO5	To understand and identify the different disorders faced by children in their growth period	PO1, PO3, PO6	R, U, Ap

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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PSYCHOLOGY **III SEMESTER**

Name of the Course: Child Development Practical

Subject Matter expert: Prof. Diliya Joseph

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To understand concepts of learning styles, concept formation, emotional maturity, self concept and cuing on recall.	PSO3, PSO4	U, R
CO2	To be able to administer tests with sensitivity and ethical considerations.	PSO1, PSO5	U, R
CO3	To be able to execute simple statistical calculations on group data and to interpret them with precision	PO4, PO5, PO7	A, U, An
CO4	To be able to draw conclusions from the inferred interpretations of data.	PO1, PO3,	R, U, An
CO5	To execute professionalism in dealing with a subject and their data.	PO1, PO3, PO6	R, U, Ap

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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OPEN ELECTIVE **III SEMESTER**

Name of the Course: BSc A- Rural Economics
Name of the Course Faulty: Dr. Mahesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To familiarise the theories, concepts of rural economics	PO4	R, U, AP
CO2	Applying the concepts of the dynamics of rural economics in order to understand the economics in general	PO6	R, U, AP
CO3	Acquainting the structure of rural economics farming, industrialisation and possible interactions	PO7	R, U, An
CO4	To aware about problems and prospects of rural economy in India	PO6, PO7	R, U, E
CO5	To study the role of infrastructural facilities and governance in rural development	PO6	R, U, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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ENGLISH **III SEMESTER**

Name of the Programme: BSc - Generic English

Subject matter experts: Prof. Anusha C V

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Acquire the LSRW (Listening, Speaking, Reading, Writing) skills	PO1, PO2	U, A, C
CO2	Analyze and interpret a wide range of literary texts, including poetry, prose and drama.	PO3 PO6,	R, U, Ap, An
CO3	Develop critical thinking and analytical skills to evaluate literary works.	PO1, PO3	U, A, C
CO4	Apply research and critical writing skills to explore contemporary issues related to English Literature.	PO3, PO7	R, U, Ap, An
CO5	Develop a passion for reading and a lifelong appreciation for the richness of English.	PO2, PO5	U, A, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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KANNADA **III SEMESTER**

Name of the Course: Vijnana Kannada - 3
Name of the Subject Matter Expert: Dr. Shantharaju, Prof. Kumara C

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮಾನವೀಯತೆಯ ಸ್ವರೂಪವನ್ನು ಕುರಿತು ಆಲೋಚಿಸುವಂತೆ ಮಾಡುತ್ತದೆ. ಜಗತ್ತಿನೆಲ್ಲೆಡೆ ನಡೆಯುತ್ತಿರುವ ಅಮಾನವೀಯ ವಿದ್ಯಮಾನಗಳು, ಆಧುನಿಕತೆ, ನಾಗರೀಕತೆ, ಅಭಿವೃದ್ಧಿಯ ಬಗೆಗಿನ ನಮ್ಮ ತಿಳುವಳಿಕೆಯನ್ನೇ ತಿರುವು ಮುರುವಾಗಿಸುತ್ತವೆ. ಇಂತಹ ಸಂದರ್ಭದಲ್ಲಿ ಈ ಪಠ್ಯವು ಮನುಷ್ಯರ ಸಂವೇದನೆಗಳಲ್ಲಿ ಉಂಟಾಗಬೇಕಾದ ಬದಲಾವಣೆಯನ್ನು ತಿಳಿಸುವುದರ ಜೊತೆಗೆ ಸ್ವಕೇಂದ್ರಿತ ಆಲೋಚನೆಗಳ ಅಪಾಯವನ್ನೂ ತಿಳಿಸುತ್ತದೆ.	PO1	U, An
CO2	ಪ್ರವಾಸದ ಬಹುಮುಖಿ ಅನುಭವಗಳನ್ನು ಕಥನಗಳ ಮೂಲಕ ಓದುಗರೊಂದಿಗೆ ಹಂಚಿಕೊಳ್ಳುವ ಕೆಲಸ ವಿಶೇಷವಾದುದು. ಆ ಭಿನ್ನ ಸಾಂಸ್ಕೃತಿಕ ನಕಾಶೆಯನ್ನು ಎಲ್ಲಡೆ ಹರಡುವ. ಆ ಮೂಲಕ ರಾಜ್ಯ, ರಾಷ್ಟ್ರ, ಜ್ಞಾನ, ತಿಳುವಳಿಕೆ, ಅನುಭವ - ಹೀಗೆ ಎಲ್ಲದರ ಗಡಿಗಳನ್ನೂ ಅಳಿಸಿಹಾಕುವ ಒಂದು ಸೃಜನಶೀಲ ಸಾಂಸ್ಕೃತಿಕ ಚಲನೆಯಾದ ಪ್ರವಾಸದ ಅನುಭವಗಳು ಈ ಘಟಕದಲ್ಲಿ ಕಾಣಸಿಗುತ್ತವೆ.	PO2, PO6	U, Up
CO3	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳ ಮನಸ್ಸುಗಳಲ್ಲಿ ವಿಚಾರ ಕ್ರಾಂತಿಯ ಬೀಜವನ್ನು ಬಿತ್ತುವ ಉದ್ದೇಶವನ್ನು ಇಟ್ಟುಕೊಂಡಿದೆ. ವೈಚಾರಿಕ ಪ್ರಜ್ಞೆಯನ್ನು ವಿಕಾಸವಾಗಿಸುವುದಕ್ಕೆ ಪೂರಕವಾದ ಸಮಾಜವನ್ನು ಕಟ್ಟಿದ್ದು, ಆಧುನಿಕ ಕಾಲದ ಬಹಳ ದೊಡ್ಡ ಕಾಣಿಕೆ. ಇಂತಹ ವೈಚಾರಿಕ ಮತ್ತು ವೈಜ್ಞಾನಿಕ ಮನೋಭಾವನೆಯನ್ನು ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಬೆಳೆಸುವುದು ಈ ಘಟಕದ ಮುಖ್ಯ ಧ್ಯೇಯವಾಗಿದೆ.	PO6, PO7	U, Ap, An,
CO4	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಪರಿಸರದ ಬಗ್ಗೆ ಅರಿವು ಮೂಡಿಸುವುದರೊಂದಿಗೆ ಪರಿಸರ ಪ್ರಜ್ಞೆ ಹಾಗೂ ಪರಿಸರ ಸಂರಕ್ಷಣೆಯ ಮಹತ್ವದ ಅನಿವಾರ್ಯತೆಗಳನ್ನು ಹೇಳುತ್ತಾ ಪರಿಸರ ಸಂರಕ್ಷಣೆಯಲ್ಲಿ ದೇಶದ ಪ್ರಜೆಯಾಗಿ ನಮ್ಮ ಕರ್ತವ್ಯಗಳನ್ನು ಎಂಬುದನ್ನು ಸ್ಪಷ್ಟಪಡಿಸುತ್ತದೆ ಜೊತೆಗೆ ಪತ್ರ ವ್ಯವಹಾರದ ಅನುಭವಗಳನ್ನು ಕಟ್ಟಿಕೊಡುತ್ತದೆ.	PO6, PO7	U, Ap, An
CO5	ಈ ಭಾಗದಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳು ವ್ಯಾಕರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಪಾರಿಭಾಷಿಕ ಪದಗಳ ಪರಿಚಯ, ವಿಶೇಷ ಪದಗಳ ಅರ್ಥ ಗ್ರಹಿಕೆ, ವಾಕ್ಯ ಜೋಡಣೆ ಮುಂತಾದ ಕೌಶಲ್ಯಗಳನ್ನು ಬೆಳೆಸಿಕೊಳ್ಳುವುದರ ಜೊತೆಗೆ ಮಾಹಿತಿ ಹಕ್ಕು ಅಧಿನಿಯಮಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಅರ್ಜಿ ಬರೆಯುವ ಕೌಶಲ್ಯಗಳನ್ನು ಅರ್ಥೈಸಿಕೊಳ್ಳುತ್ತಾರೆ.	PO6, PO5	Ap, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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HINDI **III SEMESTER**

Name of the Course: Hindi

Name of the Subject Matter Expert: Dr. Reva Prasad

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Students will get knowledge of drama literature and develop their language skills.	PO 1, PO2	R,U.Ap
CO2	Students can acquire the knowledge of Hindi grammar and utilize it in day-to-day life.	PO1,2,6	R,U,Ap
CO3	Students can gain Reading, Writing and Oratory skills.	PO 2,6	R,U,Ap
CO4	Students understand the themes, plot and characterization of the drama- Ek aur Dronacharya.	PO1,2,3	AP, An, E
CO5	Students learn about human values and emotions like empathy, honesty, truthfulness and humanity etc.	PO 3,6,7	AP, An, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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AECC **III SEMESTER**

Name of the Course: India and Indian Constitution

Subject matter experts: Prof. Sampath Kumar

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Explain the philosophy and structure of Constitution	PO4, PO7	U
CO2	Contextualise the depth of India as a nation with its diverse socio-political culture and philosophical values	PO4, PO6	U, AN
CO3	Give the knowledge to expand the breadth of freedom struggle and its significance in nation building	PO4, PO6	An, E
CO4	Measure the powers, functions and limitations of various offices under the constitution.	PO4, PO6	Ap,
CO5	Demonstrate the values, ideals and the role constitution in India	PO4, PO6	An, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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COMPUTER SCIENCE **V SEMESTER**

Name of the Course: DBMS

Name of the Subject Matter Expert: Prof. Saranya C

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Basic concepts and the applications of database systems.to have broad understanding of the three level architecture of DBMS. Database System Environment, Classification of Database Management Systems.	PO1, PO5	U,AP
CO2	Identify the basic concepts and various data models used in database design. Design ER-models to represent simple database application scenarios. Explain the basic concepts of relational data model.	PSO 1, PO6	U, E,AP
CO3	Apply relational database theory. To be able to describe relational algebra expression, tuple and domain relational expression for queries. Recognize and identify the use of normalisation and functional dependency.	PO6, PO7	U, E,AP
CO4	To formulate SQL queries on data using basic DDL, DML and DCL commands.	PSO 1, PO5, PO7	U,AP
CO5	Understand the Transaction Processing, Properties, Concurrency control, Recovery.	PO6, PO7	U, E,AP

C. Saranya 8/1/24
Subject Matter Expert

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COMPUTER SCIENCE **V SEMESTER**

Name of the Course: DBMS Lab

Name of the Subject Matter Expert: Prof. Saranya C

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To draw an E-R Diagram and converting the entities and relationship	PO1	U,An
CO2	Performing the database creation, viewing, updating and deleting	PO5	C
CO3	Learning the queries to design a database.	PO5	C
CO4	Understand how to execute the queries in a given set of relations .	PSO1	U & C
CO5	Developing the creation of views, selecting and dropping views.	PO5	C

C. Saranya 8/1/24
Subject Matter Expert

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COMPUTER SCIENCE **V SEMESTER**

Name of the Course: Artificial Intelligence

Name of the Subject Matter Expert: Prof. Thejaswi Nandyala

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the various characteristics of problem solving agents and apply problem solving through search for AI applications.	PO1,PO2, PO3	R,U
CO2	Appreciate the concepts of knowledge representation using Propositional logic and Predicate calculus and apply them for inference/reasoning.	PO1,PO2	R,U,AP
CO3	Obtain insights about Planning and handling uncertainty through probabilistic reasoning and fuzzy systems.	PO1,PO2, PO3	R,U
CO4	Understand basics of computer vision and Natural Language Processing and understand their relevance in AI applications.	PO1	R,U
CO5	Obtain insights about machine learning, neural networks, deep learning networks and their significance.	PO1,PO2	R,U

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COMPUTER SCIENCE **V SEMESTER**

Name of the Course: Artificial Intelligence Lab

Name of the Subject Matter Expert: Prof. Thejaswi Nandyala

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Solve search problems including heuristic search and constraint satisfaction search	PO1, PO2	R, U
CO2	Understand and apply image processing techniques for image enhancement, image detection and recognition.	PO1, PO2, PO3	R, U, Ap
CO3	Understand and implement supervised machine learning and probabilistic machine learning algorithms	PO1, PO2, PO3	U, An
CO 4	Implement unsupervised learning through clustering	PO1, PO3, PO4	R, U, Ap, E
CO 5	Perform NLP operations to gain understanding of text processing and analytics	PO1, PO2, PO3	R, U, An

Subject Matter Expert

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PSYCHOLOGY **V SEMESTER**

Name of the Course: Health Psychology

Subject matter expert: Prof Lakshmi Balakrishnan

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To understand the basic concepts in health psychology in terms of the definition, the various concepts, models and strategies used.	PO1, PO2	R, U
CO2	Applying the theories and metHoDs to promote health behaviors.	PO1, PO2	R, U, Ap, An, E
CO3	To comprehend the various factors associated with stress	PO1, PO2, PO3	U, An, E
CO 4	To understand and apply the various stress management techniques used to manage stress	PO1, PO3	R, U, Ap, E
CO 5	To remember and analyze to modify the barriers in health.	PO1, PO2, PO3	R, U, An

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PSYCHOLOGY **V SEMESTER**

Name of the Course: Health Psychology Practical

Subject matter expert: Prof Lakshmi Balakrishnan

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand how optimum health has an influence in functioning	PO1, PO2	U
CO2	Analyse the quality of life in five major areas	PO1	An
CO3	Analyse how individuals adapt to situations	PO1, PO3	An
CO 4	Understand and evaluate how to deal with stress in situations	PO1	U, E
CO 5	Understand the pattern of behaviours	PO2, PO3	U

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PSYCHOLOGY **V SEMESTER**

Name of the Course: Social Psychology

Subject matter expert: Prof. Diliya Joseph

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To understand the individual in relation to the social world.	PO1, PO2	R, U
CO2	To apply the knowledge in the realm of social influences of behaviors.	PO1, PO2, PO3	R, U, Ap
CO3	To analyze and understand the various social issues that are prevalent in the society	PO1, PO2, PO3	U, An
CO 4	To comprehend and remember the importance of interpersonal relationships.	PO1, PO3, PO4	R, U, Ap, E
CO 5	To apply and comprehend the students about the social issues around the society.	PO1, PO2, PO3	R, U, An

Subject matter expert

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PSYCHOLOGY **V SEMESTER**

Name of the Course: Social psychology practical

Subject Matter expert: Prof. Diliya Joseph

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To understand concepts of attitude, stereotypes, adjustment, attachment styles and social distances.	PSO3, PSO4	U, R
CO2	To be able to administer tests with sensitivity and ethical considerations.	PSO1, PSO5	U, R
CO3	To be able to execute simple statistical calculations on group data and to interpret them with precision	PO4, PO5, PO7	A, U, An
CO4	To be able to draw conclusions from the inferred interpretations of data.	PO1, PO3,	R, U, An
CO5	To execute professionalism in dealing with a subject and their data.	PO1, PO3, PO6	R, U, Ap

Subject Matter Expert

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SKILL ENHANCEMENT COURSE (SEC) **V SEMESTER**

Name of the Course: Cyber Security
Subject matter expert: Dr. S.Sivagami

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand cyber crimes, their nature, legal remedies.	PO1,PO2	U,R
CO2	Understand how to report the crimes through available platforms and procedures.	PO1,PO2,	U,R
CO3	Recognize various privacy and security concerns on Social media and e-commerce platforms.	PO3	U,R
CO4	Use basic tools and technologies to protect their devices.	PO4,PSO1	U,R,E,An
CO5	Understand the digital environment and issues in it.	PO1,PO2	U,R

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SCHOOL OF SCIENCE
Name of the Degree Programme: B.Sc. Mathematics- Chemistry
Programme Outcomes/ Programme Specific Outcomes

PO1- Disciplinary Knowledge
(i) Create enthusiasm among students for Mathematics and Chemistry and its application in various fields of life.
(ii) To provide students with broad and balanced knowledge and understanding of key concepts in various branches of pure and applied mathematics as well as in chemistry.

PO2-Communication and Interpersonal Skills
(i) To develop the ability to communicate various concepts effectively using examples
(ii) Exhibit skills leading to employability in industries.

PO3- Critical thinking and Problem-solving capabilities
(i) To acquire the ability of critical thinking and logical reasoning and capability of recognizing and distinguishing the various aspects of real life problems.
(ii) To develop an ability to analyse the problems, identify and define appropriate computing requirements and/ or standard methodology for its solutions by utilising the knowledge gained.

PO4- Teamwork and respect for diversity
(i) Demonstrate a range of practical skills to conduct and infer experiments independently and in groups.
(ii) To make an in depth study of various notions of Mathematics/Chemistry for pursuing the interdisciplinary and multidisciplinary higher education and/or research in interdisciplinary and multidisciplinary areas.

PO5- Information and Communication Technology (ICT) digital fluency
(i) To enable the students to think independently and develop algorithms and computational skills for solving real word problems.
(ii) To equip the learner to use appropriate softwares to solve systems of algebraic equations and differential equations.

PO6 -Self -directed Lifelong Learning
(i) To develop the ability to adapt and apply methodology to the solution of unfamiliar types of problems
(ii) To create the ability to pursue advanced studies and research in pure and applied sciences.

PO7 -Moral and Ethical Awareness/Reasoning
(i) To develop an ability to identify unethical behaviour such as fabrication, falsification or misinterpretation of data and adopting objectives, unbiased and truthful actions in all aspects of life in general and their specialised subjects in particular.
(ii) Develop soft skills in practising professional ethics.

PSO 1: Provide the ability to plan and carry out experiments independently and assess the significance of outcomes and to cater to the demands of Industries as well-trained graduates.

PSO 2: To equip with mathematical modelling ability and problem solving skill.

PO-PSO- CO MAPPING

Cognitive Levels (Blooms taxonomy)

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C– Create

MATHEMATICS **I SEMESTER**

Name of the Course: Algebra -I and Calculus I

Name of the Course Faulty: Prof. Roshini Anne Koshy

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand, create, and identify types of matrices. Apply elementary transformations to reduce the matrix into the echelon form to determine its rank and interpret the various solutions of system of linear equations.Identify consistent and inconsistent systems of linear equations by the row reduced echelon form of the augmented matrix, using rank. Evaluate and find eigen values and eigenvectors. Apply the concept of Caley Hamilton theorem for finding the inverse of a matrix.	PO1, PO2, PO3, PO4, PO6	R, U, Ap, E,
CO2	Recall the basic concepts in differentiation and get the knowledge of p-r equation, Curvature, Radius of curvature, apply it in problems. Determine the arc length of a cartesian and polar curve. Analyse, interpret and evaluate the concept of asymptotes, evolutes, and envelopes.	PO1, PO2, PO3, PO4, PO6	R, U, An, E
CO3	Compare and contrast the ideas of continuity and differentiability. Calculate the limit and examine the continuity of a function at a point. Understand and apply the concept of various mean value theorems for differentiable functions. Identify, analyse, and evaluate limit of a function by using L 'Hospital rule and Simple basic rules.	PO1, PO2, PO3, PO4, PO6	U, Ap, E
CO4	Evaluate the nth order derivatives using successive differentiation. Apply the nth order derivatives to solve the given function.Evaluate nth derivative by applying the concept of partial fractions. Analyse and interpret how to find the product of two functions using Leibnitz's theorem.	PO1, PO2, PO3, PO4, PO6	, An, Ap, E, C
CO5	Formulate and Sketch curves in Cartesian and polar forms.	PO1, PO2, PO3, PO4, PO6	Ap, An, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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MATHEMATICS **I SEMESTER**

Name of the Course: Algebra -I and Calculus I practical
Name of the Course Faulty: Prof. Roshini Anne Koshy

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Learn *Free and Open Source Software (FOSS)* tools for computer programming	PO3, PO6, PSO2	R,U,E, Ap,An
CO2	Solve problems related to Analytical Geometry and Vector Calculus using FOSS software.	PO3, PO6, PSO2	R,U,E,A p,An
CO3	Solve problems related to Analytical Geometry and Vector Calculus using FOSS software.	PO3, PO6, PSO2	R,U,E,A p,An

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CHEMISTRY **I SEMESTER**

Name of the Course: Analytical and Organic Chemistry-I
Name of the Course Faulty: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Learn the concepts of chemical analysis, accuracy, precision and statistical data treatment	PO 1, PO 6	U, Ap
CO2	Know the concept of volumetric and gravimetric analysis and deducing the conversion factor for determination	PO2, PO4,	Ap, U,An, E
CO3	Handle toxic chemicals, concentrated acids and organic solvents and practice safety procedures.	PO1, PO6	R, U, An
CO4	Understand the concepts of Organic reactions and techniques of writing the movement of electrons, bond breaking, bond forming.	PO1, PO3, PO5	R, U, An
CO5	Learn the Concept of aromaticity, resonance, hyper conjugation, etc. and understand the mechanism of nucleophilic, electrophilic reactions.	PO1, PO6	U,An, C

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CHEMISTRY **I SEMESTER**

Name of the Course: Analytical and Organic Chemistry Practicals
Name of the Course Faulty: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the safety practices in the Chemistry Laboratory and develop awareness regarding toxicity of chemicals	PO2	U, R, Ap
CO2	Know the importance of calibration of glassware, pipette, burette and volumetric flask as well as prepare standard/working solutions, standardisation of solutions and determination of the respective analytes.	PO4	U, R, C
CO3	Select suitable solvent for purification of organic compounds and gain an insight to the mechanism behind the reaction and the significance of catalysts.	PO6	U, An, E
CO4	Learn the importance of green methods over conventional methods and proficiently handle the byproducts and disposal of waste.	PO6, PO7	U, An, Ap
CO5	Enthuse students to conduct experiments by arousing curiosity which would help them in learning basics and advanced concepts through simulation-based lab.	PO5, PSO1	U, Ap, E

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OPEN ELECTIVE **I SEMESTER**

Name of the Programme: BSC B OEC- Writing for Media
Subject matter experts: Kusuma R.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To familiarize the students with writing skills for media	PSO1, PSO2	R, U, E
CO2	To enhance the student's interest in writing for media.	PSO1, PSO2	U, Ap, An, E
CO3	To equip the students with recent trends in media writing.	PSO1, PSO2, PSO 4	U, Ap, An, E
CO4	Proficiency will extend to applying storytelling techniques and journalistic principles, ensuring adaptable writing styles for various platforms while maintaining ethical standards.	PSO3,PSO2	U, Ap, An, E
CO5	Through case studies and discussions, students will explore the ethical complexities of media communication, gaining the ability to evaluate information credibility, address misinformation, and contribute to responsible media consumption.	PSO1,PSO4	R, U, E

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ENGLISH **I SEMESTER**

Name of the Course Generic English
Subject matter experts: Dr. Tharini

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Acquire the LSRW (Listening, Speaking, Reading, Writing) skills and Learn to appreciate literary art.	PO2	R, U, AP
CO2	Obtain the knowledge of literary devices and genres and Acquire the skills of creativity to express one's experiences.	PO6	R, U, AP
CO3	Know how to use digital learning tools and Be aware of their social responsibilities.	PO5	R, U, An
CO4	Develop their ability as critical readers and writers and Increase their reading speed.	PO3	R, U, E
CO5	Be able to give presentations and Increase their analytical skills.	PO2	R, U, C

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P. Tharini
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KANNADA **I SEMESTER**

Name of the Course: Vijnana Kannada
Name of the Subject Matter Expert: Dr.Prakasha, Prof. Kumara C.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	ಒಂದನೇ ಘಟಕದಲ್ಲಿ ನಾಡು ನುಡಿ ಚಿಂತನೆ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಕರ್ನಾಟಕದ ಇತಿಹಾಸ ಮತ್ತು ಏಕೀಕರಣ ಆಡು ಭಾಷೆ ಮತ್ತು ಗ್ರಾಂಥಿಕ ಭಾಷೆಯ ಅಂತರ ಮತ್ತು ಮಹತ್ವ ತಜ್ಞರು ಉದ್ಯಮ ಮತ್ತು ಉದ್ಯೋಗದ ವಿಷಯದಲ್ಲಿ ಕನ್ನಡ ಭಾಷೆಗೆ ಕೊಡಬೇಕಾದ ಸ್ಥಾನಮಾನದ ಬಗ್ಗೆ ಅರಿಯುವುದು.	**PO1, PO3**	**U, An**
CO2	ಎರಡನೇ ಘಟಕದಲ್ಲಿ ಭೂಮಿ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಜಾನಪದ ಮತ್ತು ಶಿಷ್ಟ ಪದದ ಪರಿಕಲ್ಪನೆ, ರಾಜನಾದ ಮನುಷ್ಯನ ಒಳಗಿರುವ ಆಸ್ತಿ ಮತ್ತು ಅಧಿಕಾರದ ಹಂಬಲ, ಭೂಮಿಯ ಮೇಲಿನ ಒಡೆತನ ಮತ್ತು ಹಕ್ಕು ಸಾಧಿಸುವ ಬಯಕೆ ಮನುಷ್ಯನಿಗೆ ಹೊಸದೇನಲ್ಲ ಎಂಬುದನ್ನು ತಿಳಿಯುವುದು.	**PO2, PO6**	**U, Up**
CO3	ಮೂರನೆಯ ಘಟಕದಲ್ಲಿ ವೈಜ್ಞಾನಿಕ ಮನೋಧರ್ಮ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಹನ್ನೆರಡನೆಯ ಶತಮಾನದ ವಚನ ಚಳುವಳಿಯನ್ನು ಕರ್ನಾಟಕದ ಸಾಂಸ್ಕೃತಿಕ ಚರಿತ್ರೆಯಲ್ಲಿ ಒಂದು ಅಭೂತಪೂರ್ವ ಕಾಲ ಎನ್ನಬಹುದು? ವಿಜ್ಞಾನದ ಮಹತ್ವ ಮತ್ತು ಅಂಧ ಶ್ರದ್ಧೆಯ ಬಗ್ಗೆ ಅರಿಯುವುದು. ಮೂಢನಂಬಿಕೆಗಳ ಬಗ್ಗೆ ಅರಿವು ಮೂಡಿಸುವುದು	PO6, PO7	U, Ap, An,
CO4	ನಾಲ್ಕನೆಯ ಘಟಕದಲ್ಲಿ ಸಂಕೀರ್ಣ ಲೇಖನಗಳು ಎಂಬ ಲೇಖನಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ವಿಜ್ಞಾನದ ಸಾಧನೆಗಳ ಬಗ್ಗೆ ತಿಳಿಯುವುದು? ಪ್ರಕೃತಿ ಮತ್ತು ಪರಿಸರದ ಮಹತ್ವವನ್ನು ಅರಿಯುವುದು. ಕೃಷಿ ಮತ್ತು ಸಾಹಿತ್ಯಿಕ ಮಹತ್ವವನ್ನು ತಿಳಿಯುವುದು	**PO6, PO7**	**U, Ap, An**
CO5	ಈ ಭಾಗದಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳು ವ್ಯಾಕರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಪಾರಿಭಾಷಿಕ ಪದಗಳ ಪರಿಚಯ, ವಿಶೇಷ ಪದಗಳ ಅರ್ಥ ಗ್ರಹಿಕೆ, ವಾಕ್ಯ ಜೋಡಣೆ ಮುಂತಾದ ಕೌಶಲ್ಯಗಳನ್ನು ಬೆಳೆಸಿಕೊಳ್ಳುವುದರ ಜೊತೆಗೆ ಮಾಹಿತಿ ಹಕ್ಕು ಅಧಿನಿಯಮಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಅರ್ಜಿ ಬರೆಯುವ ಕೌಶಲ್ಯಗಳನ್ನು ಅರ್ಥೈಸಿಕೊಳ್ಳುತ್ತಾರೆ	**PO6, PO5**	**Ap, E**

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HINDI **I SEMESTER**

Name of the Course: I SEM BSC HINDI
Name of the Subject Matter Expert: Madhuri Kshirsagar

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Students will be familiar with different genres of hindi prose.	PO 1, 2, 3, 6, 7	R, U, Ap,
CO2	The study of prose will generate interest in creative writing.	PO 2,3,6	Ap, C
CO3	Students will develop their language skills.	PO 1,2,6	U, Ap
CO4	Students can gain Reading, writing, Oratory skills.	PO 2,6	U, Ap
CO5	Students can acquire the knowledge of Hindi grammar and utilize it in day-to-day life.	PO 1,2,6	R, U, Ap

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ABILITY ENHANCEMENT COMPULSORY COURSE **I SEMESTER**

Name of the Programme: Environmental Studies
Subject matter experts: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	CO1-Bring about an awareness of a variety of environmental concerns.	PO4	R,U
CO2	CO2-Understand the concepts of ecosystem, natural resources, biodiversity as well as to discuss the factors impacting biodiversity loss and ecosystem degradation.	PO6, PO7	U, Ap
CO3	CO3-Develop an understanding of pollution and sensitize to adverse health impacts of pollution.	PO6, PO7	U. An
CO4	CO4-Learn about major international institutions and programmes and the role played by them in the protection and preservation of the environment.	PO6, PO7	R,U
CO5	CO5-Create a pro-environmental attitude and a behavioral pattern in society that is based on creating sustainable lifestyles.	PO7	E, C

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MATHEMATICS **III SEMESTER**

Name of the Course: : Ordinary Differential Equations & Real Analysis-I
Name of the Course Faulty: Prof. Rashmi N

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Solve first-order non-linear differential equations and linear differential equations. To model problems in nature using Ordinary Differential Equations.	PO1, PO2, PO3,PO4,PO6	E,C
CO2	Formulate differential equations for various mathematical models. Apply these techniques to solve and analyse various mathematical models	PO1, PO2, PO3,PO4,PO6	Ap, An, C
CO3	Understand the fundamental properties of the real numbers that lead to define sequence and series, the formal development of real analysis.	PO1, PO2, PO3,PO4,PO6	R, U
CO4	Learn the concept of Convergence and Divergence of a sequence. Able to handle and understand limits and their use in sequences, series, differentiation, and integration.	PO1, PO2, PO3,PO4,PO6	U, R, E
CO5	Apply the ratio, root, alternating series, and limit comparison tests for convergence and absolute convergence of an infinite series.	PO1, PO2, PO3,PO4,PO6	Ap

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MATHEMATICS **III SEMESTER**

Name of the Course: : Ordinary Differential Equations & Real Analysis-I Practical
Name of the Course Faulty: Prof. Rashmi N

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Free and Open Source software (FOSS) tools or computer programming.Solving exact differential equations.	PO3, PO6, PSO2	R,U,E, Ap,An
CO2	Plotting orthogonal trajectories.	PO4, PO3,	R,U,E,Ap ,An
CO3	Finding complementary function and particular integral of linear and homogeneous differential equations.	PO3, PO6	R,U,E,Ap ,An
CO4	Acquire knowledge of applications of real analysis and differential equations.	PO3, PO6,, PSO2	An, Ap, C
CO5	Verification of convergence/divergence of different types of series.	PO3, PO6	An, Ap, E

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CHEMISTRY **III SEMESTER**

Name of the Course: : Inorganic and Physical Chemistry-II
Name of the Course Faulty: Dr. Regimol George

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	CO1- Understand the importance of fundamental law and validation parameters in chemical analysis and the requirement for chemical analysis by paper, thin layer and column chromatography.	PO2, PO3, PO6	R, U, Ap
CO2	CO2-Apply solvent extraction method for quantitative determination of metal ions in different samples and the ion-exchange chromatography for domestic and industrial applications and spectrophotometric, nephelometric and turbidometric methods to determine different analytes in different matrices (water and real samples).	PO3, PO6,	Ap, U,An
CO3	CO3-Explain mechanism for a given reaction and the importance of Stereochemistry in predicting the structure and property of organic molecules	PO2,PO3,PO6	U,An, E
CO4	CO4- Predict the probable mechanism for a reaction. Explain the importance of reaction intermediates, its role and techniques of generating such intermedia	PO2,PO3,	U, An, C
CO5	CO5-Predict the configuration of an organic molecule, identify the chiral molecules and predict its actual configuration	,PO3,PO6	U, Ap,An

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CHEMISTRY **III SEMESTER**

Name of the Course: : Inorganic and Physical Chemistry-II Practical
Name of the Course Faulty: Dr. Regimol George

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	CO1-Understand the importance of instrumental methods for quantitative applications	PO3,PSO1	U, Ap,An
CO2	CO2-Apply colorimetric methods for accurate determination of metal ions and anions in water or real samples	PO3,PSO1	R, U, Ap
CO3	CO3-Understand how functional group in a compound is responsible for its characteristic property	PO3, PSO1	U,An, E
CO4	CO4-Understand the importance of qualitative tests in identifying functional groups	PO6, PSO1	U, An, C
CO5	CO5-Understand how to prepare a derivative for particular functional group and how to purify it.	PO6, PSO1	U, An, C

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OPEN ELECTIVE **III SEMESTER**

Name of the Course: Entrepreneurship Skills
Name of the Course Faulty: Dr. N.K. Chitra, Department of Commerce

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Identify the Factors that influence Entrepreneurship.	PO2, PO3	U, Ap
CO2	Understand the Skill Sets required for Entrepreneur	PO2, PO4,	Ap, U,An, E
CO3	Identify the opportunities for developing Entrepreneurship skills through National and State Level Institutions.	PO2, PO3	R, U, An
CO4	Role played by MSME in the development of Indian Economy.	PO2, PO4,	R, U, An
CO5	Identify the different Government Schemes available for promoting Entrepreneurs in India.	PO3, PO4	U,An, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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ENGLISH **III SEMESTER**

Name of the Programme: BSc - Generic English

Subject matter experts: Anusha C V

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Acquire the LSRW (Listening, Speaking, Reading, Writing) skills	PO1, PO2	U, A, C
CO2	Analyze and interpret a wide range of literary texts, including poetry, prose and drama.	PO3 PO6,	R, U, Ap, An
CO3	Develop critical thinking and analytical skills to evaluate literary works.	PO1, PO3	U, A, C
CO4	Apply research and critical writing skills to explore contemporary issues related to English Literature.	PO3, PO7	R, U, Ap, An
CO5	Develop a passion for reading and a lifelong appreciation for the richness of English.	PO2, PO5	U, A, C

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KANNADA **III SEMESTER**

Name of the Course: Vijnana Kannada - 3
Name of the Subject Matter Expert: Dr. Shantharaju, Prof. Kumara C

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮಾನವೀಯತೆಯ ಸ್ವರೂಪವನ್ನು ಕುರಿತು ಆಲೋಚಿಸುವಂತೆ ಮಾಡುತ್ತದೆ. ಜಗತ್ತಿನೆಲ್ಲೆಡೆ ನಡೆಯುತ್ತಿರುವ ಅಮಾನವೀಯ ವಿದ್ಯಮಾನಗಳು, ಆಧುನಿಕತೆ, ನಾಗರೀಕತೆ, ಅಭಿವೃದ್ಧಿಯ ಬಗೆಗಿನ ನಮ್ಮ ತಿಳುವಳಿಕೆಯನ್ನೇ ತಿರುವು ಮುರುವಾಗಿಸುತ್ತವೆ. ಇಂತಹ ಸಂದರ್ಭದಲ್ಲಿ ಈ ಪಠ್ಯವು ಮನುಷ್ಯರ ಸಂವೇದನೆಗಳಲ್ಲಿ ಉಂಟಾಗಬೇಕಾದ ಬದಲಾವಣೆಯನ್ನು ತಿಳಿಸುವುದರ ಜೊತೆಗೆ ಸ್ವಕೇಂದ್ರಿತ ಆಲೋಚನೆಗಳ ಆಪಾಯವನ್ನೂ ತಿಳಿಸುತ್ತದೆ.	PO1	U, An
CO2	ಪ್ರವಾಸದ ಬಹುಮುಖಿ ಅನುಭವಗಳನ್ನು ಕಥನಗಳ ಮೂಲಕ ಓದುಗರೊಂದಿಗೆ ಹಂಚಿಕೊಳ್ಳುವ ಕೆಲಸ ವಿಶೇಷವಾದುದು. ಆ ಭಿನ್ನ ಸಾಂಸ್ಕೃತಿಕ ನಕಾಶೆಯನ್ನು ಎಲ್ಲಡೆ ಹರಡುವ, ಆ ಮೂಲಕ ರಾಜ್ಯ, ರಾಷ್ಟ್ರ, ಜ್ಞಾನ, ತಿಳುವಳಿಕೆ, ಅನುಭವ - ಹೀಗೆ ಎಲ್ಲದರ ಗಡಿಗಳನ್ನೂ ಅಳಿಸಿಹಾಕುವ ಒಂದು ಸೃಜನಶೀಲ ಸಾಂಸ್ಕೃತಿಕ ಚಲನೆಯಾದ ಪ್ರವಾಸದ ಅನುಭವಗಳು ಈ ಘಟಕದಲ್ಲಿ ಕಾಣಸಿಗುತ್ತವೆ.	PO2, PO6	U, Up
CO3	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳ ಮನಸ್ಸುಗಳಲ್ಲಿ ವಿಚಾರ ಕ್ರಾಂತಿಯ ಬೀಜವನ್ನು ಬಿತ್ತುವ ಉದ್ದೇಶವನ್ನು ಇಟ್ಟುಕೊಂಡಿದೆ. ವೈಚಾರಿಕ ಪ್ರಜ್ಞೆಯನ್ನು ವಿಕಾಸವಾಗಿಸುವುದಕ್ಕೆ ಪೂರಕವಾದ ಸಮಾಜವನ್ನು ಕಟ್ಟಿದ್ದು, ಆಧುನಿಕ ಕಾಲದ ಬಹಳ ದೊಡ್ಡ ಕಾಣಿಕೆ. ಇಂತಹ ವೈಚಾರಿಕ ಮತ್ತು ವೈಜ್ಞಾನಿಕ ಮನೋಭಾವನೆಯನ್ನು ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಬೆಳೆಸುವುದು ಈ ಘಟಕದ ಮುಖ್ಯ ಧ್ಯೇಯವಾಗಿದೆ.	PO6, PO7	U, Ap, An,
CO4	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಪರಿಸರದ ಬಗ್ಗೆ ಅರಿವು ಮೂಡಿಸುವುದರೊಂದಿಗೆ ಪರಿಸರ ಪ್ರಜ್ಞೆ ಹಾಗೂ ಪರಿಸರ ಸಂರಕ್ಷಣೆಯ ಮಹತ್ವದ ಅನಿವಾರ್ಯತೆಗಳನ್ನು ಹೇಳುತ್ತಾ ಪರಿಸರ ಸಂರಕ್ಷಣೆಯಲ್ಲಿ ದೇಶದ ಪ್ರಜೆಯಾಗಿ ನಮ್ಮ ಕರ್ತವ್ಯಗಳನ್ನು ಎಂಬುದನ್ನು ಸ್ಪಷ್ಟಪಡಿಸುತ್ತದೆ ಜೊತೆಗೆ ಪತ್ರ ವ್ಯವಹಾರದ ಅನುಭವಗಳನ್ನು ಕಟ್ಟಿಕೊಡುತ್ತದೆ.	PO6, PO7	U, Ap, An
CO5	ಈ ಭಾಗದಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳು ವ್ಯಾಕರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಪಾರಿಭಾಷಿಕ ಪದಗಳ ಪರಿಚಯ, ವಿಶೇಷ ಪದಗಳ ಅರ್ಥ ಗ್ರಹಿಕೆ, ವಾಕ್ಯ ಜೋಡಣೆ ಮುಂತಾದ ಕೌಶಲ್ಯಗಳನ್ನು ಬೆಳೆಸಿಕೊಳ್ಳುವುದರ ಜೊತೆಗೆ ಮಾಹಿತಿ ಹಕ್ಕು ಅಧಿನಿಯಮಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಅರ್ಜಿ ಬರೆಯುವ ಕೌಶಲ್ಯಗಳನ್ನು ಅರ್ಥೈಸಿಕೊಳ್ಳುತ್ತಾರೆ.	PO6, PO5	Ap, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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HINDI **III SEMESTER**

Name of the Course: Hindi
Name of the Subject Matter Expert: Prof. Devidas Tukaram

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Students will get knowledge of drama literature and develop their language skills.	PO 1, PO2	R,U.Ap
CO2	Students can acquire the knowledge of Hindi grammar and utilize it in day-to-day life.	PO1,2,6	R,U,Ap
CO3	Students can gain Reading, Writing and Oratory skills.	PO 2,6	R,U,Ap
CO4	Students understand the themes, plot and characterization of the drama- Ek aur Dronacharya.	PO1,2,3	AP, An, E
CO5	Students learn about human values and emotions like empathy, honesty, truthfulness and humanity etc.	PO 3,6,7	AP, An, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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AECC **III SEMESTER**

Name of the Course: India and Indian Constitution

Subject matter experts: Prof. Sampath Kumar

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Explain the philosophy and structure of Constitution	PO4, PO7	U
CO2	Contextualise the depth of India as a nation with its diverse socio-political culture and philosophical values	PO4, PO6	U, AN
CO3	Give the knowledge to expand the breadth of freedom struggle and its significance in nation building	PO4, PO6	An, E
CO4	Measure the powers, functions and limitations of various offices under the constitution.	PO4, PO6	Ap,
CO5	Demonstrate the values, ideals and the role constitution in India	PO4, PO6	An, E

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MATHEMATICS **V SEMESTER**

Name of the Course: Vector Calculus & Analytical Geometry

Name of the Subject Matter Expert: Prof. Rashmi N

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Get introduced to the fundamentals of vector differential and integral calculus.	PO1, PO2, PO3,PO4,PO6	R, U
CO2	Get familiar with the various differential operators and their properties.	PO1, PO2, PO3,PO4,PO6	R, An, C
CO3	Get acquainted with the various techniques of vector integration.	PO1, PO2, PO3,PO4,PO6	U, Ap, C
CO4	Learn the applications of vector calculus.	PO1, PO2, PO3,PO4,PO6	U, R, An, C
CO5	Recollect the fundamentals of Analytical Geometry and interpret the geometrical aspects of planes and lines in 3D.	PO1, PO2, PO3,PO4,PO6	R, An, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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MATHEMATICS **V SEMESTER**

Name of the Course: Vector Calculus & Analytical Geometry Practical

Name of the Subject Matter Expert: Prof. Rashmi N

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Learn *Free and Open Source Software (FOSS)* tools for computer programming	PO3, PO6, PSO2	R,U,E, Ap,An
CO2	Solve problems related to Analytical Geometry and Vector Calculus using FOSS software.	PO3, PO6, PSO2	R,U,E,Ap,An
CO3	Solve problems related to Analytical Geometry and Vector Calculus using FOSS software.	PO3, PO6, PSO2	R,U,E,Ap,An

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MATHEMATICS **V SEMESTER**

Name of the Course: Real Analysis-II and Complex Analysis

Name of the Subject Matter Expert: Roshini Anne Koshy

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand Riemann integrals their properties and describe various criteria for integrability of functions.	PO1, PO2, PO3, PO4, PO6	R, U, Ap, E,
CO2	Have an overview of the gamma and beta functions and their relation to a variety of integrals	PO1, PO2, PO3, PO4, PO6	R, U, An, E
CO3	Comprehend the fundamental concepts of analytic functions, including the Cauchy-Riemann equations and orthogonal systems	PO1, PO2, PO3, PO4, PO6	U, Ap, E
CO4	Analyze the proof of Cauchy's Integral theorem using Green's theorem and understand its implications	PO1, PO2, PO3, PO4, PO6	U, An, Ap, E, C
CO5	Analyze elementary transformations such as translation, rotation, magnification, and inversion.	PO1, PO2, PO3, PO4, PO6	Ap, An, C

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Subject Matter Expert **HOD**

MATHEMATICS **V SEMESTER**

Name of the Course: Real Analysis-II and Complex Analysis Practical

Name of the Subject Matter Expert: Roshini Anne Koshy

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Carry out certain computations such as computing upper and lower Riemann sums as well integrals	PO2, PO3, PO4, PO6	R,U,E, Ap,An
CO2	Exhibit certain properties of mathematical objects such as integrable functions, analytic functions, harmonic functions and so on.	PO2, PO3, PO4, PO6	R,U,E,Ap, An
CO3	Describe various criteria for Integrability of functions.	PO2, PO3, PO4, PO6	R,U,E,Ap, An
CO4	Carry out the existing algorithms to construct mathematical structures such as analytic functions	PO3, PO4, PO6, PSO2	R,U,E,Ap, An
C05	Prove some statements related to Riemann integration as well as in complex analysis	PSO -4,3,2,6	R,U,E,Ap, An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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Subject Matter Expert **HOD**

CHEMISTRY **V SEMESTER**

Name of the Course: Organic and Physical Chemistry

Subject matter experts: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Demonstrate a solid understanding of the properties, structures, and nomenclature of alcohols, thiols, and phenols	PO4, PO5	U, Ap
CO2	Evaluate the suitability of different synthetic methods and reagents for specific applications involving aldehydes and ketones and understanding the practical applications of aldehydes and ketones & carboxylic acids in various industries, research, and daily life.	PO3, PSO1	Ap, U,An, E
CO3	Explain the Lambert-Beer's law, the laws of photochemistry, photochemical and photophysical processes as well as to calculate the quantum yield of photochemical combinations. Also to develop an understanding on nuclear stability, nuclear reactions, radioactive decay and applications of nuclear and radiochemistry	PO5, PO6	R, U, An
CO4	Explains the fundamental concepts of quantum mechanics and its application in chemistry	PO1, PO6	R, U, An
CO5	Learning about the fundamental of electrochemistry and to determine the electrode potential of a half cell, identify different types of electrodes, construct cells and demonstrate its application	PO2, PO4	U,An, C

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CHEMISTRY **V SEMESTER**

Name of the Programme: Organic and Physical Chemistry Practical

Subject matter experts: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	CO1- To perform laboratory experiments safely and effectively	PO4, PSO1	U, Ap, C
CO2	CO2- Evaluate the suitability of different synthetic methods and reagents for specific applications involving alcohols, thiols, phenols. aldehydes and ketones.	PO3, PO5, PSO1	U, Ap, C
CO3	CO3- Verify the Lambert-Beer's law through colorimetric experiments	PO5, PO6, PSO1	An, E
CO4	CO4- Study the effect of concentration and temperture on degree of hydrolysis	PO1, PO6, PSO1	An, E
CO5	CO5- Evaluation of Arrehenius parameter for a reaction	PO2, PO4, PSO1	U,An, E

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CHEMISTRY **V SEMESTER**

Name of the Programme: : Inorganic and Biological Chemistry

Subject matter experts: Dr. Regimol George

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Define and explain what coordination compounds are, includes their structure, bonding, and properties.	PO2,PO3	U, Ap,An
CO2	Understand the practical applications of coordination compounds in various fields, such as catalysis, medicinal chemistry, and materials science	PO3,PO6	R, U, Ap
CO3	Gain knowledge of the manufacturing and processing methods for various industrial materials, including the techniques used to shape, heat treat, and surface finishing.	PO2,PO3,PO6	An, E
CO4	Exposed to a strong theoretical and practical background in fundamental concepts. Also to get insights of multiple important technical areas of Biochemistry.	PO3,PO6, PSO1	U, An, C
CO5	Able to correlate structure and function of biomolecules like carbohydrates, lipids and proteins.	PO3,PO6	U, An, C

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CHEMISTRY **V SEMESTER**

Name of the Programme:: Inorganic and Biological Chemistry Practical

Subject matter experts: Dr. Regimol George

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand experimentally the estimation of Zinc and Nickel using EDTA.	PO3,PSO1	U, Ap,An
CO2	Learn experimentally the determination of total hardness of water using EDTA and estimation of copper in brass.	PO3,PSO1	R, U, Ap
CO3	Understand experimentally the preparation of buffers and determination of their pH values using pH meter.	PO6, PSO1	U,An, E
CO4	Learn experimentally the Estimation of reducing sugars by Hegdorn-Jensen method, estimation of lactose in milk by Nelson-Somogi's method, estimation of creatinine by Jaffe's method.	PO3,PSO1	U, An, C
CO5	Understand experimentally the. estimation of inorganic phosphate by Fiske-Subbarow method and estimation of total reducing sugars by DNS (dinitrosalicylic acid) method	PO6, PSO1	U, An, C

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SKILL ENHANCEMENT COURSE (SEC) **V SEMESTER**

Name of the Course: Cyber Security
Subject matter expert: Dr. S.Sivagami

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand cyber crimes, their nature, legal remedies.	PO1,PO2	U,R
CO2	Understand how to report the crimes through available platforms and procedures.	PO1,PO2,	U,R
CO3	Recognize various privacy and security concerns on Social media and e-commerce platforms.	PO3	U,R
CO4	Use basic tools and technologies to protect their devices.	PO4,PSO1	U,R,E,An
CO5	Understand the digital environment and issues in it.	PO1,PO2	U,R

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SCHOOL OF SCIENCE
Name of the Degree Programme: BSc Mathematics- Physics
Programme Outcomes/Programme Specific Outcomes

PO1- Disciplinary Knowledge

(i) To create the facilities and environment to consolidate the knowledge acquired and to motivate and inspire the students to create deep interest in Mathematics and Physics.

(ii) To develop broad and balanced knowledge and understanding of physical concepts, principles and theories of Physics as well as various branches of pure and applied mathematics.

PO2-Communication and Interpersonal Skills

(i) To develop the ability to communicate various concepts effectively using examples and their geometrical visualisation.

(ii) The skills and knowledge gained in this program will lead to proficiency in analytical reasoning.

(i) To develop the ability to communicate various concepts effectively using examples

(ii) Exhibit skills leading to employability in industries.

PO3- Critical thinking and Problem-solving capabilities

(i) To acquire the ability of critical thinking and logical reasoning and capability of recognizing and distinguishing the various aspects of real life problems.

(ii) To utilise the knowledge gained to develop an ability to analyse the problems, identify and define appropriate computing requirements for its solutions.

PO4- Teamwork and respect for diversity

(i) To develop an ability to work independently.

(ii) To make an in depth study of various notions of Mathematics and Physics for pursuing the interdisciplinary and multidisciplinary higher education and/or research in interdisciplinary and multidisciplinary areas.

PO5- Information and Communication Technology (ICT) digital fluency

(i) To enable the students to think independently and develop algorithms and computational skills for solving real word problems.

(ii) To equip the learner to use appropriate softwares.

PO6 -Self -directed Lifelong Learning

(i) To develop the capability of inquiring about appropriate questions relating to concepts in different areas of Mathematics and Physics.

(ii) To create the ability to pursue advanced studies and research in pure and applied sciences.

PO7 -Moral and Ethical Awareness/Reasoning

(i) To develop an ability to identify unethical behaviour such as fabrication, falsification or misinterpretation of data and adopting objectives, unbiased and truthful actions in all aspects of life in general and their specialised subjects in particular.

(ii) Develop soft skills in practising professional ethics.

PSO 1: Learn, design and perform experiments in the labs to demonstrate the concepts, principles and theories learned in the classrooms.

PSO 2: To equip with mathematical modelling ability and problem solving skill.

PO-PSO- CO MAPPING

Cognitive Levels (Blooms taxonomy)

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C– Create

PHYSICS **I SEMESTER**

Name of the Course: Mechanics and Properties of Matter
Name of the Faculty Member: Prof. Sonima Mohan

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Able to find out energy and momentum involved in any reactions based on universal conservation laws.	PO1, PO2, PSO1, PSO2	R, U, An
CO2	Determination of time dilation and length contraction in relativistic problems.	PO1, PO2, PSO1, PSO2	U,An,Ap,E
CO3	Application of Gravitational force and energy in space science to analyse the planetary and satellite motion.	PO1, PO2, PSO1, PSO2	U,An,Ap,E
CO4	Calculation of twisting couple, bending moment of beams and cantilever which plays a very important role in the construction of buildings.	PO1, PO2, PSO1, PSO2	U,An,Ap,E,C
CO5	Resolve the problems related to surface tension and viscosity.	PO1, PO2, PSO1, PSO2	U,An,Ap,E,C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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PHYSICS **I SEMESTER**

Name of the Course: Mechanics and Properties of Matter Practical
Name of the Course Faulty: Prof. Sonima Mohan

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	CO1- Determination of acceleration due to gravity using bar pendulum	PO3,PO4,PSO1 PSO2	U,An,Ap ,E
CO2	CO2- Verification of parallel and perpendicular axis theorems and Hook's law.	PO3,PO4, PO5, PSO1, PSO2	An,Ap,E, C
CO3	CO3- Determination of Young's modulus by Koenig's method	PO3,PO4, PO5, PSO1, PSO2	An,Ap,E, C
CO4	CO4-Determine the Young's Modulus a bar by single cantilever method.	PO3,PO4, PO5, PSO1, PSO2	An,Ap,E, C
CO5	CO5-Determination of rigidity modulus using torsional pendulum	PO3, PO4, PO5, PO6, PSO1, PSO2	An,Ap,E, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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MATHEMATICS **I SEMESTER**

Name of the Course: Algebra -I and Calculus I
Name of the Course Faulty: Prof. Roshini Anne Koshy

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand, create, and identify types of matrices. Apply elementary transformations to reduce the matrix into the echelon form to determine its rank and interpret the various solutions of system of linear equations.Identify consistent and inconsistent systems of linear equations by the row reduced echelon form of the augmented matrix, using rank. Evaluate and find eigen values and eigenvectors. Apply the concept of Caley Hamilton theorem for finding the inverse of a matrix.	PO1, PO2, PO3, PO4, PO6	R, U, Ap, E,
CO2	Recall the basic concepts in differentiation and get the knowledge of p-r equation, Curvature, Radius of curvature, apply it in problems. Determine the arc length of a cartesian and polar curve. Analyse, interpret and evaluate the concept of asymptotes, evolutes, and envelopes.	PO1, PO2, PO3, PO4, PO6	R, U, An, E
CO3	Compare and contrast the ideas of continuity and differentiability. Calculate the limit and examine the continuity of a function at a point. Understand and apply the concept of various mean value theorems for differentiable functions. Identify, analyse, and evaluate limit of a function by using L 'Hospital rule and Simple basic rules.	PO1, PO2, PO3, PO4, PO6	U, Ap, E
CO4	Evaluate the nth order derivatives using successive differentiation. Apply the nth order derivatives to solve the given function.Evaluate nth derivative by applying the concept of partial fractions. Analyse and interpret how to find the product of two functions using Leibnitz's theorem.	PO1, PO2, PO3, PO4, PO6	U, An, Ap, E, C
CO5	Formulate and Sketch curves in Cartesian and polar forms.	PO1, PO2, PO3, PO4, PO6	Ap, An, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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MATHEMATICS **I SEMESTER**

Name of the Course: Algebra -I and Calculus I practical
Name of the Course Faulty: Prof. Roshini Anne Koshy

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Learn *Free and Open Source Software (FOSS)* tools for computer programming	PO3, PO6, PSO2	R,U,E, Ap,An
CO2	Solve problems related to Analytical Geometry and Vector Calculus using FOSS software.	PO3, PO6, PSO2	R,U,E,Ap,An
CO3	Solve problems related to Analytical Geometry and Vector Calculus using FOSS software.	PO3, PO6, PSO2	R,U,E,Ap,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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OPEN ELECTIVE **I SEMESTER**

Name of the Programme: BSC B OEC- Writing for Media
Subject matter experts:Prof. Kusuma R.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To familiarize the students with writing skills for media	PSO1, PSO2	R, U, E
CO2	To enhance the student's interest in writing for media.	PSO1, PSO2	U, Ap, An, E
CO3	To equip the students with recent trends in media writing.	PSO1, PSO2, PSO 4	U, Ap, An, E
CO4	Proficiency will extend to applying storytelling techniques and journalistic principles, ensuring adaptable writing styles for various platforms while maintaining ethical standards.	PSO3,PSO2	U, Ap, An, E
CO5	Through case studies and discussions, students will explore the ethical complexities of media communication, gaining the ability to evaluate information credibility, address misinformation, and contribute to responsible media consumption.	PSO1,PSO4	R, U, E

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ENGLISH **I SEMESTER**

Name of the Course Generic English
Subject matter experts: Dr. Tharini

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Acquire the LSRW (Listening, Speaking, Reading, Writing) skills and Learn to appreciate literary art.	PO2	R, U, AP
CO2	Obtain the knowledge of literary devices and genres and Acquire the skills of creativity to express one's experiences.	PO6	R, U, AP
CO3	Know how to use digital learning tools and Be aware of their social responsibilities.	PO5	R, U, An
CO4	Develop their ability as critical readers and writers and Increase their reading speed.	PO3	R, U, E
CO5	Be able to give presentations and Increase their analytical skills.	PO2	R, U, C

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KANNADA **I SEMESTER**

Name of the Course: Vijnana Kannada
Name of the Subject Matter Expert: Dr. Shantharaju, Prof. Kittappa R..

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	ಒಂದನೇ ಘಟಕದಲ್ಲಿ ನಾಡು ನುಡಿ ಚಿಂತನೆ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಕರ್ನಾಟಕದ ಇತಿಹಾಸ ಮತ್ತು ಏಕೀಕರಣ ಆಡು ಭಾಷೆ ಮತ್ತು ಗ್ರಾಂಥಿಕ ಭಾಷೆಯ ಅಂತರ ಮತ್ತು ಮಹತ್ವ ತಜ್ಞರು ಉದ್ಯಮ ಮತ್ತು ಉದ್ಯೋಗದ ವಿಷಯದಲ್ಲಿ ಕನ್ನಡ ಭಾಷೆಗೆ ಕೊಡಬೇಕಾದ ಸ್ಥಾನಮಾನದ ಬಗ್ಗೆ ಅರಿಯುವುದು.	PO1, PO3	U, An
CO2	ಎರಡನೇ ಘಟಕದಲ್ಲಿ ಭೂಮಿ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಜಾನಪದ ಮತ್ತು ಶಿಷ್ಟ ಪದದ ಪರಿಕಲ್ಪನೆ, ರಾಜನಾದ ಮನುಷ್ಯನ ಒಳಗಿರುವ ಆಸ್ತಿ ಮತ್ತು ಅಧಿಕಾರದ ಹಂಬಲ, ಭೂಮಿಯ ಮೇಲಿನ ಒಡೆತನ ಮತ್ತು ಹಕ್ಕು ಸಾಧಿಸುವ ಬಯಕೆ ಮನುಷ್ಯನಿಗೆ ಹೊಸದೇನಲ್ಲ ಎಂಬುದನ್ನು ತಿಳಿಯುವುದು.	PO2, PO6	U, Up
CO3	ಮೂರನೆಯ ಘಟಕದಲ್ಲಿ ವೈಜ್ಞಾನಿಕ ಮನೋಧರ್ಮ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಹನ್ನೆರಡನೆಯ ಶತಮಾನದ ವಚನ ಚಳುವಳಿಯನ್ನು ಕರ್ನಾಟಕದ ಸಾಂಸ್ಕೃತಿಕ ಚರಿತ್ರೆಯಲ್ಲಿ ಒಂದು ಅಭೂತಪೂರ್ವ ಕಾಲ ಎನ್ನಬಹುದು? ವಿಜ್ಞಾನದ ಮಹತ್ವ ಮತ್ತು ಅಂಧ ಶ್ರದ್ಧೆಯ ಬಗ್ಗೆ ಅರಿಯುವುದು. ಮೂಢನಂಬಿಕೆಗಳ ಬಗ್ಗೆ ಅರಿವು ಮೂಡಿಸುವುದು	PO6, PO7	U, Ap, An,
CO4	ನಾಲ್ಕನೆಯ ಘಟಕದಲ್ಲಿ ಸಂಕೀರ್ಣ ಲೇಖನಗಳು ಎಂಬ ಲೇಖನಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ವಿಜ್ಞಾನದ ಸಾಧನೆಗಳ ಬಗ್ಗೆ ತಿಳಿಯುವುದು? ಪ್ರಕೃತಿ ಮತ್ತು ಪರಿಸರದ ಮಹತ್ವವನ್ನು ಅರಿಯುವುದು. ಕೃಷಿ ಮತ್ತು ಸಾಹಿತ್ಯಿಕ ಮಹತ್ವವನ್ನು ತಿಳಿಯುವುದು	PO6, PO7	U, Ap, An
CO5	ಈ ಭಾಗದಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳು ವ್ಯಾಕರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಪಾರಿಭಾಷಿಕ ಪದಗಳ ಪರಿಚಯ, ವಿಶೇಷ ಪದಗಳ ಅರ್ಥ ಗ್ರಹಿಕೆ, ವಾಕ್ಯ ಜೋಡಣೆ ಮುಂತಾದ ಕೌಶಲ್ಯಗಳನ್ನು ಬೆಳೆಸಿಕೊಳ್ಳುವುದರ ಜೊತೆಗೆ ಮಾಹಿತಿ ಹಕ್ಕು ಅಧಿನಿಯಮಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಅರ್ಜಿ ಬರೆಯುವ ಕೌಶಲ್ಯಗಳನ್ನು ಅರ್ಥೈಸಿಕೊಳ್ಳುತ್ತಾರೆ	PO6, PO5	Ap, E

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HINDI **I SEMESTER**

Name of the Course: I SEM BSC HINDI
Name of the Subject Matter Expert: Prof. Madhuri Kshirsagar

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Students will be familiar with different genres of hindi prose.	PO 1, 2, 3, 6, 7	R, U, Ap,
CO2	The study of prose will generate interest in creative writing.	PO 2,3,6	Ap, C
CO3	Students will develop their language skills.	PO 1,2,6	U, Ap
CO4	Students can gain Reading, writing, Oratory skills.	PO 2,6	U, Ap
CO5	Students can acquire the knowledge of Hindi grammar and utilize it in day-to-day life.	PO 1,2,6	R, U, Ap

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ABILITY ENHANCEMENT COMPULSORY COURSE **I SEMESTER**

Name of the Programme: Environmental Studies
Subject matter experts: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	CO1-Bring about an awareness of a variety of environmental concerns.	PO4	R,U
CO2	CO2-Understand the concepts of ecosystem, natural resources, biodiversity as well as to discuss the factors impacting biodiversity loss and ecosystem degradation.	PO6, PO7	U, Ap
CO3	CO3-Develop an understanding of pollution and sensitize to adverse health impacts of pollution.	PO6, PO7	U. An
CO4	CO4-Learn about major international institutions and programmes and the role played by them in the protection and preservation of the environment.	PO6, PO7	R,U
CO5	CO5-Create a pro-environmental attitude and a behavioral pattern in society that is based on creating sustainable lifestyles.	PO7	E, C

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PHYSICS **III SEMESTER**

Name of the Course: Wave and Motion Optics
Name of the Course Faulty: Prof. Umamaheswari U.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Identify Types of waves and its Characteristics, obtaining wave equation and parameters associated with waves. Mathematical treatment of the superposition of waves under different conditions.	PO1,PO5, PSO1	U, R, An, E
CO2	Describe the formation of Standing waves, mathematical treatment and applications. Analytical treatment of resonance in open and closed pipes and study Helmholtz resonator. Describe acoustics and its parameters in a building and study the effects.	PO2, PO7, PSO2	U, Ap, E
CO3	Understand the different models on light propagation and phenomenon associated and measure the parameters like the wavelength of light using experiments like Michelson interferometer, interference and thin films.	PO3, PO4, PSO1	U, R, An, E
CO4	Explain diffraction due to different objects like singles slit, two slits, diffraction of grating, oblique incidence, circular aperture and give the theory and experimental setup for the same.	PO6, PSO2	U, An
CO5	-Explain the polarization of light and obtain how the polarization occurs due to quarter wave plates, half wave plates, and through the optical activity of a medium.	PO1, PSO1	U, Ap, An, E

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PHYSICS **III SEMESTER**

Name of the Course: : Wave Motion and Optics Practical
Name of the Course Faulty: Prof. Umamaheswari U.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To determine Velocity of sound , Frequency of AC source through a wire using Sonometer.	PO1, PO6, PSO2	U, R, An, E
CO2	To Study Lissajous figures using CRO	PO5, PO2, PSO1	U, An, E
CO3	To determine the refractive index of a liquid by parallax method.	PO1, PSO1	U, Ap, An, E
CO4	Through interference phenomenon Determination of radius of curvature of a lens using Newton's rings.	PO3, PO4, PSO1	U, Ap, An
CO5	Study of Fraunhofer diffraction at single slit	PO6, PSO2	U, Ap, An, E

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MATHEMATICS **III SEMESTER**

Name of the Course: : Ordinary Differential Equations & Real Analysis-I
Name of the Course Faulty: Prof. Rashmi N

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Solve first-order non-linear differential equations and linear differential equations. To model problems in nature using Ordinary Differential Equations.	PO1, PO2, PO3,PO4,PO6	E,C
CO2	Formulate differential equations for various mathematical models. Apply these techniques to solve and analyse various mathematical models	PO1, PO2, PO3,PO4,PO6	Ap, An, C
CO3	Understand the fundamental properties of the real numbers that lead to define sequence and series, the formal development of real analysis.	PO1, PO2, PO3,PO4,PO6	R, U
CO4	Learn the concept of Convergence and Divergence of a sequence. Able to handle and understand limits and their use in sequences, series, differentiation, and integration.	PO1, PO2, PO3,PO4,PO6	U, R, E
CO5	Apply the ratio, root, alternating series, and limit comparison tests for convergence and absolute convergence of an infinite series.	PO1, PO2, PO3,PO4,PO6	Ap

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MATHEMATICS **III SEMESTER**

Name of the Course: : Ordinary Differential Equations & Real Analysis-I Practical
Name of the Course Faulty: Prof. Rashmi N

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Free and Open Source software (FOSS) tools or computer programming.Solving exact differential equations.	PO3, PO6, PSO2	R,U,E, Ap,An
CO2	Plotting orthogonal trajectories.	PO4, PO3,	R,U,E,Ap ,An
CO3	Finding complementary function and particular integral of linear and homogeneous differential equations.	PO3, PO6	R,U,E,Ap ,An
CO4	Acquire knowledge of applications of real analysis and differential equations.	PO3, PO6,, PSO2	An, Ap, C
CO5	Verification of convergence/divergence of different types of series.	PO3, PO6	An, Ap, E

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OPEN ELECTIVE **III SEMESTER**

Name of the Course: Entrepreneurship Skills
Name of the Course Faulty: Dr. N.K. Chitra, Department of Commerce

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Identify the Factors that influence Entrepreneurship.	PO2, PO3	U, Ap
CO2	Understand the Skill Sets required for Entrepreneur	PO2, PO4,	Ap, U,An, E
CO3	Identify the opportunities for developing Entrepreneurship skills through National and State Level Institutions.	PO2, PO3	R, U, An
CO4	Role played by MSME in the development of Indian Economy.	PO2, PO4,	R, U, An
CO5	Identify the different Government Schemes available for promoting Entrepreneurs in India.	PO3, PO4	U,An, C

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ENGLISH **III SEMESTER**

Name of the Course: Generic English

Subject matter experts: Prof. Anusha C V

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Acquire the LSRW (Listening, Speaking, Reading, Writing) skills	PO1, PO2	U, A, C
CO2	Analyze and interpret a wide range of literary texts, including poetry, prose and drama.	PO3 PO6,	R, U, Ap, An
CO3	Develop critical thinking and analytical skills to evaluate literary works.	PO1, PO3	U, A, C
CO4	Apply research and critical writing skills to explore contemporary issues related to English Literature.	PO3, PO7	R, U, Ap, An
CO5	Develop a passion for reading and a lifelong appreciation for the richness of English.	PO2, PO5	U, A, C

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KANNADA **III SEMESTER**

Name of the Course: Vijnana Kannada - 3
Name of the Subject Matter Expert: Dr. Shantharaju, Prof. Kumara C

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮಾನವೀಯತೆಯ ಸ್ವರೂಪವನ್ನು ಕುರಿತು ಆಲೋಚಿಸುವಂತೆ ಮಾಡುತ್ತದೆ. ಜಗತ್ತಿನೆಲ್ಲೆಡೆ ನಡೆಯುತ್ತಿರುವ ಅಮಾನವೀಯ ವಿದ್ಯಮಾನಗಳು, ಆಧುನಿಕತೆ, ನಾಗರೀಕತೆ, ಅಭಿವೃದ್ಧಿಯ ಬಗೆಗಿನ ನಮ್ಮ ತಿಳುವಳಿಕೆಯನ್ನೇ ತಿರುವು ಮುರುವಾಗಿಸುತ್ತವೆ. ಇಂತಹ ಸಂದರ್ಭದಲ್ಲಿ ಈ ಪಠ್ಯವು ಮನುಷ್ಯರ ಸಂವೇದನೆಗಳಲ್ಲಿ ಉಂಟಾಗಬೇಕಾದ ಬದಲಾವಣೆಯನ್ನು ತಿಳಿಸುವುದರ ಜೊತೆಗೆ ಸ್ವಕೇಂದ್ರಿತ ಆಲೋಚನೆಗಳ ಆಪಾಯವನ್ನೂ ತಿಳಿಸುತ್ತದೆ.	PO1	U, An
CO2	ಪ್ರವಾಸದ ಬಹುಮುಖಿ ಅನುಭವಗಳನ್ನು ಕಥನಗಳ ಮೂಲಕ ಓದುಗರೊಂದಿಗೆ ಹಂಚಿಕೊಳ್ಳುವ ಕೆಲಸ ವಿಶೇಷವಾದುದು. ಆ ಭಿನ್ನ ಸಾಂಸ್ಕೃತಿಕ ನಕಾಶೆಯನ್ನು ಎಲ್ಲಡೆ ಹರಡುವ, ಆ ಮೂಲಕ ರಾಜ್ಯ, ರಾಷ್ಟ್ರ, ಜ್ಞಾನ, ತಿಳುವಳಿಕೆ, ಅನುಭವ - ಹೀಗೆ ಎಲ್ಲದರ ಗಡಿಗಳನ್ನೂ ಅಳಿಸಿಹಾಕುವ ಒಂದು ಸೃಜನಶೀಲ ಸಾಂಸ್ಕೃತಿಕ ಚಲನೆಯಾದ ಪ್ರವಾಸದ ಅನುಭವಗಳು ಈ ಘಟಕದಲ್ಲಿ ಕಾಣಸಿಗುತ್ತವೆ.	PO2, PO6	U, Up
CO3	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳ ಮನಸ್ಸುಗಳಲ್ಲಿ ವಿಚಾರ ಕ್ರಾಂತಿಯ ಬೀಜವನ್ನು ಬಿತ್ತುವ ಉದ್ದೇಶವನ್ನು ಇಟ್ಟುಕೊಂಡಿದೆ. ವೈಚಾರಿಕ ಪ್ರಜ್ಞೆಯನ್ನು ವಿಕಾಸವಾಗಿಸುವುದಕ್ಕೆ ಪೂರಕವಾದ ಸಮಾಜವನ್ನು ಕಟ್ಟಿದ್ದು, ಆಧುನಿಕ ಕಾಲದ ಬಹಳ ದೊಡ್ಡ ಕಾಣಿಕೆ. ಇಂತಹ ವೈಚಾರಿಕ ಮತ್ತು ವೈಜ್ಞಾನಿಕ ಮನೋಭಾವನೆಯನ್ನು ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಬೆಳೆಸುವುದು ಈ ಘಟಕದ ಮುಖ್ಯ ಧ್ಯೇಯವಾಗಿದೆ.	PO6, PO7	U, Ap, An,
CO4	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಪರಿಸರದ ಬಗ್ಗೆ ಅರಿವು ಮೂಡಿಸುವುದರೊಂದಿಗೆ ಪರಿಸರ ಪ್ರಜ್ಞೆ ಹಾಗೂ ಪರಿಸರ ಸಂರಕ್ಷಣೆಯ ಮಹತ್ವದ ಅನಿವಾರ್ಯತೆಗಳನ್ನು ಹೇಳುತ್ತಾ ಪರಿಸರ ಸಂರಕ್ಷಣೆಯಲ್ಲಿ ದೇಶದ ಪ್ರಜೆಯಾಗಿ ನಮ್ಮ ಕರ್ತವ್ಯಗಳನ್ನು ಎಂಬುದನ್ನು ಸ್ಪಷ್ಟಪಡಿಸುತ್ತದೆ ಜೊತೆಗೆ ಪತ್ರ ವ್ಯವಹಾರದ ಅನುಭವಗಳನ್ನು ಕಟ್ಟಿಕೊಡುತ್ತದೆ.	PO6, PO7	U, Ap, An
CO5	ಈ ಭಾಗದಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳು ವ್ಯಾಕರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಪಾರಿಭಾಷಿಕ ಪದಗಳ ಪರಿಚಯ, ವಿಶೇಷ ಪದಗಳ ಅರ್ಥ ಗ್ರಹಿಕೆ, ವಾಕ್ಯ ಜೋಡಣೆ ಮುಂತಾದ ಕೌಶಲ್ಯಗಳನ್ನು ಬೆಳೆಸಿಕೊಳ್ಳುವುದರ ಜೊತೆಗೆ ಮಾಹಿತಿ ಹಕ್ಕು ಅಧಿನಿಯಮಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಅರ್ಜಿ ಬರೆಯುವ ಕೌಶಲ್ಯಗಳನ್ನು ಅರ್ಥೈಸಿಕೊಳ್ಳುತ್ತಾರೆ.	PO6, PO5	Ap, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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HINDI **III SEMESTER**

Name of the Course: Hindi
Name of the Subject Matter Expert: Prof. Devidas Tukaram

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Students will get knowledge of drama literature and develop their language skills.	PO 1, PO2	R,U.Ap
CO2	Students can acquire the knowledge of Hindi grammar and utilize it in day-to-day life.	PO1,2,6	R,U,Ap
CO3	Students can gain Reading, Writing and Oratory skills.	PO 2,6	R,U,Ap
CO4	Students understand the themes, plot and characterization of the drama- Ek aur Dronacharya.	PO1,2,3	AP, An, E
CO5	Students learn about human values and emotions like empathy, honesty, truthfulness and humanity etc.	PO 3,6,7	AP, An, E

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AECC **III SEMESTER**

Name of the Course: India and Indian Constitution

Subject matter experts: Prof. Sampath Kumar

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Explain the philosophy and structure of Constitution	PO4, PO7	U
CO2	Contextualise the depth of India as a nation with its diverse socio-political culture and philosophical values	PO4, PO6	U, AN
CO3	Give the knowledge to expand the breadth of freedom struggle and its significance in nation building	PO4, PO6	An, E
CO4	Measure the powers, functions and limitations of various offices under the constitution.	PO4, PO6	Ap,
CO5	Demonstrate the values, ideals and the role constitution in India	PO4, PO6	An, E

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PHYSICS **V SEMESTER**

Name of the Course: Classical Mechanics I and Quantum Mechanics I

Subject matter expert: Prof. Sonima Mohan

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the concept of inertial and non inertial frames and conservation laws	**PO1,PO2,PSO1,PSO2**	R,U,E
CO2	Learn about different types of constraints, generalized coordinates and application of Lagrange's equations in various practical situations	**PO1,PO2,PSO1,PSO2**	R,U,E,Ap
CO3	Determine the effect of relativistic speed on length, time, mass and momentum of objects	**PO3,PO4,PSO1,PSO2**	U,An,Ap,E
CO4	Analysis of uncertainty principle and illustration ingamma ray microscope and diffraction at slits	**PO3,PO4,PSO1,PSO2**	U,An,Ap,E,C
CO5	Application of Schrodinger equations in tunnelling effect and one dimensional potential well	**PO3,PO4,PSO1,PSO2**	U,An,Ap,E,C

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PHYSICS **V SEMESTER**

Name of the Course: Classical Mechanics I and Quantum Mechanics I

Subject matter experts: Prof. Sonima Mohan

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To determine 'g', the acceleration due to gravity, at a given place, from the L – T 2 graph, for a simple pendulum.	PO3,PO4,PO5,PO 6,PSO1,PSO2	An,Ap,E,C
CO2	Studying the effect of amplitude of oscillation and of bob on the time period of the simple pendulum.	PO3,PO4,PO5,PO 6,PSO1,PSO2	An,Ap,E,C
CO3	To study the characteristics of solar cell.	PO3,PO4,PO5,PO 6,PSO1,PSO2	An,Ap,E,C
CO4	To find the value of e/m for an electron by Thomson's method using bar magnets.	PO3,PO4,PO5,PO 6,PSO1,PSO2	An,Ap,E,C
CO5	Determination of Planck constant and work function of the material of the cathode using Photo-electric cell and quantum efficiency of Photodiode.	PO3,PO4,PO5,PO 6,PSO1,PSO2	An,Ap,E,C

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PHYSICS **V SEMESTER**

Name of the Course: Elements of Atomic, Molecular and Laser Physics

Subject matter experts: Prof. Umamaheswari U.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Description of atomic properties using basic atomic models.	PO1, PO4, PSO1	U, R, An, E
CO2	Interpretation of atomic spectra of elements using vector atom model.	PO2, PO7, PSO2	U, Ap, E
CO3	Interpretation of molecular spectra of compounds using basics of molecular physics.	PO5, PO6, PSO1	U, R, An, E
CO4	Experimental study of Raman effect, and its applications.	PO1, PSO2	U, An
CO5	Explanation of laser systems and their applications in various fields.	PO2, PO3, PSO1	U, Ap, An, E

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PHYSICS **V SEMESTER**

Name of the Course: Elements of Atomic, Molecular and Laser Physics Practical

Subject matter experts: Prof. Umamaheswari U.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To determine Planck's constant using Photocell and LED	PO1, PO4, PSO1	U, An, E
CO2	To determine wavelength of spectral lines of mercury source using spectrometer.	PO5, PO6, PSO1	U, An, E
CO3	To determine fine structure constant using fine structure separation of sodium D-lines using a plane diffraction grating.	PO7, PSO2	U, Ap, An, E
CO4	To determine wavelength and angular spread of He-Ne laser using plane diffraction grating.	PO2, PO3, PSO1	U, Ap, An
CO5	Analysis of rotational Raman spectra, Rotational vibrational spectrum and band spectrum.	PO1, PSO2	An, E

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MATHEMATICS **V SEMESTER**

Name of the Course: Vector Calculus & Analytical Geometry

Name of the Subject Matter Expert: Prof. Rashmi N

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Get introduced to the fundamentals of vector differential and integral calculus.	PO1, PO2, PO3,PO4,PO6	R, U
CO2	Get familiar with the various differential operators and their properties.	PO1, PO2, PO3,PO4,PO6	R, An, C
CO3	Get acquainted with the various techniques of vector integration.	PO1, PO2, PO3,PO4,PO6	U, Ap, C
CO4	Learn the applications of vector calculus.	PO1, PO2, PO3,PO4,PO6	U, R, An, C
CO5	Recollect the fundamentals of Analytical Geometry and interpret the geometrical aspects of planes and lines in 3D.	PO1, PO2, PO3,PO4,PO6	R, An, C

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MATHEMATICS **V SEMESTER**

Name of the Course: Vector Calculus & Analytical Geometry Practical

Name of the Subject Matter Expert: Prof. Rashmi N

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Learn *Free and Open Source Software (FOSS)* tools for computer programming	PO3, PO6, PSO2	R,U,E, Ap,An
CO2	Solve problems related to Analytical Geometry and Vector Calculus using FOSS software.	PO3, PO6, PSO2	R,U,E,A p,An
CO3	Solve problems related to Analytical Geometry and Vector Calculus using FOSS software.	PO3, PO6, PSO2	R,U,E,A p,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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MATHEMATICS **V SEMESTER**

Name of the Course: Real Analysis-II and Complex Analysis

Name of the Subject Matter Expert: Prof. Roshini Anne Koshy

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand Riemann integrals their properties and describe various criteria for integrability of functions.	PO1, PO2, PO3, PO4, PO6	R, U, Ap, E,
CO2	Have an overview of the gamma and beta functions and their relation to a variety of integrals	PO1, PO2, PO3, PO4, PO6	R, U, An, E
CO3	Comprehend the fundamental concepts of analytic functions, including the Cauchy-Riemann equations and orthogonal systems	PO1, PO2, PO3, PO4, PO6	U, Ap, E
CO4	Analyze the proof of Cauchy's Integral theorem using Green's theorem and understand its implications	PO1, PO2, PO3, PO4, PO6	U, An, Ap, E, C
CO5	Analyze elementary transformations such as translation, rotation, magnification, and inversion.	PO1, PO2, PO3, PO4, PO6	Ap, An, C

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MATHEMATICS **V SEMESTER**

Name of the Course: Real Analysis-II and Complex Analysis Practical

Name of the Subject Matter Expert: Prof. Roshini Anne Koshy

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Carry out certain computations such as computing upper and lower Riemann sums as well integrals	PO2, PO3, PO4, PO6	R,U,E, Ap,An
CO2	Exhibit certain properties of mathematical objects such as integrable functions, analytic functions, harmonic functions and so on.	PO2, PO3, PO4, PO6	R,U,E,Ap, An
CO3	Describe various criteria for Integrability of functions.	PO2, PO3, PO4, PO6	R,U,E,Ap, An
CO4	Carry out the existing algorithms to construct mathematical structures such as analytic functions	PO3, PO4, PO6, PSO2	R,U,E,Ap, An
C05	Prove some statements related to Riemann integration as well as in complex analysis	PSO -4,3,2,6	R,U,E,Ap, An

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SKILL ENHANCEMENT COURSE (SEC) **V SEMESTER**

Name of the Course: Cyber Security
Subject matter expert: Dr. S.Sivagami

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand cyber crimes, their nature, legal remedies.	PO1,PO2	U,R
CO2	Understand how to report the crimes through available platforms and procedures.	PO1,PO2,	U,R
CO3	Recognize various privacy and security concerns on Social media and e-commerce platforms.	PO3	U,R
CO4	Use basic tools and technologies to protect their devices.	PO4,PSO1	U,R,E,An
CO5	Understand the digital environment and issues in it.	PO1,PO2	U,R

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SCHOOL OF SCIENCE

Name of the Degree Programme: BSc Physics- Chemistry

Programme Outcomes/Programme Specific Outcomes

PO1- Disciplinary Knowledge

(i) To create the facilities and environment to consolidate the knowledge acquired and to motivate and inspire the students to create deep interest in physics and chemistry..

(ii) To develop broad and balanced knowledge and understanding of physical concepts, principles and theories of Physics and chemistry.

PO2-Communication and Interpersonal Skills

(i) To develop the ability to communicate various concepts effectively using examples.

(ii) Exhibit skills leading to employability in industries.

PO3- Critical thinking and Problem-solving capabilities

(i) To acquire the ability of critical thinking and logical reasoning and capability of recognizing and distinguishing the various aspects of real life problems.

(ii) To develop an ability to analyse the problems, identify and define standard methodology for its solutions by utilising the knowledge gained.

PO4- Teamwork and respect for diversity

(i) Demonstrate a range of practical skills to conduct and infer experiments independently and in groups.

(ii) To make an in depth study of various notions of physics and chemistry for pursuing the interdisciplinary and multidisciplinary higher education and/or research in interdisciplinary and multidisciplinary areas.

PO5- Information and Communication Technology (ICT) digital fluency

(i) To enable the students to think independently and develop computational skills for problem solving in physics and chemistry.

(ii) To equip the learner to use appropriate softwares.

PO6 -Self -directed Lifelong Learning

(i) To develop the ability to adapt and apply methodology to the solution of unfamiliar types of problems

(ii) To create the ability to pursue advanced studies and research in pure and applied sciences.

PO7 -Moral and Ethical Awareness/Reasoning

(i) To develop an ability to identify unethical behaviour such as fabrication, falsification or misinterpretation of data and adopting objectives, unbiased and truthful actions in all aspects of life in general and their specialised subjects in particular.

(ii) Develop soft skills in practising professional ethics.

PSO 1: Learn, design and perform experiments in the labs to demonstrate the concepts, principles and theories learned in the classrooms.

PSO 2: Provide the ability to plan and carry out experiments independently and assess the significance of outcomes and to cater to the demands of Industries as well-trained graduates.

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PO-PSO- CO MAPPING

Cognitive Levels (Blooms taxonomy)

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C– Create

PHYSICS **I SEMESTER**

Name of the Course: Mechanics and Properties of Matter
Name of the Faculty Member: Prof. Sonima Mohan

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Able to find out energy and momentum involved in any reactions based on universal conservation laws.	PO1, PO2, PSO1, PSO2	R, U, An
CO2	Determination of time dilation and length contraction in relativistic problems.	PO1, PO2, PSO1, PSO2	U,An,Ap,E
CO3	Application of Gravitational force and energy in space science to analyse the planetary and satellite motion.	PO1, PO2, PSO1, PSO2	U,An,Ap,E
CO4	Calculation of twisting couple, bending moment of beams and cantilever which plays a very important role in the construction of buildings.	PO1, PO2, PSO1, PSO2	U,An,Ap,E,C
CO5	Resolve the problems related to surface tension and viscosity.	PO1, PO2, PSO1, PSO2	U,An,Ap,E,C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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PHYSICS **I SEMESTER**

Name of the Course: Mechanics and Properties of Matter Practical
Name of the Course Faulty: Prof. Sonima Mohan

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Determination of acceleration due to gravity using bar pendulum	PO3,PO4,PSO1 PSO2	U,An,Ap ,E
CO2	Verification of parallel and perpendicular axis theorems and Hook's law.	PO3,PO4, PO5, PSO1, PSO2	An,Ap,E, C
CO3	Determination of Young's modulus by Koenig's method	PO3,PO4, PO5, PSO1, PSO2	An,Ap,E, C
CO4	Determine the Young's Modulus bar by a single cantilever method.	PO3,PO4, PO5, PSO1, PSO2	An,Ap,E, C
CO5	Determination of rigidity modulus using torsional pendulum	PO3, PO4, PO5, PO6, PSO1, PSO2	An,Ap,E, C

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CHEMISTRY **I SEMESTER**

Name of the Course: Analytical and Organic Chemistry-I
Name of the Course Faulty: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Learn the concepts of chemical analysis, accuracy, precision and statistical data treatment	PO 1, PO 6	U, Ap
CO2	Know the concept of volumetric and gravimetric analysis and deducing the conversion factor for determination	PO2, PO4,	Ap, U,An, E
CO3	Handle toxic chemicals, concentrated acids and organic solvents and practice safety procedures.	PO1, PO6	R, U, An
CO4	Understand the concepts of Organic reactions and techniques of writing the movement of electrons, bond breaking, bond forming.	PO1, PO3, PO5	R, U, An
CO5	Learn the Concept of aromaticity, resonance, hyper conjugation, etc. and understand the mechanism of nucleophilic, electrophilic reactions.	PO1, PO6	U,An, C

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CHEMISTRY **I SEMESTER**

Name of the Course: Analytical and Organic Chemistry Practicals
Name of the Course Faulty: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the safety practices in the Chemistry Laboratory and develop awareness regarding toxicity of chemicals	PO2	U, R, Ap
CO2	Know the importance of calibration of glassware, pipette, burette and volumetric flask as well as prepare standard/working solutions, standardisation of solutions and determination of the respective analytes.	PO4	U, R, C
CO3	Select suitable solvent for purification of organic compounds and gain an insight to the mechanism behind the reaction and the significance of catalysts.	PO6	U, An, E
CO4	Learn the importance of green methods over conventional methods and proficiently handle the byproducts and disposal of waste.	PO6, PO7	U, An, Ap
CO5	Enthuse students to conduct experiments by arousing curiosity which would help them in learning basics and advanced concepts through simulation-based lab.	PO5, PSO1	U, Ap, E

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OPEN ELECTIVE **I SEMESTER**

Name of the Programme: BSC B OEC- Writing for Media
Subject matter experts: Prof. Kusuma R.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To familiarize the students with writing skills for media	PSO1, PSO2	R, U, E
CO2	To enhance the student's interest in writing for media.	PSO1, PSO2	U, Ap, An, E
CO3	To equip the students with recent trends in media writing.	PSO1, PSO2, PSO 4	U, Ap, An, E
CO4	Proficiency will extend to applying storytelling techniques and journalistic principles, ensuring adaptable writing styles for various platforms while maintaining ethical standards.	PSO3,PSO2	U, Ap, An, E
CO5	Through case studies and discussions, students will explore the ethical complexities of media communication, gaining the ability to evaluate information credibility, address misinformation, and contribute to responsible media consumption.	PSO1,PSO4	R, U, E

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ENGLISH **I SEMESTER**

Name of the Course Generic English
Subject matter experts: Dr. Tharini

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Acquire the LSRW (Listening, Speaking, Reading, Writing) skills and Learn to appreciate literary art.	PO2	R, U, AP
CO2	Obtain the knowledge of literary devices and genres and Acquire the skills of creativity to express one's experiences.	PO6	R, U, AP
CO3	Know how to use digital learning tools and Be aware of their social responsibilities.	PO5	R, U, An
CO4	Develop their ability as critical readers and writers and Increase their reading speed.	PO3	R, U, E
CO5	Be able to give presentations and Increase their analytical skills.	PO2	R, U, C

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KANNADA **I SEMESTER**

Name of the Course: Vijnana Kannada
Name of the Subject Matter Expert: Dr.Prakasha, Prof. Kumara C.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	ಒಂದನೇ ಘಟಕದಲ್ಲಿ ನಾಡು ನುಡಿ ಚಿಂತನೆ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಕರ್ನಾಟಕದ ಇತಿಹಾಸ ಮತ್ತು ಏಕೀಕರಣ ಆಡು ಭಾಷೆ ಮತ್ತು ಗ್ರಾಂಥಿಕ ಭಾಷೆಯ ಅಂತರ ಮತ್ತು ಮಹತ್ವ ತಜ್ಞರು ಉದ್ಯಮ ಮತ್ತು ಉದ್ಯೋಗದ ವಿಷಯದಲ್ಲಿ ಕನ್ನಡ ಭಾಷೆಗೆ ಕೊಡಬೇಕಾದ ಸ್ಥಾನಮಾನದ ಬಗ್ಗೆ ಅರಿಯುವುದು.	PO1, PO3	U, An
CO2	ಎರಡನೇ ಘಟಕದಲ್ಲಿ ಭೂಮಿ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಜಾನಪದ ಮತ್ತು ಶಿಷ್ಟ ಪದದ ಪರಿಕಲ್ಪನೆ, ರಾಜನಾದ ಮನುಷ್ಯನ ಒಳಗಿರುವ ಆಸ್ತಿ ಮತ್ತು ಅಧಿಕಾರದ ಹಂಬಲ, ಭೂಮಿಯ ಮೇಲಿನ ಒಡೆತನ ಮತ್ತು ಹಕ್ಕು ಸಾಧಿಸುವ ಬಯಕೆ ಮನುಷ್ಯನಿಗೆ ಹೊಸದೇನಲ್ಲ ಎಂಬುದನ್ನು ತಿಳಿಯುವುದು.	PO2, PO6	U, Up
CO3	ಮೂರನೆಯ ಘಟಕದಲ್ಲಿ ವೈಜ್ಞಾನಿಕ ಮನೋಧರ್ಮ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಹನ್ನೆರಡನೆಯ ಶತಮಾನದ ವಚನ ಚಳುವಳಿಯನ್ನು ಕರ್ನಾಟಕದ ಸಾಂಸ್ಕೃತಿಕ ಚರಿತ್ರೆಯಲ್ಲಿ ಒಂದು ಅಭೂತಪೂರ್ವ ಕಾಲ ಎನ್ನಬಹುದು? ವಿಜ್ಞಾನದ ಮಹತ್ವ ಮತ್ತು ಅಂಧ ಶ್ರದ್ಧೆಯ ಬಗ್ಗೆ ಅರಿಯುವುದು. ಮೂಢನಂಬಿಕೆಗಳ ಬಗ್ಗೆ ಅರಿವು ಮೂಡಿಸುವುದು	PO6, PO7	U, Ap, An,
CO4	ನಾಲ್ಕನೆಯ ಘಟಕದಲ್ಲಿ ಸಂಕೀರ್ಣ ಲೇಖನಗಳು ಎಂಬ ಲೇಖನಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ವಿಜ್ಞಾನದ ಸಾಧನೆಗಳ ಬಗ್ಗೆ ತಿಳಿಯುವುದು? ಪ್ರಕೃತಿ ಮತ್ತು ಪರಿಸರದ ಮಹತ್ವವನ್ನು ಅರಿಯುವುದು. ಕೃಷಿ ಮತ್ತು ಸಾಹಿತ್ಯಿಕ ಮಹತ್ವವನ್ನು ತಿಳಿಯುವುದು	PO6, PO7	U, Ap, An
CO5	ಈ ಭಾಗದಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳು ವ್ಯಾಕರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಪಾರಿಭಾಷಿಕ ಪದಗಳ ಪರಿಚಯ, ವಿಶೇಷ ಪದಗಳ ಅರ್ಥ ಗ್ರಹಿಕೆ, ವಾಕ್ಯ ಜೋಡಣೆ ಮುಂತಾದ ಕೌಶಲ್ಯಗಳನ್ನು ಬೆಳೆಸಿಕೊಳ್ಳುವುದರ ಜೊತೆಗೆ ಮಾಹಿತಿ ಹಕ್ಕು ಅಧಿನಿಯಮಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಅರ್ಜಿ ಬರೆಯುವ ಕೌಶಲ್ಯಗಳನ್ನು ಅರ್ಥೈಸಿಕೊಳ್ಳುತ್ತಾರೆ	PO6, PO5	Ap, E

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HINDI **I SEMESTER**

Name of the Course: I SEM BSC HINDI
Name of the Subject Matter Expert: Prof. Madhuri Kshirsagar

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Students will be familiar with different genres of hindi prose.	PO 1, 2, 3, 6, 7	R, U, Ap,
CO2	The study of prose will generate interest in creative writing.	PO 2,3,6	Ap, C
CO3	Students will develop their language skills.	PO 1,2,6	U, Ap
CO4	Students can gain Reading, writing, Oratory skills.	PO 2,6	U, Ap
CO5	Students can acquire the knowledge of Hindi grammar and utilize it in day-to-day life.	PO 1,2,6	R, U, Ap

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ABILITY ENHANCEMENT COMPULSORY COURSE **I SEMESTER**

Name of the Programme: Environmental Studies
Subject matter experts: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	CO1-Bring about an awareness of a variety of environmental concerns.	PO4	R,U
CO2	CO2-Understand the concepts of ecosystem, natural resources, biodiversity as well as to discuss the factors impacting biodiversity loss and ecosystem degradation.	PO6, PO7	U, Ap
CO3	CO3-Develop an understanding of pollution and sensitize to adverse health impacts of pollution.	PO6, PO7	U. An
CO4	CO4-Learn about major international institutions and programmes and the role played by them in the protection and preservation of the environment.	PO6, PO7	R,U
CO5	CO5-Create a pro-environmental attitude and a behavioral pattern in society that is based on creating sustainable lifestyles.	PO7	E, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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PHYSICS **III SEMESTER**

Name of the Course: Wave and Motion Optics
Name of the Course Faulty: Prof. Umamaheswari U.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Identify Types of waves and its Characteristics, obtaining wave equation and parameters associated with waves. Mathematical treatment of the superposition of waves under different conditions.	PO1,PO5, PSO1	U, R, An, E
CO2	Describe the formation of Standing waves, mathematical treatment and applications. Analytical treatment of resonance in open and closed pipes and study Helmholtz resonator. Describe acoustics and its parameters in a building and study the effects.	PO2, PO7, PSO2	U, Ap, E
CO3	Understand the different models on light propagation and phenomenon associated and measure the parameters like the wavelength of light using experiments like Michelson interferometer, interference and thin films.	PO3, PO4, PSO1	U, R, An, E
CO4	Explain diffraction due to different objects like singles slit, two slits, diffraction of grating, oblique incidence, circular aperture and give the theory and experimental setup for the same.	PO6, PSO2	U, An
CO5	Explain the polarization of light and obtain how the polarization occurs due to quarter wave plates, half wave plates, and through the optical activity of a medium.	PO1, PSO1	U, Ap, An, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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PHYSICS **III SEMESTER**

Name of the Course: : Wave Motion and Optics Practical
Name of the Course Faulty: Prof. Umamaheswari U.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To determine Velocity of sound , Frequency of AC source through a wire using Sonometer.	PO1, PO6, PSO2	U, R, An, E
CO2	To Study Lissajous figures using CRO	PO5, PO2, PSO1	U, An, E
CO3	To determine the refractive index of a liquid by parallax method.	PO1, PSO1	U, Ap, An, E
CO4	Through interference phenomenon Determination of radius of curvature of a lens using Newton's rings.	PO3, PO4, PSO1	U, Ap, An
CO5	Study of Fraunhofer diffraction at single slit	PO6, PSO2	U, Ap, An, E

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CHEMISTRY **III SEMESTER**

Name of the Course: : Inorganic and Physical Chemistry-II
Name of the Course Faulty: Dr. Regimol George

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	CO1- Understand the importance of fundamental law and validation parameters in chemical analysis and the requirement for chemical analysis by paper, thin layer and column chromatography.	PO2, PO3, PO6	R, U, Ap
CO2	CO2-Apply solvent extraction method for quantitative determination of metal ions in different samples and the ion-exchange chromatography for domestic and industrial applications and spectrophotometric, nephelometric and turbidometric methods to determine different analytes in different matrices (water and real samples).	PO3, PO6,	Ap, U,An
CO3	CO3-Explain mechanism for a given reaction and the importance of Stereochemistry in predicting the structure and property of organic molecules	PO2,PO3,PO6	U,An, E
CO4	CO4- Predict the probable mechanism for a reaction. Explain the importance of reaction intermediates, its role and techniques of generating such intermedia	PO2,PO3,	U, An, C
CO5	CO5-Predict the configuration of an organic molecule, identify the chiral molecules and predict its actual configuration	,PO3,PO6	U, Ap,An

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CHEMISTRY **III SEMESTER**

Name of the Course: : Inorganic and Physical Chemistry-II Practical
Name of the Course Faulty: Dr. Regimol George

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	CO1-Understand the importance of instrumental methods for quantitative applications	PO3,PSO1	U, Ap,An
CO2	CO2-Apply colorimetric methods for accurate determination of metal ions and anions in water or real samples	PO3,PSO1	R, U, Ap
CO3	CO3-Understand how functional group in a compound is responsible for its characteristic property	PO3, PSO1	U,An, E
CO4	CO4-Understand the importance of qualitative tests in identifying functional groups	PO6, PSO1	U, An, C
CO5	CO5-Understand how to prepare a derivative for particular functional group and how to purify it.	PO6, PSO1	U, An, C

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OPEN ELECTIVE **III SEMESTER**

Name of the Course: Entrepreneurship Skills
Name of the Course Faulty: Dr. N.K. Chitra, Department of Commerce

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Identify the Factors that influence Entrepreneurship.	PO2, PO3	U, Ap
CO2	Understand the Skill Sets required for Entrepreneur	PO2, PO4,	Ap, U,An, E
CO3	Identify the opportunities for developing Entrepreneurship skills through National and State Level Institutions.	PO2, PO3	R, U, An
CO4	Role played by MSME in the development of Indian Economy.	PO2, PO4,	R, U, An
CO5	Identify the different Government Schemes available for promoting Entrepreneurs in India.	PO3, PO4	U,An, C

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ENGLISH **III SEMESTER**

Name of the Programme: Generic English

Subject matter experts: Prof. Anusha C V

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Acquire the LSRW (Listening, Speaking, Reading, Writing) skills	PO1, PO2	U, A, C
CO2	Analyze and interpret a wide range of literary texts, including poetry, prose and drama.	PO3 PO6,	R, U, Ap, An
CO3	Develop critical thinking and analytical skills to evaluate literary works.	PO1, PO3	U, A, C
CO4	Apply research and critical writing skills to explore contemporary issues related to English Literature.	PO3, PO7	R, U, Ap, An
CO5	Develop a passion for reading and a lifelong appreciation for the richness of English.	PO2, PO5	U, A, C

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KANNADA **III SEMESTER**

Name of the Course: Vijnana Kannada - 3
Name of the Subject Matter Expert: Dr. Shantharaju, Prof. Kumara C

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮಾನವೀಯತೆಯ ಸ್ವರೂಪವನ್ನು ಕುರಿತು ಆಲೋಚಿಸುವಂತೆ ಮಾಡುತ್ತದೆ. ಜಗತ್ತಿನೆಲ್ಲೆಡೆ ನಡೆಯುತ್ತಿರುವ ಅಮಾನವೀಯ ವಿದ್ಯಮಾನಗಳು, ಆಧುನಿಕತೆ, ನಾಗರೀಕತೆ, ಅಭಿವೃದ್ಧಿಯ ಬಗೆಗಿನ ನಮ್ಮ ತಿಳುವಳಿಕೆಯನ್ನೇ ತಿರುವು ಮುರುವಾಗಿಸುತ್ತವೆ. ಇಂತಹ ಸಂದರ್ಭದಲ್ಲಿ ಈ ಪಠ್ಯವು ಮನುಷ್ಯರ ಸಂವೇದನೆಗಳಲ್ಲಿ ಉಂಟಾಗಬೇಕಾದ ಬದಲಾವಣೆಯನ್ನು ತಿಳಿಸುವುದರ ಜೊತೆಗೆ ಸ್ವಕೇಂದ್ರಿತ ಆಲೋಚನೆಗಳ ಆಪಾಯವನ್ನೂ ತಿಳಿಸುತ್ತದೆ.	PO1	U, An
CO2	ಪ್ರವಾಸದ ಬಹುಮುಖಿ ಅನುಭವಗಳನ್ನು ಕಥನಗಳ ಮೂಲಕ ಓದುಗರೊಂದಿಗೆ ಹಂಚಿಕೊಳ್ಳುವ ಕೆಲಸ ವಿಶೇಷವಾದುದು. ಆ ಭಿನ್ನ ಸಾಂಸ್ಕೃತಿಕ ನಕಾಶೆಯನ್ನು ಎಲ್ಲಡೆ ಹರಡುವ, ಆ ಮೂಲಕ ರಾಜ್ಯ, ರಾಷ್ಟ್ರ, ಜ್ಞಾನ, ತಿಳುವಳಿಕೆ, ಅನುಭವ - ಹೀಗೆ ಎಲ್ಲದರ ಗಡಿಗಳನ್ನೂ ಅಳಿಸಿಹಾಕುವ ಒಂದು ಸೃಜನಶೀಲ ಸಾಂಸ್ಕೃತಿಕ ಚಲನೆಯಾದ ಪ್ರವಾಸದ ಅನುಭವಗಳು ಈ ಘಟಕದಲ್ಲಿ ಕಾಣಿಸಿಗುತ್ತವೆ.	PO2, PO6	U, Up
CO3	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳ ಮನಸ್ಸುಗಳಲ್ಲಿ ವಿಚಾರ ಕ್ರಾಂತಿಯ ಬೀಜವನ್ನು ಬಿತ್ತುವ ಉದ್ದೇಶವನ್ನು ಇಟ್ಟುಕೊಂಡಿದೆ. ವೈಚಾರಿಕ ಪ್ರಜ್ಞೆಯನ್ನು ವಿಕಾಸವಾಗಿಸುವುದಕ್ಕೆ ಪೂರಕವಾದ ಸಮಾಜವನ್ನು ಕಟ್ಟಿದ್ದು, ಆಧುನಿಕ ಕಾಲದ ಬಹಳ ದೊಡ್ಡ ಕಾಣಿಕೆ. ಇಂತಹ ವೈಚಾರಿಕ ಮತ್ತು ವೈಜ್ಞಾನಿಕ ಮನೋಭಾವನೆಯನ್ನು ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಬೆಳೆಸುವುದು ಈ ಘಟಕದ ಮುಖ್ಯ ಧ್ಯೇಯವಾಗಿದೆ.	PO6, PO7	U, Ap, An,
CO4	ಈ ಘಟಕವು ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಪರಿಸರದ ಬಗ್ಗೆ ಅರಿವು ಮೂಡಿಸುವುದರೊಂದಿಗೆ ಪರಿಸರ ಪ್ರಜ್ಞೆ ಹಾಗೂ ಪರಿಸರ ಸಂರಕ್ಷಣೆಯ ಮಹತ್ವದ ಅನಿವಾರ್ಯತೆಗಳನ್ನು ಹೇಳುತ್ತಾ ಪರಿಸರ ಸಂರಕ್ಷಣೆಯಲ್ಲಿ ದೇಶದ ಪ್ರಜೆಯಾಗಿ ನಮ್ಮ ಕರ್ತವ್ಯಗಳನ್ನು ಎಂಬುದನ್ನು ಸ್ಪಷ್ಟಪಡಿಸುತ್ತದೆ ಜೊತೆಗೆ ಪತ್ರ ವ್ಯವಹಾರದ ಅನುಭವಗಳನ್ನು ಕಟ್ಟಿಕೊಡುತ್ತದೆ.	PO6, PO7	U, Ap, An
CO5	ಈ ಭಾಗದಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳು ವ್ಯಾಕರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಪಾರಿಭಾಷಿಕ ಪದಗಳ ಪರಿಚಯ, ವಿಶೇಷ ಪದಗಳ ಅರ್ಥ ಗ್ರಹಿಕೆ, ವಾಕ್ಯ ಜೋಡಣೆ ಮುಂತಾದ ಕೌಶಲ್ಯಗಳನ್ನು ಬೆಳೆಸಿಕೊಳ್ಳುವುದರ ಜೊತೆಗೆ ಮಾಹಿತಿ ಹಕ್ಕು ಅಧಿನಿಯಮಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಅರ್ಜಿ ಬರೆಯುವ ಕೌಶಲ್ಯಗಳನ್ನು ಅರ್ಥೈಸಿಕೊಳ್ಳುತ್ತಾರೆ.	PO6, PO5	Ap, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert **HoD**

HINDI **III SEMESTER**

Name of the Course: Hindi
Name of the Subject Matter Expert: Prof. Devidas Tukaram

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Students will get knowledge of drama literature and develop their language skills.	PO 1, PO2	R,U.Ap
CO2	Students can acquire the knowledge of Hindi grammar and utilize it in day-to-day life.	PO1,2,6	R,U,Ap
CO3	Students can gain Reading, Writing and Oratory skills.	PO 2,6	R,U,Ap
CO4	Students understand the themes, plot and characterization of the drama- Ek aur Dronacharya.	PO1,2,3	AP, An, E
CO5	Students learn about human values and emotions like empathy, honesty, truthfulness and humanity etc.	PO 3,6,7	AP, An, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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AECC **III SEMESTER**

Name of the Course: India and Indian Constitution

Subject matter experts: Prof. Sampath Kumar

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Explain the philosophy and structure of Constitution	PO4, PO7	U
CO2	Contextualise the depth of India as a nation with its diverse socio-political culture and philosophical values	PO4, PO6	U, AN
CO3	Give the knowledge to expand the breadth of freedom struggle and its significance in nation building	PO4, PO6	An, E
CO4	Measure the powers, functions and limitations of various offices under the constitution.	PO4, PO6	Ap,
CO5	Demonstrate the values, ideals and the role constitution in India	PO4, PO6	An, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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PHYSICS **V SEMESTER**

Name of the Course: Classical Mechanics I and Quantum Mechanics I

Subject matter expert: Prof. Sonima Mohan

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the concept of inertial and non inertial frames and conservation laws	PO1,PO2,PSO1,PSO2	R,U,E
CO2	Learn about different types of constraints, generalized coordinates and application of Lagrange's equations in various practical situations	PO1,PO2,PSO1,PSO2	R,U,E,Ap
CO3	Determine the effect of relativistic speed on length, time, mass and momentum of objects	PO3,PO4,PSO1,PSO2	U,An,Ap,E
CO4	Analysis of uncertainty principle and illustration in gamma ray microscope and diffraction at slits	PO3,PO4,PSO1,PSO2	U,An,Ap,E,C
CO5	Application of Schrodinger equations in tunnelling effect and one dimensional potential well	PO3,PO4,PSO1,PSO2	U,An,Ap,E,C

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PHYSICS **V SEMESTER**

Name of the Course: Classical Mechanics I and Quantum Mechanics I

Subject matter experts: Prof. Sonima Mohan

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To determine 'g', the acceleration due to gravity, at a given place, from the L – T 2 graph, for a simple pendulum.	PO3,PO4,PO5,PO 6,PSO1,PSO2	An,Ap,E,C
CO2	Studying the effect of amplitude of oscillation and of bob on the time period of the simple pendulum.	PO3,PO4,PO5,PO 6,PSO1,PSO2	An,Ap,E,C
CO3	To study the characteristics of solar cell.	PO3,PO4,PO5,PO 6,PSO1,PSO2	An,Ap,E,C
CO4	To find the value of e/m for an electron by Thomson's method using bar magnets.	PO3,PO4,PO5,PO 6,PSO1,PSO2	An,Ap,E,C
CO5	Determination of Planck constant and work function of the material of the cathode using Photo-electric cell and quantum efficiency of Photodiode.	PO3,PO4,PO5,PO 6,PSO1,PSO2	An,Ap,E,C

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PHYSICS **V SEMESTER**

Name of the Course: Elements of Atomic, Molecular and Laser Physics

Subject matter experts: Prof. Umamaheswari U.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Description of atomic properties using basic atomic models.	PO1, PO4, PSO1	U, R, An, E
CO2	Interpretation of atomic spectra of elements using vector atom model.	PO2, PO7, PSO2	U, Ap, E
CO3	Interpretation of molecular spectra of compounds using basics of molecular physics.	PO5, PO6, PSO1	U, R, An, E
CO4	Experimental study of Raman effect, and its applications.	PO1, PSO2	U, An
CO5	Explanation of laser systems and their applications in various fields.	PO2, PO3, PSO1	U, Ap, An, E

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PHYSICS **V SEMESTER**

Name of the Course: Elements of Atomic, Molecular and Laser Physics Practical

Subject matter experts: Prof. Umamaheswari U.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To determine Planck's constant using Photocell and LED	PO1, PO4, PSO1	U, An, E
CO2	To determine wavelength of spectral lines of mercury source using spectrometer.	PO5, PO6, PSO1	U, An, E
CO3	To determine fine structure constant using fine structure separation of sodium D-lines using a plane diffraction grating.	PO7, PSO2	U, Ap, An, E
CO4	To determine wavelength and angular spread of He-Ne laser using plane diffraction grating.	PO2, PO3, PSO1	U, Ap, An
CO5	Analysis of rotational Raman spectra, Rotational vibrational spectrum and band spectrum.	PO1, PSO2	An, E

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CHEMISTRY **V SEMESTER**

Name of the Course: Organic and Physical Chemistry

Subject matter experts: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Demonstrate a solid understanding of the properties, structures, and nomenclature of alcohols, thiols, and phenols	PO4, PO5	U, Ap
CO2	Evaluate the suitability of different synthetic methods and reagents for specific applications involving aldehydes and ketones and understanding the practical applications of aldehydes and ketones & carboxylic acids in various industries, research, and daily life.	PO3, PSO1	Ap, U,An, E
CO3	Explain the Lambert-Beer's law, the laws of photochemistry, photochemical and photophysical processes as well as to calculate the quantum yield of photochemical combinations. Also to develop an understanding on nuclear stability, nuclear reactions, radioactive decay and applications of nuclear and radiochemistry	PO5, PO6	R, U, An
CO4	Explains the fundamental concepts of quantum mechanics and its application in chemistry	PO1, PO6	R, U, An
CO5	Learning about the fundamental of electrochemistry and to determine the electrode potential of a half cell, identify different types of electrodes, construct cells and demonstrate its application	PO2, PO4	U,An, C

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CHEMISTRY **V SEMESTER**

Name of the Programme: Organic and Physical Chemistry Practical

Subject matter experts: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	CO1- To perform laboratory experiments safely and effectively	PO4, PSO1	U, Ap, C
CO2	CO2- Evaluate the suitability of different synthetic methods and reagents for specific applications involving alcohols, thiols, phenols. aldehydes and ketones.	PO3, PO5, PSO1	U, Ap, C
CO3	CO3- Verify the Lambert-Beer's law through colorimetric experiments	PO5, PO6, PSO1	An, E
CO4	CO4- Study the effect of concentration and temperture on degree of hydrolysis	PO1, PO6, PSO1	An, E
CO5	CO5- Evaluation of Arrehenius parameter for a reaction	PO2, PO4, PSO1	U,An, E

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CHEMISTRY **V SEMESTER**

Name of the Programme: : Inorganic and Biological Chemistry

Subject matter experts: Dr. Regimol George

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Define and explain what coordination compounds are, includes their structure, bonding, and properties.	PO2,PO3	U, Ap,An
CO2	Understand the practical applications of coordination compounds in various fields, such as catalysis, medicinal chemistry, and materials science	PO3,PO6	R, U, Ap
CO3	Gain knowledge of the manufacturing and processing methods for various industrial materials, including the techniques used to shape, heat treat, and surface finishing.	PO2,PO3,PO6	An, E
CO4	Exposed to a strong theoretical and practical background in fundamental concepts. Also to get insights of multiple important technical areas of Biochemistry.	PO3,PO6, PSO1	U, An, C
CO5	Able to correlate structure and function of biomolecules like carbohydrates, lipids and proteins.	PO3,PO6	U, An, C

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CHEMISTRY **V SEMESTER**

Name of the Programme:: Inorganic and Biological Chemistry Practical

Subject matter experts: Dr. Regimol George

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand experimentally the estimation of Zinc and Nickel using EDTA.	PO3,PSO1	U, Ap,An
CO2	Learn experimentally the determination of total hardness of water using EDTA and estimation of copper in brass.	PO3,PSO1	R, U, Ap
CO3	Understand experimentally the preparation of buffers and determination of their pH values using pH meter.	PO6, PSO1	U,An, E
CO4	Learn experimentally the Estimation of reducing sugars by Hegdorn-Jensen method, estimation of lactose in milk by Nelson-Somogi's method, estimation of creatinine by Jaffe's method.	PO3,PSO1	U, An, C
CO5	Understand experimentally the. estimation of inorganic phosphate by Fiske-Subbarow method and estimation of total reducing sugars by DNS (dinitrosalicylic acid) method	PO6, PSO1	U, An, C

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SKILL ENHANCEMENT COURSE (SEC) **V SEMESTER**

Name of the Course: Cyber Security
Subject matter expert: Dr. S.Sivagami

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand cyber crimes, their nature, legal remedies.	PO1,PO2	U,R
CO2	Understand how to report the crimes through available platforms and procedures.	PO1,PO2,	U,R
CO3	Recognize various privacy and security concerns on Social media and e-commerce platforms.	PO3	U,R
CO4	Use basic tools and technologies to protect their devices.	PO4,PSO1	U,R,E,An
CO5	Understand the digital environment and issues in it.	PO1,PO2	U,R

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SCHOOL OF SCIENCE

Name of the Degree Program: B.Sc. Computer Science- Journalism

Programme Outcomes/ Programme Specific Outcomes

PO1- Disciplinary Knowledge

(i) To create the facilities and environment to consolidate the knowledge acquired and to motivate and inspire the students to create deep interest in journalism and Computer Science.

(ii) Analyse a complex computing problem and to apply principles of computing and journalism to identify solutions.

PO2-Communication and Interpersonal Skills

(i) To develop the ability to communicate various concepts effectively using examples.

(ii) To master analytical reasoning which can be used for modeling and solving real life problems.

PO3- Critical thinking and Problem-solving capabilities

(i) To acquire the ability of critical thinking and logical reasoning and capability of recognizing and distinguishing the various aspects of real life problems.

(ii) To utilise the knowledge gained for problem solving in various fields of computer science and journalism.

PO4- Teamwork and respect for diversity

(i) To Function effectively as a member or leader of a team engaged in activities appropriate to the disciplines computer Science and journalism.

(ii) To develop an ability of working independently and pursue higher education and/or research in interdisciplinary and multidisciplinary areas.

PO5- Information and Communication Technology (ICT) digital fluency

(i) To enable the students to think independently and develop algorithms and computational skills for solving real word problems.

(ii) To equip the learner to use appropriate softwares for or problem solving in various fields of journalism/computer science.

PO6 -Self -directed Lifelong Learning

(i) To acquire experimental skills, analyse the results, interpret data and use modern tools/techniques.

(ii) To create the ability to pursue advanced studies and research in pure and applied sciences.

PO7 -Moral and Ethical Awareness/Reasoning

(i) Recognize professional responsibilities and make informed judgments in computing practice.

(ii) To strike a balance between the professional and the professional ethics in the field of journalism and mass communication.

PSO 1: Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements.

PSO 2: The programme aims to churn out responsible media professionals.

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PO-PSO- CO MAPPING

Cognitive Levels (Blooms taxonomy)

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C– Create

COMPUTER SCIENCE **I SEMESTER**

Name of the Course: Problem Solving Techniques Using C
Name of the Subject Matter Expert: Prof. Manoshankari M.

CO	*Course Outcome* *The learner will be able to*	*PO and PSOs Addressed*	*Cognitive Level*
CO1	Illustrate the flowchart and design an algorithm for a given problem and to develop C programs using operators, develop conditional and iterative statements to write C programs	**PSO1,PO6**	**U,C**
CO2	Exercise user defined functions to solve real time problems, Exercise files concept to show input and output files in c	**PO5,PSO1**	**U,C,Ap**
CO3	Inscribe C programs that use Pointers to access arrays, strings and functions.	**PSO1**	**An,Ap**
CO4	Exercise user defined data types including structures and unions to solve problems	**PO3,PO5**	**U,Ap**
CO5	Inscribe C programs using pointers and to allocate memory using dynamic memory management functions.	**PO3,PSO1**	**R,Ap**

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COMPUTER SCIENCE **I SEMESTER**

Name of the Course: Problem Solving Techniques Using C Practical

Name of the Subject Matter Expert: Manoshankari M.

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand Basic Structure of C Programming , declaration and usage of variables and be able to write basic C programs.	PO1,PO6, PSO1	U,R
CO2	Write C Program using data types, variables and pointers	PO3,PSO1	R,U,Ap
CO3	Exercise Conditional and Iterative statements to write C programs	PO1,PO3, PSO1	C,An
CO4	Write C programs using pointers to access arrays, strings and functions.	PO5,PSO1	C,Ap
CO5	Write C programs and allocate memory using dynamic memory management functions and user defined datatypes.	PO3,PO5, PSO1	C,An,E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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JOURNALISM **I SEMESTER**

Name of the Course: Introduction To Journalism (Theory & Practical)

Subject matter expert: Prof Kusuma.R

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To identify the distinct nature of journalism and its professional aspects, including career opportunities	PSO1, PSO2	R, U, E
CO2	To recognize and use terms specific to media	PSO1, PSO2	U, Ap, An, E
CO3	To understand the significance of changes in the practice of journalism	PSO1, PSO2, PSO 4	U, Ap, An, E
CO4	Examine and apply different press theories in the context of today's media environment.	PSO1, PSO2	U, Ap, An, E
CO5	Identify and differentiate between various traditional and modern branches of journalism.	PSO1,PSO3	U, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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OPEN ELECTIVE **I SEMESTER**

Name of the Programme: BSC A OEC-Speaking and Listening Skills
Subject matter experts: J.Umamaheswari

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Develop the ability to articulate their thoughts and ideas clearly and effectively in various contexts	PO 2, PO4	U, An, R, E
CO2	Demonstrate the capacity to actively listen, comprehend and respond to spoken information with accuracy	PO 2, PO 4	U, Ap, R, An, E
CO3	Gain confidence in speaking in front of an audience, delivering well - structured and engaging presentations	PO 2, PO 4	U, Ap, An, E
CO4	Exhibit improved conversational skills including small talks and dialogues	PO 2, PO 4,	U, Ap, An, R
CO5	Proficient in interpersonal communication, especially in professional contexts like interviews, and group discussions.	PO 2, PO 4	U, Ap, An, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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ENGLISH **I SEMESTER**

Name of the Programme: BSc Generic English
Subject matter experts: Dr. Tharini

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Acquire the LSRW (Listening, Speaking, Reading, Writing) skills and Learn to appreciate literary art.	PO2	R, U, AP
CO2	Obtain the knowledge of literary devices and genres and Acquire the skills of creativity to express one's experiences.	PO6	R, U, AP
CO3	Know how to use digital learning tools and Be aware of their social responsibilities.	PO5	R, U, An
CO4	Develop their ability as critical readers and writers and Increase their reading speed.	PO3	R, U, E
CO5	Be able to give presentations and Increase their analytical skills.	PO2	R, U, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

P. Tharini
Subject Matter Expert

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KANNADA **I SEMESTER**

Name of the Course: Vijnana Kannada

Name of the Subject Matter Expert: Prof. Kittappa, Dr. Shantharaju

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	ಒಂದನೇ ಘಟಕದಲ್ಲಿ ನಾಡು ನುಡಿ ಚಿಂತನೆ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಕರ್ನಾಟಕದ ಇತಿಹಾಸ ಮತ್ತು ಏಕೀಕರಣ ಆಡು ಭಾಷೆ ಮತ್ತು ಗ್ರಾಂಥಿಕ ಭಾಷೆಯ ಅಂತರ ಮತ್ತು ಮಹತ್ವ ತಜ್ಞರು ಉದ್ಯಮ ಮತ್ತು ಉದ್ಯೋಗದ ವಿಷಯದಲ್ಲಿ ಕನ್ನಡ ಭಾಷೆಗೆ ಕೊಡಬೇಕಾದ ಸ್ಥಾನಮಾನದ ಬಗ್ಗೆ ಅರಿಯುವುದು	PO1, PO3	U, An
CO2	ಎರಡನೇ ಘಟಕದಲ್ಲಿ ಭೂಮಿ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಜಾನಪದ ಮತ್ತು ಶಿಷ್ಟ ಪದದ ಪರಿಕಲ್ಪನೆ, ರಾಜನಾದ ಮನುಷ್ಯನ ಒಳಗಿರುವ ಆಸ್ತಿ ಮತ್ತು ಅಧಿಕಾರದ ಹಂಬಲ, ಭೂಮಿಯ ಮೇಲಿನ ಒಡೆತನ ಮತ್ತು ಹಕ್ಕು ಸಾಧಿಸುವ ಬಯಕೆ ಮನುಷ್ಯನಿಗೆ ಹೊಸದೇನಲ್ಲ ಎಂಬುದನ್ನು ತಿಳಿಯುವುದು.	PO2, PO6	U, Up
CO3	ಮೂರನೆಯ ಘಟಕದಲ್ಲಿ ವೈಜ್ಞಾನಿಕ ಮನೋಧರ್ಮ ಎಂಬ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಹನ್ನೆರಡನೆಯ ಶತಮಾನದ ವಚನ ಚಳುವಳಿಯನ್ನು ಕರ್ನಾಟಕದ ಸಾಂಸ್ಕೃತಿಕ ಚರಿತ್ರೆಯಲ್ಲಿ ಒಂದು ಅಭೂತಪೂರ್ವ ಕಾಲ ಎನ್ನಬಹುದು? ವಿಜ್ಞಾನದ ಮಹತ್ವ ಮತ್ತು ಅಂಧ ಶ್ರದ್ಧೆಯ ಬಗ್ಗೆ ಅರಿಯುವುದು. ಮೂಢನಂಬಿಕೆಗಳ ಬಗ್ಗೆ ಅರಿವು ಮೂಡಿಸುವುದು	PO6, PO7	U, Ap, An,
CO4	ನಾಲ್ಕನೆಯ ಘಟಕದಲ್ಲಿ ಸಂಕೀರ್ಣ ಲೇಖನಗಳು ಎಂಬ ಲೇಖನಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ವಿಜ್ಞಾನದ ಸಾಧನೆಗಳ ಬಗ್ಗೆ ತಿಳಿಯುವುದು? ಪ್ರಕೃತಿ ಮತ್ತು ಪರಿಸರದ ಮಹತ್ವವನ್ನು ಅರಿಯುವುದು. ಕೃಷಿ ಮತ್ತು ಸಾಹಿತ್ಯಿಕ ಮಹತ್ವವನ್ನು ತಿಳಿಯುವುದು	PO6, PO7	U, Ap, An
CO5	ಈ ಭಾಗದಲ್ಲಿ ವಿದ್ಯಾರ್ಥಿಗಳು ವ್ಯಾಕರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಪಾರಿಭಾಷೆಕ ಪದಗಳ ಪರಿಚಯ, ವಿಶೇಷ ಪದಗಳ ಅರ್ಥ ಗ್ರಹಿಕೆ, ವಾಕ್ಯ ಜೋಡಣೆ ಮುಂತಾದ ಕೌಶಲ್ಯಗಳನ್ನು ಬೆಳೆಸಿಕೊಳ್ಳುವುದರ ಜೊತೆಗೆ ಮಾಹಿತಿ ಹಕ್ಕು ಅಧಿನಿಯಮಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಅರ್ಜಿ ಬರೆಯುವ ಕೌಶಲ್ಯಗಳನ್ನು ಅರ್ಥೈಸಿಕೊಳ್ಳುತ್ತಾರೆ	PO6, PO5	Ap, E

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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HINDI **I SEMESTER**

Name of the Course: I SEM BSC HINDI
Name of the Subject Matter Expert: Madhuri Kshirsagar

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Students will be familiar with different genres of hindi prose.	PO 1, 2, 3, 6, 7	R, U, Ap,
CO2	The study of prose will generate interest in creative writing.	PO 2,3,6	Ap, C
CO3	Students will develop their language skills.	PO 1,2,6	U, Ap
CO4	Students can gain Reading, writing, Oratory skills.	PO 2,6	U, Ap
CO5	Students can acquire the knowledge of Hindi grammar and utilize it in day-to-day life.	PO 1,2,6	R, U, Ap

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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ABILITY ENHANCEMENT COMPULSORY COURSE **I SEMESTER**

Name of the Programme: Environmental Studies
Subject Matter Expert: Prof. Sonima Mohan

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Bring about an awareness of a variety of environmental concerns.	PO4	R,U
CO2	Understand the concepts of ecosystem, natural resources, biodiversity as well as to discuss the factors impacting biodiversity loss and ecosystem degradation.	PO6, PO7	U, Ap
CO3	Develop an understanding of pollution and sensitize to adverse health impacts of pollution.	PO6, PO7	U. An
CO4	Learn about major international institutions and programmes and the role played by them in the protection and preservation of the environment.	PO6, PO7	R,U
CO5	Create a pro-environmental attitude and a behavioral pattern in society that is based on creating sustainable lifestyles.	PO7	E, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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PO-PSO- CO MAPPING

Cognitive Levels (Blooms taxonomy)

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C– Create

PHYSICS **II SEMESTER**

Name of the Course: Phy.DSCT2- Electricity and Magnetism (Theory)

Name of the Subject Matter Expert: Umamaheswari . U

COs	PO/PSOs Addressed	Cognitive Level
CO1- Demonstrate Gauss law, Coulomb's law for the electric field, and apply it to systems of point, line, surface, and volume distributions of charges.	PO1, PO3, PSO1	U, R, E
CO2- Explain and differentiate the vector formalisms of electrostatics. Apply Gauss's law of electrostatics to solve a variety of problems.	PO2, PO7, PSO2	U, Ap, E
CO3- Describe the magnetic field produced by magnetic dipoles and electric currents. Explain Faraday-Lenz and Maxwell laws to articulate the relationship between electric and magnetic fields. Describe how magnetism is produced and list examples where its effects are observed.	PO3, PO4, PSO1	U, R, An, E
CO4- Apply Kirchhoff's rules to analyse AC circuits consisting of parallel and/or series combinations of voltage sources and resistors	PO5, PO6, PSO2	U, Ap, An
CO5- To describe the graphical relationship of resistance, capacitor and inductor. Applying various network theorems in electrical circuit analysis.	PO1, PO2, PSO1	U, Ap, An, E

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PO-PSO- CO MAPPING

Cognitive Levels (Blooms taxonomy)

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C– Create

PHYSICS **II SEMESTER**

Name of the Course: Phy-DSCP1-Lab II- Electricity and Magnetism (Practical):

Name of the Subject Matter Expert: Umamaheswari . U

COs	PO/PSOs Addressed	Cognitive Level
CO1- Experiments on tracing of electric and magnetic flux lines for standard configuration.	PO1, PO6, PSO2	PO1, PO6, PSO2
CO2- Charging and discharging of a capacitor. Frequency response of LCR Series & Parallel resonance circuit.	PO5, PO2, PSO1	PO5, PO2, PSO1
CO3- Impedance of series RC circuits - determination of frequency of AC. Study the i-v characteristics of a series RC and RL Circuit.	PO6, PO7, PSO1	PO1, PSO1
CO4- Verification of laws of combination of capacitances and determination of unknown capacitance using de-Sauty bridge.	PO3, PO4, PSO1	PO3, PO4, PSO1
CO5- Anderson & Maxwell's impedance bridge to determine Self Inductance L.	PO6, PSO2	PO6, PSO2

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PO-PSO- CO MAPPING

Cognitive Levels (Blooms taxonomy)

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C– Create

PHYSICS **1V SEMESTER**

Name of the Course: Thermal Physics and Electronics Theory
Name of the Faculty Member: Prof. Sonima Mohan

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Apply the laws of thermodynamics and analyse the thermal system.	PO1, PO2, PO6,PO7,PSO1, PSO2	R, U, An
CO2	Apply the laws of kinetic theory and radiation laws to the ideal and practical thermodynamics systems through derived thermodynamic relations.	PO3,PO4,PO5, PSO1, PSO2	U,An,Ap,E
CO3	Use the concepts of semiconductors to describe different Semiconductor devices like diode transistors, BJT, FET etc and explain their functioning.	PO2,PO3,PO4,PO5, PSO1, PSO2	U,An,Ap,E
CO4	Explain the functioning of OP-AMPS and construct the building blocks of logic gates.	PO1, PO3, PO5,PSO1, PSO2	U,An,Ap,E,C
CO5	Explain logic gates using different theorems of Boolean Algebra followed by logic circuits and apply to real life problems	PO3, PO4,PO5, PSO1, PSO2	U,An,Ap,E,C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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PO-PSO- CO MAPPING

Cognitive Levels (Blooms taxonomy)

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C– Create

PHYSICS **1V SEMESTER**

Name of the Course: Thermal Physics and Electronics Practicals
Name of the Faculty Member: Prof. Sonima Mohan

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Specific heat determination by Newton's law of cooling and experimental verification of Newton's law of cooling	PO1, PO2, PO3, PO6,PO7,PSO1, PSO2	R, U, An
CO2	Determination of thermal conductivity of rubber and Planck's constant.	PO1, PO2, PO6,PO7, PSO1, PSO2	U,An,Ap,E
CO3	Truth table verification of logic gates using TTL 74 series ICs.	PO1, PO2, PO3,PSO1, PSO2	U,An,Ap,E
CO4	V-I Characteristics of Zener Diode (ii) Regulated power supply (using zener diode).	PO1, PO2, PO4, PO5, PSO1, PSO2	U,An,Ap,E,C
CO5	Applications of Operational Amplifier: (i) Non-inverting and Inverting op-amp circuits (ii) Voltage follower, Adder and Subtractor circuits	PO1, PO2, PO3,PO4,PSO1, PSO2	U,An,Ap,E,C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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Semester IV

Name of the Course: MATDSCT 4.1: Partial Differentiation Equations and Integral Transforms(theory)

Name of the Course Faculty: Rashmi N

CO	Course Outcomes	POs Addressed	Cognitive Level
CO1	The course will be enable the students to solve the partial differential equations of the first order and second order. Formulate, classify and transform partial differential equations into canonical form.	PO1, PO2, PO3,PO4,PO6	R,U,Ap,An,E,C
CO2	Solve linear and non-linear partial differential equations using various methods and apply these methods to solve some physical problems. Able to solve wave equation and heat equation.	PO1, PO2, PO3,PO4,PO6	R,U,Ap,An,E,C
CO3	Understand the concept of Laplace transforms. Able to find the Fourier series and Fourier transform of given functions.	PO1, PO2, PO3,PO4,PO6	R,U,Ap,An,E,C

Subject Matter Expert

HOD

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Semester IV

Name of the Course: MATDSCP 4.1: Practicals on Partial Differential Equations and Integral Transforms(Practical)

Name of the Course Faculty: Rashmi N

CO	Course Outcomes	POs Addressed	Cognitive Level
CO1	• Learn Free and Open Source Software(FOSS) tools or computer programming and Solve Problems on Partial Differential Equations and Integral Transforms.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C
CO2	• To find Laplace transform and inverse Laplace transform of various functions.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C
CO3	• To find the Fourier series of periodic functions and half range Fourier series of some functions.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C

Subject Matter Expert

HOD

Semester II

Name of the Course: MATDSCT 2.1: Algebra-II and Calculus-II(Theory)

Name of the Course Faculty: Rashmi N

CO	Course Outcomes	POs Addressed	Cognitive Level
CO1	• Recognize the mathematical objects called Groups. • Link the fundamental concepts of groups and symmetries of geometrical objects. • Explain the significance of the notions of Cosets, normal subgroups and factor groups	PO1, PO2, PO3,PO4,PO6	R,U,An,C
CO2	• Understand the concept of differentiation and fundamental theorems in differentiation and various rules. • Find the extreme Values of functions of two variables.	PO1, PO2, PO3,PO4,PO6	R,U,E
CO3	• Finding the area under a curve	PO1, PO2, PO3,PO4,PO6	Ap,An,E

Subject Matter Expert

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FRANCIS DE SALES COLLEGE

Semester II

Name of the Course: MATDSCP 2.1: Algebra-II and Calculus-II(Practical)

Name of the Course Faculty: Rashmi N

CO	Course Outcomes	POs Addressed	Cognitive Level
CO1	• Learn Free and Open Source Software(FOSS) tools or computer programming.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C
CO2	• Solve problem on algebra and calculus by using FOSS software's.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C
CO3	• Acquire knowledge of applications of algebra and calculus through FOSS.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C

Subject Matter Expert

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HOD

CHEMISTRY **II SEMESTER**

Name of the Course: : Inorganic and Physical Chemistry-I (Theory)
Name of the Course Faulty: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Learn the scientific theory of atoms, concept of wave functions, the fundamentals of quantum mechanics and concept of operators	PO2, PO3, PSO 1	R, U, ,Ap,E
CO2	Understand the physical and chemical characteristics of elements and identify the given element.	PO3, PO4, PSO 2	R,U, An, Ap, An,
CO3	Understand the charges of proton, neutron , electron and their assembly to form different atoms	PO2,PO3,PO6	R, U, An, E
CO4	Learn the theory of dilute solutions, distribution law and its applications. Properties of liquid as a solvent for various household and commercial use.	PO2,PO3, PSO 1	R,U, An,E, C
CO5	Explain the laws governing the behavior of ideal gases and real gases including their comparison, understand the crystallography, X-ray diffraction techniques, Bragg's law and its applications	PO3,PO6 PSO2	R,U, Ap, E,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert **HoD**

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CHEMISTRY **II SEMESTER**

Name of the Course: : Inorganic and Physical Chemistry-I (Practical)
Name of the Course Faulty: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Inculcate the significance of physical constants of organic liquids	PO3,PSO1 PSO 2	R,U, ,An, Ap, E
CO2	Weigh accurately compounds up to fourth decimal, know the importance of calibration of instruments, pipette, burette and volumetric flask	PO3,PSO1 PSO 2	R, U, R, Ap, E
CO3	Understand the concept of distribution coefficient, Nernst Distribution law and how it takes different form when solute undergo association or dissociation in one of the layer	PO3, PSO1 PSO 2	R, U,An, E
CO4	Prepare standard or working solutions, standardization of solutions and determination of respective analytes. Handle proficiently by products and disposal of waste	PO6, PSO1 PSO 2	R, U, C, Ap An
CO5	Learn the importance of green methods over conventional methods. Enthuse students to conduct experiments by arousing curiosity which would help them in learning basics and advanced concepts through simulation based labs.	PO6, PSO1 PSO 2	R,U, An, Ap C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert **HoD**

CHEMISTRY **IV SEMESTER**

Name of the Course: : Inorganic and Physical Chemistry-II
Name of the Course Faulty: Dr. Regimol G.George

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	CO1- Predict the nature of the bond formed between different elements, identify the possible type of arrangements of ions in ionic compounds and write the Born - Haber cycle for different ionic compounds .	PO2, PO3, PSO 1	U, R, Ap
CO2	CO2-Explain different energy parameters like, lattice energy, entropy, enthalpy, solvation energy, covalent nature in ionic compounds , M.O. energy diagrams for simple molecules and differentiate bonding in metals from their compounds	PO3, PO6, PSO 2	U, Ap, An,
CO3	CO3- Learn important laws of thermodynamics and their applications to various thermodynamic systems , Understand adsorption processes and their mechanisms and apply adsorption as a versatile method for waste water purification.	PO2,PO3,PO6	U,An, E
CO4	CO4- Understand the concept of rate of a chemical reaction, integrated rate equations, energy of activation , determination of order of a reaction based on experimental data	PO2,PO3, PSO 1	U, An, C
CO5	CO5- Know different types of electrolytes, usefulness of conductance, ionic mobility measurements and determination of the transport numbers	,PO3,PO6	U, Ap,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert **HoD**

CHEMISTRY **IV SEMESTER**

Name of the Course: : Inorganic and Physical Chemistry-II Practical
Name of the Course Faulty: Dr. Regimol G. George

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	CO1- Understand the chemical reactions involved in the detection of cations and anions and explain basic principles involved in classification of ions into groups in semi-micro qualitative analysis of salt mixture	PO3,PSO1 PSO 2	U, ,An, Ap
CO2	CO2- Carryout the separation of cations into groups and understand the concept of common ion effect, the choice of group reagents used in the analysis. and analyse a simple inorganic salt mixture containing two anions and cations.	PO3,PSO1 PSO 2	U, R, Ap
CO3	CO3- Use instruments like a conductivity meter to obtain various physicochemical parameters and apply the theory about chemical kinetics to determine the velocity constants of various reaction	PO3, PSO1 PSO 2	U,An, E
CO4	CO4- Learn about the reaction mechanisms, Interpret the behavior of interfaces, the phenomena of physisorption and chemisorption and their applications in chemical and industrial processes.	PO6, PSO1 PSO 2	U, C, An
CO5	CO5- Learn to fit experimental data with theoretical models and interpret the data	PO6, PSO1 PSO 2	U, An, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert **HoD**

CS-PSY

PSYCHOLOGY **IV SEMESTER**

Name of the Course: Developmental Psychology
Subject matter expert: Prof Lakshmi Balakrishnan

CO	Course Outcome *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To understand and analyse the physical, cognitive and psycho social development.	PSO1, PSO2	R, U, E
CO2	To know about the vocational judgement and also the developmental changes that happens during the late adulthood stage	PSO1, PSO2	U, Ap, An, E
CO3	To understand ageing, the ageing process and facing the future. Also understanding the various phases of death and meaning of life.	PSO1, PSO2	U, Ap, An, E

C-Saves

Subject Matter Expert

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PO-PSO- CO MAPPING

Cognitive Levels (Blooms taxonomy)

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C– Create

PSYCHOLOGY **II SEMESTER**

Name of the Course: Foundations of Psychology (Theory & Practical)
Name of the Subject Matter Expert: Prof. Diliya Joseph

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To understand and evaluate various human emotions and the determinants of motivation which has a practical application.	PSO2, PSO5	U,C
CO2	To reflect and remember the concepts that are related to intelligence and IQ in general.	PSO3, PO4	U,C,Ap
CO3	To analyse and understand the various human personalities.	PSO4, PSO5	An,Ap

Subject Matter Expert

HoD

COMPUTER SCIENCE **II SEMESTER**

Name of the Course: CS-C3T - DATA STRUCTURES (Theory)

Name of the Subject Matter Expert: Dr. S. Sivagami

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the concept of data types, algorithms, complexity of algorithms, Big O notation.	PSO – 3,2,5	R,U,E
CO2	Understand linear data structures Arrays operations on arrays. Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data. Importance of dynamic memory concepts and implementation of linked lists	PSO -2	An,Ap, E
CO3	Understanding stacks and queues, Implementation and applications. Nonlinear data structures Graphs, and trees, Traversing, and implementation of Trees.	PSO -1	U Ap,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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HoD

COMPUTER SCIENCE **II SEMESTER**

Name of the Course: CS-C4P: DATA STRUCTURES LAB PROGRAMS (Practical)
Subject Matter Expert: Dr. S. Sivagami

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the concept of data types, algorithms, complexity of algorithms, Big O notation.	PSO – 3,2,5	R,U,E
CO2	Understand linear data structures Arrays operations on arrays. Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data. Importance of dynamic memory concepts and implementation of linked lists	PSO -2	An,Ap, E
CO3	Understanding stacks and queues, Implementation and applications. Nonlinear data structures Graphs, and trees, Traversing, and implementation of Trees.	PSO -1	U Ap,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert **HoD**

COMPUTER SCIENCE **IV SEMESTER**

Name of the Course: CS-C7T Operating System and Unix

Subject Matter Expert: Prof. Veena

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the basics of operating systems like kernel, shell, types and views of operating systems . Analyze the structure of OS and basic architectural components involved in OS design.	PSO – 3,2,5	R,U,E
CO2	To gain knowledge on distributed operating system concepts that includes architecture,Mutual exclusion algorithms,deadlock detection algorithms and agreement protocols To learn mechanisms involved in memory management in OS Learn the mechanisms of OS to handle processes and threads and their communication	PSO -2	An,Ap, E
CO3	Understand File System and its implementation using different mechanisms Interpret the mechanisms adopted for file sharing in distributed Applications. Recognize file system interface, protection, and security mechanisms. Understand various features of distributed OS like Unix, Linux, windows, etc.	PSO -1,3,7	U Ap,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

HoD

COMPUTER SCIENCE **IV SEMESTER**

Name of the Course: CS-C8P- UNIX Lab

Subject Matter Expert: Prof. Veena

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the basics of operating systems like kernel, shell, types and views of operating systems . Analyze the structure of OS and basic architectural components involved in OS design.	PSO – 3,2,5	R,U,E
CO2	To gain knowledge on distributed operating system concepts that includes architecture,Mutual exclusion algorithms,deadlock detection algorithms and agreement protocols To learn mechanisms involved in memory management in OS Learn the mechanisms of OS to handle processes and threads and their communication	PSO -2	An,Ap, E
CO3	Understand File System and its implementation using different mechanisms Interpret the mechanisms adopted for file sharing in distributed Applications. Recognize file system interface, protection, and security mechanisms. Understand various features of distributed OS like Unix, Linux, windows, etc.	PSO -1,3,7	U Ap,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert **HoD**

ST. FRANCIS DE SALES COLLEGE * Bengaluru - 560005

M-CS.

COMPUTER SCIENCE **II SEMESTER**

Name of the Course: CS-C3T - DATA STRUCTURES (Theory)

Name of the Subject Matter Expert: Dr. S. Sivagami

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the concept of data types, algorithms, complexity of algorithms, Big O notation.	PSO – 3,2,5	R,U,E
CO2	Understand linear data structures Arrays operations on arrays. Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data. Importance of dynamic memory concepts and implementation of linked lists	PSO -2	An,Ap, E
CO3	Understanding stacks and queues, Implementation and applications. Nonlinear data structures Graphs, and trees, Traversing, and implementation of Trees.	PSO -1	U Ap,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

C. Sarayu

Subject Matter Expert

HoD

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COMPUTER SCIENCE **II SEMESTER**

Name of the Course: CS-C4P: DATA STRUCTURES LAB PROGRAMS (Practical)
Subject Matter Expert: Dr. S. Sivagami

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the concept of data types, algorithms, complexity of algorithms, Big O notation.	PSO – 3,2,5	R,U,E
CO2	Understand linear data structures Arrays operations on arrays. Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data. Importance of dynamic memory concepts and implementation of linked lists	PSO -2	An,Ap, E
CO3	Understanding stacks and queues, Implementation and applications. Nonlinear data structures Graphs, and trees, Traversing, and implementation of Trees.	PSO -1	U Ap,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

HoD

COMPUTER SCIENCE **IV SEMESTER**

Name of the Course: CS-C7T Operating System and Unix

Subject Matter Expert: Prof. Veena

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the basics of operating systems like kernel, shell, types and views of operating systems . Analyze the structure of OS and basic architectural components involved in OS design.	PSO – 3,2,5	R,U,E
CO2	To gain knowledge on distributed operating system concepts that includes architecture,Mutual exclusion algorithms,deadlock detection algorithms and agreement protocols To learn mechanisms involved in memory management in OS Learn the mechanisms of OS to handle processes and threads and their communication	PSO -2	An,Ap, E
CO3	Understand File System and its implementation using different mechanisms Interpret the mechanisms adopted for file sharing in distributed Applications. Recognize file system interface, protection, and security mechanisms. Understand various features of distributed OS like Unix, Linux, windows, etc.	PSO -1,3,7	U Ap,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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COMPUTER SCIENCE **IV SEMESTER**

Name of the Course: CS-C8P- UNIX Lab

Subject Matter Expert: Prof. Veena

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the basics of operating systems like kernel, shell, types and views of operating systems . Analyze the structure of OS and basic architectural components involved in OS design.	PSO – 3,2,5	R,U,E
CO2	To gain knowledge on distributed operating system concepts that includes architecture,Mutual exclusion algorithms,deadlock detection algorithms and agreement protocols To learn mechanisms involved in memory management in OS Learn the mechanisms of OS to handle processes and threads and their communication	PSO -2	An,Ap, E
CO3	Understand File System and its implementation using different mechanisms Interpret the mechanisms adopted for file sharing in distributed Applications. Recognize file system interface, protection, and security mechanisms. Understand various features of distributed OS like Unix, Linux, windows, etc.	PSO -1,3,7	U Ap,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

HoD

Semester II

Name of the Course: MATDSCT 2.1: Algebra-II and Calculus-II(Theory)

Name of the Course Faculty: Rashmi N

CO	Course Outcomes	POs Addressed	Cognitive Level
CO1	• Recognize the mathematical objects called Groups. • Link the fundamental concepts of groups and symmetries of geometrical objects. • Explain the significance of the notions of Cosets, normal subgroups and factor groups	PO1, PO2, PO3,PO4,PO6	R,U,An,C
CO2	• Understand the concept of differentiation and fundamental theorems in differentiation and various rules. • Find the extreme Values of functions of two variables.	PO1, PO2, PO3,PO4,PO6	R,U,E
CO3	• Finding the area under a curve	PO1, PO2, PO3,PO4,PO6	Ap,An,E

Subject Matter Expert

HOD

Semester II

Name of the Course: MATDSCP 2.1: Algebra-II and Calculus-II(Practical)

Name of the Course Faculty: Rashmi N

CO	Course Outcomes	POs Addressed	Cognitive Level
CO1	• Learn Free and Open Source Software(FOSS) tools or computer programming.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C
CO2	• Solve problem on algebra and calculus by using FOSS software's.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C
CO3	• Acquire knowledge of applications of algebra and calculus through FOSS.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C

Subject Matter Expert

HOD

Semester IV

Name of the Course: MATDSCT 4.1: Partial Differentiation Equations and Integral Transforms(theory)

Name of the Course Faculty: Rashmi N

CO	Course Outcomes	POs Addressed	Cognitive Level
CO1	The course will be enable the students to solve the partial differential equations of the first order and second order. Formulate, classify and transform partial differential equations into canonical form.	PO1, PO2, PO3,PO4,PO6	R,U,Ap,An,E,C
CO2	Solve linear and non-linear partial differential equations using various methods and apply these methods to solve some physical problems. Able to solve wave equation and heat equation.	PO1, PO2, PO3,PO4,PO6	R,U,Ap,An,E,C
CO3	Understand the concept of Laplace transforms. Able to find the Fourier series and Fourier transform of given functions.	PO1, PO2, PO3,PO4,PO6	R,U,Ap,An,E,C

Subject Matter Expert

HOD

Semester IV

Name of the Course: MATDSCP 4.1: Practicals on Partial Differential Equations and Integral Transforms(Practical)

Name of the Course Faculty: Rashmi N

CO	Course Outcomes	POs Addressed	Cognitive Level
CO1	• Learn Free and Open Source Software(FOSS) tools or computer programming and Solve Problems on Partial Differential Equations and Integral Transforms.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C
CO2	• To find Laplace transform and inverse Laplace transform of various functions.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C
CO3	• To find the Fourier series of periodic functions and half range Fourier series of some functions.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C

Subject Matter Expert

HOD

ST. FRANCIS DE SALES COLLEGE

COMPUTER SCIENCE **II SEMESTER**

Name of the Course: CS-C3T - DATA STRUCTURES (Theory)

Name of the Subject Matter Expert: Dr. S. Sivagami

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the concept of data types, algorithms, complexity of algorithms, Big O notation.	PSO – 3,2,5	R,U,E
CO2	Understand linear data structures Arrays operations on arrays. Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data. Importance of dynamic memory concepts and implementation of linked lists	PSO -2	An,Ap, E
CO3	Understanding stacks and queues, Implementation and applications. Nonlinear data structures Graphs, and trees, Traversing, and implementation of Trees.	PSO -1	U Ap,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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ST. FRANCIS DE SALES COLLEGE

COMPUTER SCIENCE **II SEMESTER**

Name of the Course: CS-C4P: DATA STRUCTURES LAB PROGRAMS (Practical)
Subject Matter Expert: Dr. S. Sivagami

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the concept of data types, algorithms, complexity of algorithms, Big O notation.	PSO – 3,2,5	R,U,E
CO2	Understand linear data structures Arrays operations on arrays. Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data. Importance of dynamic memory concepts and implementation of linked lists	PSO -2	An,Ap, E
CO3	Understanding stacks and queues, Implementation and applications. Nonlinear data structures Graphs, and trees, Traversing, and implementation of Trees.	PSO -1	U Ap,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

HoD

E- CS.

Semester II

Name of the Course: EL-CT2- Analog and Digital Electronics (Theory)

Name of the Subject Matter Expert: Prof. Maya Mathew

CO	Course Outcome *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	To understand ,study and apply the behaviour and characteristics of the semiconductor devices and power electronics devices and their operations in various circuits.	PO1,PSO1	U, E
CO2	Acquainting and familiarization of the experimental skills to determine the behaviour of semiconductor devices	PO4,PO6	Ap, An,E,C
CO3	Capable of analyzing the device characteristics and responses.	PO2,PO3	U, An
CO4	Understanding the working of basic logic gates, concepts of Boolean algebra and techniques to reduce/simplify Boolean expressions and their applications	PO6,PSO2	Ap, An,E,C
CO5	Synthesizing and Analyzing combinatorial and sequential circuits and their applications in electronics	PO5	U, An

Subject Matter Expert

HOD

(Seal and Signature of HOD required)

Semester II

Name of the Course: EL-CP2- Analog and Digital Electronics (Practical)

Name of the Subject Matter Expert: Prof. Maya Mathew

CO	Course Outcome *The learner will be able to*	PSOs Addressed	Cognitive Level
CO1	Ability to construct and study the analog electronics circuits	PO5,PSO1	U, Ap, An, E
CO2	Ability to study and verify the digital electronics circuits	PO6,PSO2	U,Ap, An, E
CO3	Capacity to apply knowledge and skills to design and implement analog and digital electronics circuits in daily life	PO3,PSO1	Ap, An, E U

Subject Matter Expert

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Semester IV

Course Outcome (CO)

Name of the Course: -Electronic Communication I (Theory)

Name of the Subject Matter Expert: Prof. Jenifer Sujitha G

(The Subject Matter Expert shall consolidate the course outcomes into 3 COs)

CO	Course Outcome *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Know the basic concept of Analog Communication, means and medium of communication.	PO1,PSO1	U,An
CO2	know the various modulation techniques involves in radio communication and radio transmitter.	PO5,PSO2	R,U, Ap, An, E
CO3	Understand the principle of Analog and digital modulation. Familiar with "AM" and "FM "technique.	PO6,PSO2	R,U, Ap, An, E
CO4	Understand the basic concept of Pulse Modulation, Carrier Modulation for digital transmission and able to construct simple pulse modulation	PO2,PSO1	U,An
CO5	Familiarise to TV Communication systems	PO6	U, Ap, An, E,C

Subject Matter Expert

HOD

Semester IV

Name of the Course: ELE CP 4.1- Electronic Communication-I (Practical)

Name of the Subject Matter Expert: Prof. Jenifer Sujitha G

CO	Course Outcome *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Will be able to differentiate between analog and digital communication.	PO1,PSO1	U,An
CO2	Ability to trace the input and output waveforms of AM and FM detectors.	PO5,PSO2	R,U, Ap, An, E
CO3	To trace the ouput waveforms of Pulse Modulation, Carrier Modulation for digital transmission and to construct simple pulse modulation	PO6,PSO2	R,U, Ap, An, E
CO4	Study of AM anf FM transmitter and Receiver.	PO2,PSO1	U,An
CO5	Ability to construct simple communication equipment Systems.	PO6	U, Ap, An, E,C

Subject Matter Expert

HOD

COMPUTER SCIENCE **IV SEMESTER**

Name of the Course: CS-C7T Operating System and Unix

Subject Matter Expert: Prof. Veena

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the basics of operating systems like kernel, shell, types and views of operating systems . Analyze the structure of OS and basic architectural components involved in OS design.	PSO – 3,2,5	R,U,E
CO2	To gain knowledge on distributed operating system concepts that includes architecture,Mutual exclusion algorithms,deadlock detection algorithms and agreement protocols To learn mechanisms involved in memory management in OS Learn the mechanisms of OS to handle processes and threads and their communication	PSO -2	An,Ap, E
CO3	Understand File System and its implementation using different mechanisms Interpret the mechanisms adopted for file sharing in distributed Applications. Recognize file system interface, protection, and security mechanisms. Understand various features of distributed OS like Unix, Linux, windows, etc.	PSO -1,3,7	U Ap,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

HoD

COMPUTER SCIENCE **IV SEMESTER**

Name of the Course: CS-C8P- UNIX Lab

Subject Matter Expert: Prof. Veena

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Understand the basics of operating systems like kernel, shell, types and views of operating systems . Analyze the structure of OS and basic architectural components involved in OS design.	PSO – 3,2,5	R,U,E
CO2	To gain knowledge on distributed operating system concepts that includes architecture,Mutual exclusion algorithms,deadlock detection algorithms and agreement protocols To learn mechanisms involved in memory management in OS Learn the mechanisms of OS to handle processes and threads and their communication	PSO -2	An,Ap, E
CO3	Understand File System and its implementation using different mechanisms Interpret the mechanisms adopted for file sharing in distributed Applications. Recognize file system interface, protection, and security mechanisms. Understand various features of distributed OS like Unix, Linux, windows, etc.	PSO -1,3,7	U Ap,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

HoD

SCHOOL OF SCIENCE

Name of the Degree Programme: BSc Mathematics- Physics

Programme Outcomes/Programme Specific Outcomes

Programme Outcomes/Programme Specific Outcomes

PO1- Disciplinary Knowledge

(i) To create the facilities and environment to consolidate the knowledge acquired and to motivate and inspire the students to create deep interest in Mathematics and Physics.
(ii) To develop broad and balanced knowledge and understanding of physical concepts, principles and theories of Physics as well as various branches of pure and applied mathematics.

PO2-Communication and Interpersonal Skills

(i) To develop the ability to communicate various concepts effectively using examples and their geometrical visualisation.
(ii) The skills and knowledge gained in this program will lead to proficiency in analytical reasoning.

PO3- Critical thinking and Problem-solving capabilities

(i) To acquire the ability of critical thinking and logical reasoning and capability of recognizing and distinguishing the various aspects of real-life problems.
(ii) To utilise the knowledge gained to develop an ability to analyse the problems, identify and define appropriate computing requirements for its solutions.

PO4- Teamwork and respect for diversity

(i) To develop an ability to work independently.
(ii) To make an in-depth study of various notions of Mathematics and Physics for pursuing the interdisciplinary and multidisciplinary higher education and/or research in interdisciplinary and multidisciplinary areas.

PO5- Information and Communication Technology (ICT) digital fluency

(i) To enable the students to think independently and develop algorithms and computational skills for solving real word problems.
(ii) To equip the learner to use appropriate softwares.

PO6 -Self -directed Lifelong Learning

(i) To develop the capability of inquiring about appropriate questions relating to concepts in different areas of Mathematics and Physics.
(ii) To create the ability to pursue advanced studies and research in pure and applied sciences.

PO7 -Moral and Ethical Awareness/Reasoning

(i) To develop an ability to identify unethical behaviour such as fabrication, falsification or misinterpretation of data and adopting objectives, unbiased and truthful actions in all aspects of life in general and their specialised subjects in particular.
(ii) Develop soft skills in practising professional ethics.

PSO 1: Learn, design and perform experiments in the labs to demonstrate the concepts, principles and theories learned in the classrooms.

PSO 2: To equip with mathematical modelling ability and problem-solving skill.

PO-PSO- CO MAPPING

Cognitive Levels (Blooms taxonomy)

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C– Create

PHYSICS

II SEMESTER

Name of the Course: Phy.DSCT2- Electricity and Magnetism (Theory)
Name of the Subject Matter Expert: Umamaheswari . U

COs	PO/PSOs Addressed	Cognitive Level
CO1- Demonstrate Gauss law, Coulomb's law for the electric field, and apply it to systems of point, line, surface, and volume distributions of charges.	PO1, PO3, PSO1	U, R, E
CO2- Explain and differentiate the vector formalisms of electrostatics. Apply Gauss's law of electrostatics to solve a variety of problems.	PO2, PO7, PSO2	U, Ap, E
CO3- Describe the magnetic field produced by magnetic dipoles and electric currents. Explain Faraday-Lenz and Maxwell laws to articulate the relationship between electric and magnetic fields. Describe how magnetism is produced and list examples where its effects are observed.	PO3, PO4, PSO1	U, R, An, E
CO4- Apply Kirchhoff's rules to analyse AC circuits consisting of parallel and/or series combinations of voltage sources and resistors	PO5, PO6, PSO2	U, Ap, An
CO5- To describe the graphical relationship of resistance, capacitor and inductor. Applying various network theorems in electrical circuit analysis.	PO1, PO2, PSO1	U, Ap, An, E

Subject Matter Expert

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PO-PSO- CO MAPPING

Cognitive Levels (Blooms taxonomy)

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C– Create

PHYSICS

II SEMESTER

Name of the Course: Phy-DSCP1-Lab II- Electricity and Magnetism (Practical):

Name of the Subject Matter Expert: Umamaheswari . U

COs	PO/PSOs Addressed	Cognitive Level
CO1- Experiments on tracing of electric and magnetic flux lines for standard configuration.	PO1, PO6, PSO2	U, R, An
CO2- Charging and discharging of a capacitor. Frequency response of LCR Series & Parallel resonance circuit.	PO5, PO2, PSO1	U, Ap, An, E
CO3- Impedance of series RC circuits - determination of frequency of AC. Study the i-v characteristics of a series RC and RL Circuit.	PO1, PSO1	U, Ap, An, E
CO4- Verification of laws of combination of capacitances and determination of unknown capacitance using de-Sauty bridge.	PO3, PO4, PSO1	U, Ap, An
CO5- Anderson & Maxwell's impedance bridge to determine L.	PO6, PSO2	U, Ap, An, E

Subject Matter Expert

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PO-PSO- CO MAPPING

Cognitive Levels (Blooms taxonomy)

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C– Create

PHYSICS **1V SEMESTER**

Name of the Course: Thermal Physics and Electronics Theory
Name of the Faculty Member: Prof. Sonima Mohan

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Apply the laws of thermodynamics and analyse the thermal system.	PO1, PO2, PO6,PO7,PSO1, PSO2	R, U, An
CO2	Apply the laws of kinetic theory and radiation laws to the ideal and practical thermodynamics systems through derived thermodynamic relations.	PO3,PO4,PO5, PSO1, PSO2	U,An,Ap,E
CO3	Use the concepts of semiconductors to describe different Semiconductor devices like diode transistors, BJT, FET etc and explain their functioning.	PO2,PO3,PO4,PO5, PSO1, PSO2	U,An,Ap,E
CO4	Explain the functioning of OP-AMPS and construct the building blocks of logic gates.	PO1, PO3, PO5,PSO1, PSO2	U,An,Ap,E,C
CO5	Explain logic gates using different theorems of Boolean Algebra followed by logic circuits and apply to real life problems	PO3, PO4,PO5, PSO1, PSO2	U,An,Ap,E,C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

ST. FRANCIS DE SALES

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PO-PSO- CO MAPPING

Cognitive Levels (Blooms taxonomy)

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C– Create

PHYSICS **1V SEMESTER**

Name of the Course: Thermal Physics and Electronics Practicals
Name of the Faculty Member: Prof. Sonima Mohan

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Specific heat determination by Newton's law of cooling and experimental verification of Newton's law of cooling	PO1, PO2, PO3, PO6,PO7,PSO1, PSO2	R, U, An
CO2	Determination of thermal conductivity of rubber and Planck's constant.	PO1, PO2, PO6,PO7, PSO1, PSO2	U,An,Ap,E
CO3	Truth table verification of logic gates using TTL 74 series ICs.	PO1, PO2, PO3,PSO1, PSO2	U,An,Ap,E
CO4	V-I Characteristics of Zener Diode (ii) Regulated power supply (using zener diode).	PO1, PO2, PO4, PO5, PSO1, PSO2	U,An,Ap,E,C
CO5	Applications of Operational Amplifier: (i) Non-inverting and Inverting op-amp circuits (ii) Voltage follower, Adder and Subtractor circuits	PO1, PO2, PO3,PO4,PSO1, PSO2	U,An,Ap,E,C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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Semester II

Name of the Course: MATDSCT 2.1: Algebra-II and Calculus-II(Theory)

Name of the Course Faculty: Rashmi N

CO	Course Outcomes	POs Addressed	Cognitive Level
CO1	• Recognize the mathematical objects called Groups. • Link the fundamental concepts of groups and symmetries of geometrical objects. • Explain the significance of the notions of Cosets, normal subgroups and factor groups	PO1, PO2, PO3,PO4,PO6	R,U,An,C
CO2	• Understand the concept of differentiation and fundamental theorems in differentiation and various rules. • Find the extreme Values of functions of two variables.	PO1, PO2, PO3,PO4,PO6	R,U,E
CO3	• Finding the area under a curve	PO1, PO2, PO3,PO4,PO6	Ap,An,E

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HOD

Semester II

Name of the Course: MATDSCP 2.1: Algebra-II and Calculus-II(Practical)

Name of the Course Faculty: Rashmi N

CO	Course Outcomes	POs Addressed	Cognitive Level
CO1	• Learn Free and Open Source Software(FOSS) tools or computer programming.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C
CO2	• Solve problem on algebra and calculus by using FOSS software's.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C
CO3	• Acquire knowledge of applications of algebra and calculus through FOSS.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C

Subject Matter Expert

HOD

Semester IV

Name of the Course: MATDSCT 4.1: Partial Differentiation Equations and Integral Transforms(theory)

Name of the Course Faculty: Rashmi N

CO	Course Outcomes	POs Addressed	Cognitive Level
CO1	The course will be enable the students to solve the partial differential equations of the first order and second order. Formulate, classify and transform partial differential equations into canonical form.	PO1, PO2, PO3,PO4,PO6	R,U,Ap,An,E,C
CO2	Solve linear and non-linear partial differential equations using various methods and apply these methods to solve some physical problems. Able to solve wave equation and heat equation.	PO1, PO2, PO3,PO4,PO6	R,U,Ap,An,E,C
CO3	Understand the concept of Laplace transforms. Able to find the Fourier series and Fourier transform of given functions.	PO1, PO2, PO3,PO4,PO6	R,U,Ap,An,E,C

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HOD

Semester IV

Name of the Course: MATDSCP 4.1: Practicals on Partial Differential Equations and Integral Transforms(Practical)

Name of the Course Faculty: Rashmi N

CO	Course Outcomes	POs Addressed	Cognitive Level
CO1	• Learn Free and Open Source Software(FOSS) tools or computer programming and Solve Problems on Partial Differential Equations and Integral Transforms.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C
CO2	• To find Laplace transform and inverse Laplace transform of various functions.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C
CO3	• To find the Fourier series of periodic functions and half range Fourier series of some functions.	PO1, PO3,PO5,PO6	R,U,Ap,An,E,C

Subject Matter Expert

ST. FRANCIS DE SALES COLLEGE * Bengaluru - 560 *

HOD

SCHOOL OF SCIENCE

Name of the Degree Programme: BSc Physics- Chemistry

Programme Outcomes/Programme Specific Outcomes

PO1- Disciplinary Knowledge

(i) To create the facilities and environment to consolidate the knowledge acquired and to motivate and inspire the students to create deep interest in physics and chemistry..

(ii) To develop broad and balanced knowledge and understanding of physical concepts, principles and theories of Physics and chemistry.

PO2-Communication and Interpersonal Skills

(i) To develop the ability to communicate various concepts effectively using examples.

(ii) Exhibit skills leading to employability in industries.

PO3- Critical thinking and Problem-solving capabilities

(i) To acquire the ability of critical thinking and logical reasoning and capability of recognizing and distinguishing the various aspects of real life problems.

(ii) To develop an ability to analyse the problems, identify and define standard methodology for its solutions by utilising the knowledge gained.

PO4- Teamwork and respect for diversity

(i) Demonstrate a range of practical skills to conduct and infer experiments independently and in groups.

(ii) To make an in depth study of various notions of physics and chemistry for pursuing the interdisciplinary and multidisciplinary higher education and/or research in interdisciplinary and multidisciplinary areas.

PO5- Information and Communication Technology (ICT) digital fluency

(i) To enable the students to think independently and develop computational skills for problem solving in physics and chemistry.

(ii) To equip the learner to use appropriate softwares.

PO6 -Self -directed Lifelong Learning

(i) To develop the ability to adapt and apply methodology to the solution of unfamiliar types of problems

(ii) To create the ability to pursue advanced studies and research in pure and applied sciences.

PO7 -Moral and Ethical Awareness/Reasoning

(i) To develop an ability to identify unethical behaviour such as fabrication, falsification or misinterpretation of data and adopting objectives, unbiased and truthful actions in all aspects of life in general and their specialised subjects in particular.

(ii) Develop soft skills in practising professional ethics.

PSO 1: Learn, design and perform experiments in the labs to demonstrate the concepts, principles and theories learned in the classrooms.

PSO 2: Provide the ability to plan and carry out experiments independently and assess the significance of outcomes and to cater to the demands of Industries as well-trained graduates.

CHEMISTRY **II SEMESTER**

Name of the Course: : Inorganic and Physical Chemistry-I (Theory)
Name of the Course Faulty: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Learn the scientific theory of atoms, concept of wave functions, the fundamentals of quantum mechanics and concept of operators	PO2, PO3, PSO 1	R, U, ,Ap,E
CO2	Understand the physical and chemical characteristics of elements and identify the given element.	PO3, PO4, PSO 2	R,U, An, Ap, An,
CO3	Understand the charges of proton, neutron , electron and their assembly to form different atoms	PO2,PO3,PO6	R, U, An, E
CO4	Learn the theory of dilute solutions, distribution law and its applications. Properties of liquid as a solvent for various household and commercial use.	PO2,PO3, PSO 1	R,U, An,E, C
CO5	Explain the laws governing the behavior of ideal gases and real gases including their comparison, understand the crystallography, X-ray diffraction techniques, Bragg's law and its applications	PO3,PO6 PSO2	R,U, Ap, E,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

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CHEMISTRY **II SEMESTER**

Name of the Course: : Inorganic and Physical Chemistry-I (Practical)
Name of the Course Faulty: Dr. Nebula Murukesh

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	Inculcate the significance of physical constants of organic liquids	PO3,PSO1 PSO 2	R,U, ,An, Ap, E
CO2	Weigh accurately compounds up to fourth decimal, know the importance of calibration of instruments, pipette, burette and volumetric flask	PO3,PSO1 PSO 2	R, U, R, Ap, E
CO3	Understand the concept of distribution coefficient, Nernst Distribution law and how it takes different form when solute undergo association or dissociation in one of the layer	PO3, PSO1 PSO 2	R, U,An, E
CO4	Prepare standard or working solutions, standardization of solutions and determination of respective analytes. Handle proficiently by products and disposal of waste	PO6, PSO1 PSO 2	R, U, C, Ap An
CO5	Learn the importance of green methods over conventional methods. Enthuse students to conduct experiments by arousing curiosity which would help them in learning basics and advanced concepts through simulation based labs.	PO6, PSO1 PSO 2	R,U, An, Ap C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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HoD

CHEMISTRY **IV SEMESTER**

Name of the Course: : Inorganic and Physical Chemistry-II
Name of the Course Faulty: Dr. Regimol G.George

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	CO1- Predict the nature of the bond formed between different elements, identify the possible type of arrangements of ions in ionic compounds and write the Born - Haber cycle for different ionic compounds .	PO2, PO3, PSO 1	U, R, Ap
CO2	CO2-Explain different energy parameters like, lattice energy, entropy, enthalpy, solvation energy, covalent nature in ionic compounds , M.O. energy diagrams for simple molecules and differentiate bonding in metals from their compounds	PO3, PO6, PSO 2	U, Ap, An,
CO3	CO3- Learn important laws of thermodynamics and their applications to various thermodynamic systems , Understand adsorption processes and their mechanisms and apply adsorption as a versatile method for waste water purification.	PO2,PO3,PO6	U,An, E
CO4	CO4- Understand the concept of rate of a chemical reaction, integrated rate equations, energy of activation , determination of order of a reaction based on experimental data	PO2,PO3, PSO 1	U, An, C
CO5	CO5- Know different types of electrolytes, usefulness of conductance, ionic mobility measurements and determination of the transport numbers	,PO3,PO6	U, Ap,An

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

HoD

CHEMISTRY **IV SEMESTER**

Name of the Course: : Inorganic and Physical Chemistry-II Practical
Name of the Course Faulty: Dr. Regimol G. George

CO	Course Outcomes *The learner will be able to*	PO-PSOs Addressed	Cognitive Level
CO1	CO1- Understand the chemical reactions involved in the detection of cations and anions and explain basic principles involved in classification of ions into groups in semi-micro qualitative analysis of salt mixture	PO3,PSO1 PSO 2	U, ,An, Ap
CO2	CO2- Carryout the separation of cations into groups and understand the concept of common ion effect, the choice of group reagents used in the analysis. and analyse a simple inorganic salt mixture containing two anions and cations.	PO3,PSO1 PSO 2	U, R, Ap
CO3	CO3- Use instruments like a conductivity meter to obtain various physicochemical parameters and apply the theory about chemical kinetics to determine the velocity constants of various reaction	PO3, PSO1 PSO 2	U,An, E
CO4	CO4- Learn about the reaction mechanisms, Interpret the behavior of interfaces, the phenomena of physisorption and chemisorption and their applications in chemical and industrial processes.	PO6, PSO1 PSO 2	U, C, An
CO5	CO5- Learn to fit experimental data with theoretical models and interpret the data	PO6, PSO1 PSO 2	U, An, C

R- Remember; U- Understand; Ap- Apply; An – Analyse; E- Evaluate; C – Create

Subject Matter Expert

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