NPR College of Engineering and Technology
(AN AUTONOMOUS INSTITUTION)
NBA Accredited (B.E. - CSE, ECE, EEE & Mechanical Engg.) | Accredited by NAAC with 'A' Grade
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Approved by All India Council for Technical Education, New Delhi
Affiliated to Anna University, Chennai
Natham, Dindigul (Dist.) - 624 401, Tamil Nadu.

DEPARTMENT OF INFORMATION TECHNOLOGY

Course Outcomes (COs) – Programme Outcomes(POs)/Programme Specific Outcomes(PSOs) Mapping for All Courses

Autonomous Regulation 2023

SEMESTER I

Course Name : 23HS101 PROFESSIONAL ENGLISH - I

Course Outcome

On completion of the course, the students will be able to		Bloom's Level Mapped
CO1	To use appropriate words in a professional context and communicate in a professional context.	Apply (K3)
CO2	To gain understanding of basic grammatic structures and use them in right context.	Understand (K2)
CO3	To read and infer the denotative and connotative meanings of technical texts and use technical words in describing products with appropriate definitions.	Apply (K3)
CO4	To write definitions, descriptions, narrations and essays on various topics.	Create (K6)
CO5	To express their opinions effectively in both oral and written medium of communication.	Create (K6)

Mapping Table Mapping of COs with POs and PSOs

COs/ POs	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-
CO2	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-
CO3	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-
CO4	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-
CO5	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-

Mapping: 1-Low, 2-Medium, 3-High (Mapping value based on usage of Action verbs in each CO)

NPR College of Engineering and Technology
(AN AUTONOMOUS INSTITUTION)
NBA Accredited (B.E. - CSE, ECE, EEE & Mechanical Engg.) | Accredited by NAAC with 'A' Grade
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Approved by All India Council for Technical Education, New Delhi
Affiliated to Anna University, Chennai
Natham, Dindigul (Dist.) - 624 401, Tamil Nadu.

Course Name:23MA101 MATRICES AND CALCULUS

Course Outcome

On completion of the course, the students will be able to		Bloom's Level Mapped
CO1	Use the matrix algebra methods for solving practical problems.	Apply (K3)
CO2	Able to use differential calculus ideas on several variable functions.	Apply (K3)
CO3	Apply integral calculus and multiple integral tools in solving various application problems.	Apply (K3)
CO4	Understand the concepts of Gradient, divergence and curl of a vector point function and related applications.	Understand (K2)
CO5	Apply various techniques in solving ordinary differential equations.	Apply (K3)

Mapping Table Mapping of COs with POs and PSOs

COs/ POs	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1	3	3	1	1	-	-	-	-	2	-	2	3	-	-	-
CO2	3	3	1	1	-	-	-	-	2	-	2	3	-	-	-
CO3	3	3	1	1	-	-	-	-	2	-	2	3	-	-	-
CO4	3	3	1	1	-	-	-	-	2	-	2	3	-	-	-
CO5	3	3	-	-	-	-	-	-	2	-	-	2	-	-	-

Mapping: 1-Low, 2-Medium, 3-High (Mapping value based on usage of Action verbs in each CO)

NPR College of Engineering and Technology
(AN AUTONOMOUS INSTITUTION)
NBA Accredited (B.E. - CSE, ECE, EEE & Mechanical Engg.) | Accredited by NAAC with 'A' Grade
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Approved by All India Council for Technical Education, New Delhi
Affiliated to Anna University, Chennai
Natham, Dindigul (Dist.) - 624 401, Tamil Nadu.

Course Name: 23PH101 ENGINEERING PHYSICS

Course Outcome

On completion of the course, the students will be able to		**Bloom's Level Mapped**
CO1	Choose the correct materials based on their qualities for any intended applications and learn the basics of elasticity and its engineering-related applications.	Apply (K3)
CO2	Express their knowledge in electromagnetic waves.	Understand (K2)
CO3	Infer the characteristics of laser for various Engineering applications and expand the understanding of optical fibers use in communications.	Understand (K2)
CO4	Apply quantum theory's sophisticated physics notions to the matter's characterization.	Apply (K3)
CO5	Know the fundamentals of crystal formations and growth methods.	Understand (K2)

Mapping Table Mapping of COs with POs and PSOs

COs/ Pos	**PO 1**	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**	**PO 11**	**PO 12**	**PSO 1**	**PSO 2**	**PSO 3**
CO1	3	2	3	3	-	-	2	-	-	-	-	3	-	-	-
CO2	3	2	3	2	-	-	2	-	-	-	-	3	-	-	-
CO3	3	3	3	3	-	-	-	-	-	-	-	3	-	-	-
CO4	3	3	3	2	-	-	3	-	-	-	-	2	-	-	-
CO5	3	2	3	3	-	-	-	-	-	-	-	1	-	-	-

Mapping: 1-Low, 2-Medium, 3-High (Mapping value based on usage of Action verbs in each CO)

NPR College of Engineering and Technology
(AN AUTONOMOUS INSTITUTION)
NBA Accredited (B.E. - CSE, ECE, EEE & Mechanical Engg.) | Accredited by NAAC with 'A' Grade
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Approved by All India Council for Technical Education, New Delhi
Affiliated to Anna University, Chennai
Natham, Dindigul (Dist.) - 624 401, Tamil Nadu.

Course Name: 23CY101 ENGINEERING CHEMISTRY

Course Outcome

On completion of the course, the students will be able to		**Bloom's Level Mapped**
CO1	Summarize the water related problems in boilers and their treatment techniques.	Remember (K1)
CO2	Discuss the applications of nanomaterials in medicine, agriculture, energy, electronics and catalysis.	Understand (K2)
CO3	Discuss the types, properties and applications of polymers and composites.	Apply (K3)
CO4	Summarize the fuels used for engineering processes and applications of fuels.	Understand (K2)
CO5	Summarize the principles and generation of energy in batteries, nuclear reactors, solar cells, wind mills and fuel cells.	Apply (K3)

Mapping Table Mapping of COs with POs and PSOs

COs/ POs	**PO 1**	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**	**PO 11**	**PO 12**	**PSO 1**	**PSO 2**	**PSO 3**
CO1	2	1	1	-	-	-	3	-	-	-	-	2	-	-	-
CO2	2	1	1	-	-	-	3	-	-	-	-	2	-	-	-
CO3	2	1	1	-	-	-	3	-	-	-	-	2	-	-	-
CO4	2	1	1	-	-	-	1	-	-	-	-	2	-	-	-
CO5	3	2	2	-	-	-	3	-	-	-	-	3	-	-	-

Mapping: 1-Low, 2-Medium, 3-High (Mapping value based on usage of Action verbs in each CO)

NPR College of Engineering and Technology
(AN AUTONOMOUS INSTITUTION)
NBA Accredited (B.E. - CSE, ECE, EEE & Mechanical Engg.) | Accredited by NAAC with 'A' Grade
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Approved by All India Council for Technical Education, New Delhi
Affiliated to Anna University, Chennai
Natham, Dindigul (Dist.) - 624 401, Tamil Nadu.

Course Name: 23GE101 PROBLEM SOLVING AND C PROGRAMMING Course Outcome

On completion of the course, the students will be able to		Bloom's Level Mapped
CO1	Explain the basic concepts of Problem solving and C programming constructs	Understand (K2)
CO2	Construct and implement C programs for solving computational Problems using arrays and strings	Apply (K3)
CO3	Develop the simple real-time applications in C using functions and pointers	Apply (K3)
CO4	Develop the applications in C using structures	Apply (K3)
CO5	Develop the applications using file handling.	Apply (K3)

Mapping Table Mapping of COs with POs and PSOs

COs/ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	-	3	-	-	-	-	-	2	-	2	-	-
CO2	3	3	3	-	3	-	-	-	-	-	2	-	2	-	-
CO3	3	3	2	-	3	-	-	-	-	-	2	-	2	-	-
CO4	3	2	2	-	3	-	-	-	-	-	2	-	2	-	-
CO5	3	3	3	-	3	-	-	-	-	-	2	-	2	-	-

Mapping: 1-Low, 2-Medium, 3-High (Mapping value based on usage of Action verbs in each CO)

Course Name: 23BS111 PHYSICS AND CHEMISTRY LABORATORY

Course Outcome (Physics Laboratory)

On completion of the course, the students will be able to		**Bloom's Level Mapped**
CO1	Apprehend the concepts of interference, diffraction of light and recognize the resonance concept of waves.	Understand (K2)
CO2	Apply the principles of operations of optical fibers, semiconductor using simple circuits and interaction of electromagnetic waves and crystalline solids.	Apply (K3)
CO3	Measure the elastic moduli and moment of inertia of given materials with the help of suggested procedures.	Apply (K3)
CO4	Experiment the relationship between the light and matter & properties of liquids.	Analyze (K4)
CO5	Estimate the velocity of sound and compressibility of liquid.	Understand (K2)

Course Outcome (CHEMISTRY LABORATORY)

1.	To inculcate experimental skills to test basic understanding of water quality parameters, such as, acidity, alkalinity, hardness, DO, chloride and copper.
2.	To induce the students to familiarize with electroanalytical techniques such as, pH metry and potentiometry
3.	To make the student to acquire practical skills conductometry in the determination of impurities in aqueous solutions.
4.	To demonstrate the analysis of metals and alloys.
5.	To demonstrate the synthesis of nanoparticles

Mapping Table Mapping of COs with POs and PSOs

COs/ POs	**PO 1**	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**	**PO 11**	**PO 12**	**PSO 1**	**PSO 2**	**PSO 3**
CO1	3	1	-	-	-	-	-	1	3	2	-	-	-	-	-
CO2	3	1	-	-	-	-	-	1	2	1	-	-	-	-	-
CO3	3	3	-	-	-	-	-	2	2	1	-	-	-	-	-
CO4	3	2	-	-	-	-	-	1	3	2	-	-	-	-	-
CO5	3	2	-	-	-	-	-	2	1	2	-	-	-	-	-

Mapping: 1-Low, 2-Medium, 3-High (Mapping value based on usage of Action verbs in each CO)

Course Name: 23GE112 ENGLISH LABORATORY -I

Course Outcome

On completion of the course, the students will be able to		**Bloom's Level Mapped**
CO1	To listen to and comprehend general as well as complex academic information.	Understand (K2)
CO2	To listen to and understand different points of view in a discussion.	Understand (K2)
CO3	To speak fluently and accurately in formal and informal communicative contexts.	Apply (K3)
CO4	To describe products and processes and explain their uses and purposes clearly and accurately.	Create (K6)
CO5	To express their opinions effectively in both formal and informal discussions.	Create (K6)

Mapping Table Mapping of COs with POs and PSOs

COs/ POs	**PO 1**	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**	**PO 11**	**PO 12**	**PSO 1**	**PSO 2**	**PSO 3**
CO1	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-
CO2	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-
CO3	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-
CO4	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-
CO5	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-

Mapping: 1-Low, 2-Medium, 3-High (Mapping value based on usage of Action verbs in each CO)

NPR College of Engineering and Technology
(AN AUTONOMOUS INSTITUTION)
NBA Accredited (B.E. - CSE, ECE, EEE & Mechanical Engg.) | Accredited by NAAC with 'A' Grade
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Approved by All India Council for Technical Education, New Delhi
Affiliated to Anna University, Chennai
Natham, Dindigul (Dist.) - 624 401, Tamil Nadu.

SEMESTER II

Course Name: 23HS201 PROFESSIONAL ENGLISH - II

Course Outcome

On completion of the course, the students will be able to		Bloom's Level Mapped
CO1	To compare and contrast products and ideas in technical texts and write analytical essays.	Apply (K2)
CO2	To identify and report cause and effects in events, industrial processes through technical texts and draft a report with suggestions.	Create (K6)
CO3	To analyze problems in order to arrive at feasible solutions and communicate them in the written format.	Analyze (K4)
CO4	To present their ideas and opinions in a planned and logical manner in industrial nature.	Create (K6)
CO5	To draft effective resumes in the context of job application.	Create (K6)

Mapping Table Mapping of COs with POs and PSOs

COs/ POs	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-
CO2	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-
CO3	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-
CO4	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-
CO5	-	-	-	-	-	-	-	-	3	3	-	2	-	-	-

Mapping: 1-Low, 2-Medium, 3-High (Mapping value based on usage of Action verbs in each CO)

Course Name: 23MA901 PROBABILITY AND STATISTICS

Course Outcome

On completion of the course, the students will be able to		**Bloom's Level Mapped**
CO1	To Understand the fundamental concepts of probability.	Understand (K2)
CO2	By applying the knowledge of one-dimensional random variables to standard distributions which can describe real life phenomenon.	Apply (K3)
CO3	Understand the basic concepts of two-dimensional random variables and apply in engineering applications.	Understand (K2)
CO4	Apply the concept of testing of hypothesis for small and large samples in real life problems.	Apply (K3)
CO5	Apply the basic concepts of classifications of design of experiments in the field of agriculture.	Apply (K3)

Mapping Table Mapping of COs with POs and PSOs

COs/ POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
CO1	3	3	-	-	-	-	-	-	2	-	-	2	-	-	-
CO2	3	3	-	-	-	-	-	-	2	-	-	2	-	-	-
CO3	3	3	-	-	-	-	-	-	2	-	-	2	-	-	-
CO4	3	3	1	1	1	-	-	-	2	-	2	3	-	-	-
CO5	3	3	1	1	1	-	-	-	2	-	2	3	-	-	-

Mapping: 1-Low, 2-Medium, 3-High (Mapping value based on usage of Action verbs in each CO)

Course Name: 23PH203 PHYSICS FOR INFORMATION SCIENCE

Course Outcome

On completion of the course, the students will be able to		**Bloom's Level Mapped**
CO1	To recognize the fundamental ideas behind different free-electron theories and establish the solids' electrical characteristics.	Understand (K2)
CO2	To evaluate the functions of semiconductors and their uses.	Apply (K3)
CO3	To employing quantum principles to examine the mechanisms at work in magnetic materials.	Apply (K3)
CO4	To understand about the uses of superconducting and Optical properties of materials.	Understand (K2)
CO5	To show the fundamentals of how micro- and nano-electronic equipment functions.	Understand (K2)

Mapping Table Mapping of COs with POs and PSOs

COs/ POs	**PO 1**	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**	**PO 11**	**PO 12**	**PSO 1**	**PSO 2**	**PSO 3**
CO1	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2	3	3	-	3	-	-	-	-	-	-	-	-	-	-	-
CO3	3	3	-	3	-	-	-	-	-	-	-	-	-	-	-
CO4	3	3	3	-	2	-	-	-	-	-	-	2	-	-	-
CO5	3	3	3	-	3	1	1	-	-	-	-	3	-	-	-

Mapping: 1-Low, 2-Medium, 3-High (Mapping value based on usage of Action verbs in each CO)

Course Name: 23BE201-BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

Course Outcome

On completion of the course, the students will be able to		Bloom's Level Mapped
CO1	Compute the electric circuit parameters for simple problems	Apply (K3)
CO2	Examine the working principle and applications of electrical machines	Understand (K2)
CO3	Illustrate the characteristics of analog electronic devices	Understand (K2)
CO4	Examine the basic concepts of digital electronics	Analyze (K4)
CO5	Apply the concepts of principles of measuring instruments for real time applications	Apply (K2)

Mapping Table Mapping of COs with POs and PSOs

COs/ POs	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1	2	2	1	-	-	-	1	-	-	-	2	2	-	-	-
CO2	2	2	1	-	-	-	1	-	-	-	2	2	-	-	-
CO3	2	1	1	-	-	-	1	-	-	-	2	2	-	-	-
CO4	2	2	1	-	-	-	1	-	-	-	2	2	-	-	-
CO5	2	2	1	-	-	-	1	-	-	-	2	2	-	-	-

Mapping: 1-Low, 2-Medium, 3-High (Mapping value based on usage of Action verbs in each CO)

Course Name: 23GE901 ENVIRONMENTAL SCIENCES AND SUSTAINABILITY

Course Outcome

On completion of the course, the students will be able to		**Bloom's Level Mapped**
CO1	To recognize and understand the functions of environment, ecosystems and biodiversity and their conservation	Remember (K1)
CO2	To identify the causes, effects of environmental pollution and natural disasters and contribute to the preventive measures in the society.	Understand (K2)
CO3	identify the causes, effects of natural disasters and contribute to the preventive measures in the society.	Apply (K3)
CO4	To identify and apply the understanding of renewable and non-renewable resources and contribute to the sustainable measures to preserve them for future generations.	Understand (K2)
CO5	To demonstrate the knowledge of sustainability practices and identify green materials, energy cycles and the role of sustainable urbanization.	Apply (K3)

Mapping Table Mapping of COs with POs and PSOs

COs/ POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
CO1	2	1	-	-	-	2	3	-	1	-	-	2	-	-	-
CO2	3	2	-	-	-	3	3	-	1	-	-	2	-	-	-
CO3	3	1	1	-	-	2	2	-	-	-	-	2	-	-	-
CO4	3	1	1	1	-	2	2	-	1	-	-	2	-	-	-
CO5	3	2	1	-	-	2	2	-	1	-	-	1	-	-	-

Mapping: 1-Low, 2-Medium, 3-High (Mapping value based on usage of Action verbs in each CO)

Course Name: 23CS201 PYTHON PROGRAMMING

Course Outcome

On completion of the course, the students will be able to		Bloom's Level Mapped
CO1	Explain the concepts of python data types, expressions and statements	Understand (K2)
CO2	Make use of Python programs for solving real-time computational Problems by using conditionals, looping, functions and strings	Apply (K3)
CO3	Explain the concepts of compound data using Python lists, tuples and dictionaries	Understand (K2)
CO4	Develop the python programs for solving computational Problems by using modules, files and python packages	Apply (K3)
CO5	Develop the python programs for solving computational Problems by using Exceptions and Libraries	Apply (K3)

Mapping Table Mapping of COs with POs and PSOs

COs/ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	2	2	-	-	-	-	2	2	2	2	3	3
CO2	3	3	3	2	2	-	-	-	-	2	2	2	2	3	3
CO3	3	3	3	2	2	-	-	-	-	2	3	2	2	3	3
CO4	3	2	2	2	2	-	-	-	-	2	2	2	2	3	3
CO5	3	3	3	2	2	-	-	-	-	2	2	2	2	3	3

Mapping: 1-Low, 2-Medium, 3-High (Mapping value based on usage of Action verbs in each CO)

NPR College of Engineering and Technology
(AN AUTONOMOUS INSTITUTION)
NBA Accredited (B.E. - CSE, ECE, EEE & Mechanical Engg.) | Accredited by NAAC with 'A' Grade
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Approved by All India Council for Technical Education, New Delhi
Affiliated to Anna University, Chennai
Natham, Dindigul (Dist.) - 624 401, Tamil Nadu.

Course Name: 23GE211 ENGINEERING PRACTICES LABORATORY

Course Outcome

On completion of the course, the students will be able to		Bloom's Level Mapped
CO1	Draw pipe line plan; lay and connect various pipe fittings used in common household plumbing work; Saw; plan; make joints in wood materials used in common household wood work.	Apply (K3)
CO2	Wire various electrical joints in common household electrical wire work.	Apply (K3)
CO3	Weld various joints in steel plates using arc welding work; Machine various simple processes like turning, drilling, tapping in parts; Assemble simple mechanical assembly of common household equipments; Make a tray out of metal sheet using sheet metal work.	Apply (K3)
CO4	Solder and test simple electronic circuits; Assemble and test simple electronic components on PCB.	Apply (K4)

Mapping Table Mapping of COs with POs and PSOs

COs/ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	-	-	1	1	1	-	-	-	-	2	1	1	-
CO2	3	2	-	-	1	1	1	-	-	-	-	2	1	1	-
CO3	3	2	-	-	1	1	1	-	-	-	-	2	1	1	-
CO4	3	2	-	-	1	1	1	-	-	-	-	2	1	1	-

Mapping: 1-Low, 2-Medium, 3-High (Mapping value based on usage of Action verbs in each CO)

NPR College of Engineering and Technology
(AN AUTONOMOUS INSTITUTION)
NBA Accredited (B.E. - CSE, ECE, EEE & Mechanical Engg.) | Accredited by NAAC with 'A' Grade
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Approved by All India Council for Technical Education, New Delhi
Affiliated to Anna University, Chennai
Natham, Dindigul (Dist.) - 624 401, Tamil Nadu.

Course Name: 23CS211 PYTHON PROGRAMMING LABORATORY
Course Outcome

On completion of the course, the students will be able to		Bloom's Level Mapped
CO1	Develop simple python programs for applying the concepts of datatypes, expressions, and python statements	Understand (K2)
CO2	Develop Python programs using conditionals, looping, functions, and strings for solving real-time computational problems.	Apply (K3)
CO3	Understand the concepts of compound data using Python lists, tuples, and dictionaries	Apply (K3)
CO4	Develop python programs for solving problems by using modules, files, and python packages	Understand (K2)
CO5	Utilize Python packages for developing real-world software applications	Apply (K3)

Mapping Table Mapping of COs with POs and PSOs

COs/ POs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	-	2	-	-	2	-	3	2	2	-	2	3
CO2	3	3	3	2	2	-	-	2	-	3	2	3	3	2	3
CO3	3	2	1	2	-	-	-	2	-	3	2	3	3	2	3
CO4	3	2	2	2	2	-	-	-	2	-	2	3	-	2	3
CO5	3	3	3	2	2	-	-	-	2	-	2	3	3	2	3

Mapping: 1-Low, 2-Medium, 3-High (Mapping value based on usage of Action verbs in each CO)

NPR College of Engineering and Technology
(AN AUTONOMOUS INSTITUTION)
NBA Accredited (B.E. - CSE, ECE, EEE & Mechanical Engg.) | Accredited by NAAC with 'A' Grade
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Approved by All India Council for Technical Education, New Delhi
Affiliated to Anna University, Chennai
Natham, Dindigul (Dist.) - 624 401, Tamil Nadu.

Course Name: 23GE212 ENGLISH LABORATORY -II

Course Outcome

On completion of the course, the students will be able to		**Bloom's Level Mapped**
CO1	Speak effectively in group discussions held in ~~a~~ formal/semi-formal contexts.	Create (K6)
CO2	Discuss, analyze and present concepts and problems from various perspectives to arrive atsuitable solutions.	Analyze (K4)
CO3	Make effective presentations in an attractive way using appropriate vocabulary.	Apply (K3)
CO4	Attend job interviews and be successful in them.	Create (K6)
CO5	Develop adequate Soft Skills required for the workplace.	Apply (K3)

Mapping Table Mapping of COs with POs and PSOs

COs/ POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	**PSO3**
CO1	-	-	-	-	-	-	-	-	3	3	-	3	-	-	-
CO2	-	-	-	-	-	-	-	-	3	3	-	3	-	-	-
CO3	-	-	-	-	-	-	-	-	3	3	-	3	-	-	-
CO4	-	-	-	-	-	-	-	-	3	3	-	3	-	-	-
CO5	-	-	-	-	-	-	-	-	3	3	-	3	-	-	-

Mapping: 1-Low, 2-Medium, 3-High (Mapping value based on usage of Action verbs in each CO)

NPR College of Engineering and Technology
(AN AUTONOMOUS INSTITUTION)
NBA Accredited (B.E. - CSE, ECE, EEE & Mechanical Engg.) | Accredited by NAAC with 'A' Grade
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Approved by All India Council for Technical Education, New Delhi
Affiliated to Anna University, Chennai
Natham, Dindigul (Dist.) - 624 401, Tamil Nadu.

Course Name: 23MA302 DISCRETE MATHEMATICS

Course Outcome

On completion of the course, the students will be able to		**Bloom's Level Mapped**
CO1	To apply the engineering knowledge to solve the logic of a program.	Apply (K3)
CO2	To understand and analyze the structures of problems on mathematical induction and counting principle.	Understand (K2)
CO3	To apply the fundamentals of graph theory using modern tools in computer networking to manage projects	Apply (K3)
CO4	To apply the notion of groups, rings and fields to design and solve the algebraic structures problems.	Apply (K3)
CO5	To acquire the knowledge of engineering in real life phenomena by solving Lattices and Boolean algebra	Apply (K3)

Mapping Table Mapping of COs with POs and PSOs

COs / Pos	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO 6**	**PO 7**	**PO8**	**PO9**	**PO1 0**	**PO1 1**	**PO1 2**	**PSO 1**	**PSO 2**	**PSO 3**
CO1	3	3	2	-	-	-	-	-	-	-	-	2	-	-	-
CO2	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-
CO3	-	3	2	-	-	2	-	-	-	3	-	-	-	-	-
CO4	-	2	2	2	-	-	-	-	-	-	-	-	-	-	-
CO5	-	2	2	2	-	-	-	-	-	2	-	-	-	-	-

Mapping: 1-Low, 2-Medium, 3-High (Mapping value based on usage of Action verbs in each CO)

NPR College of Engineering and Technology
(AN AUTONOMOUS INSTITUTION)
NBA Accredited (B.E. - CSE, ECE, EEE & Mechanical Engg.) | Accredited by NAAC with 'A' Grade
Recognized by UGC under 2 (f) | ISO 9001:2015 Certified | Approved by All India Council for Technical Education, New Delhi
Affiliated to Anna University, Chennai
Natham, Dindigul (Dist.) - 624 401, Tamil Nadu.

Course Name: 23CS901-DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION

Course Outcome

On completion of the course, the students will be able to		Bloom's Level Mapped
CO1	Design various combinational digital circuits using logic gates	Apply (K3)
CO2	Describe the operation and construction of various flip flops.	Understand (K2)
CO3	Design sequential circuits and analyze the design procedures.	Apply (K3)
CO4	State the fundamentals of computer systems and analyze the execution of an instruction.	Understand (K2)
CO5	Analyze different types of control design and identify hazards.	Analyze (K4)
CO6	Identify the characteristics of various memory systems and I/O communication.	Understand (K2)

Mapping Table Mapping of COs with POs and PSOs

COs/ POs	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO1 1	PO1 2	PS O1	PS O2	PS O3
CO1	3	3	3	3	2	-	-	-	-	-	-	2	-	-	-
CO2	3	3	3	3	1	-	-	-	-	-	-	1	-	-	-
CO3	3	3	3	3	2	-	-	-	-	-	-	2	-	-	-
CO4	3	3	3	3	1	-	-	-	-	-	-	1	-	-	-
CO5	3	3	3	3	2	-	-	-	-	-	-	2	-	-	-
CO6	3	3	3	3	1	-	-	-	-	-	-	1	-	-	-