



**EXCEL ENGINEERING COLLEGE
(Autonomous)**

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

Accredited by NBA(AERO, CSE, ECE, MECH) & NAAC with "A+" and Recognised by UGC (2f & 12B)

KOMARAPALAYAM - 637303

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

M E - COMPUTER SCIENCE AND ENGINEERING

Mapping of COs with POs and PSOs

Regulation 2020

Course Code : C101

Course Name : 20PMA103- APPLIED PROBABILITY AND STATISTICS

After the completion of this course, students are able to [Blooms Taxonomy]

C101.1	Understand basic probability axioms and rules and the moments of discrete and continuous random variables.
C101.2	Demonstrate consistency, efficiency and unbiasedness of estimators, method of maximum likelihood estimation and Central Limit Theorem.
C101.3	Use statistical tests in testing hypotheses on data.
C101.4	Perform exploratory analysis of multivariate data, such as multivariate normal density, calculating descriptive statistics, testing for multivariate normality.
C101.5	Use mathematical sciences including statistics, modern optimization methods and risk modeling.

Course Code : C102

Course Name : 20PCS101- MOBILE AND PERVASIVE COMPUTING

After the completion of this course, students are able to [Blooms Taxonomy]

C102.1	Obtain a thorough understanding of basic architecture and concepts of till Third Generation Communication
C102.2	Explain the latest 4G Telecommunication System Principles.
C102.3	Incorporate the pervasive concepts and integration by parts.
C102.4	Implement the HCI in Pervasive environment coordinates, in addition to change of order and change of variables.
C102.5	Work on the pervasive concepts in mobile environment

Course Code : C103

Course Name : 20PCS102-APPLIED CRYPTOGRAPHY

After the completion of this course, students are able to [Blooms Taxonomy]

C103.1	Analyze the taxonomy of cryptography primitives
C103.2	Apply the mathematical concepts in cryptography
C103.3	Analyze the usage of random number generators in Encryption and Decryption,.
C103.4	Apply the Symmetric key and public key encryption techniques .
C103.5	Develop Hash algorithms to ensure the authentication



Course Code : C104

Course Name : 20PCS103-ADVANCED DATA STRUCTURES AND ALGORITHMS

After the completion of this course, students are able to [Blooms Taxonomy]

C104.1	Design data structures and algorithms to solve computing problems
C104.2	Use hierarchical data structures and its operations
C104.3	Apply the usage of graphs and its applications.
C104.4	Design algorithms using data structure and various string matching algorithms to solve real-life problems
C104.5	Apply suitable design strategy for problem solving

Course Code : C105

Course Name : 20PCSE04-REAL TIME SYSTEMS

After the completion of this course, students are able to [Blooms Taxonomy]

C105.1	Apply principles of real time system design techniques to develop real time applications.
C105.2	Analyze design and synchronization problems in Real Time System.
C105.3	Make use of database in real time applications
C105.4	Make use of architectures and behavior of real time operating systems
C105.5	Apply evaluation techniques in application

Course Code : C106

Course Name : 20PCSE11-SOFT COMPUTING

After the completion of this course, students are able to [Blooms Taxonomy]

C106.1	Identify and describe soft computing techniques and their roles in building intelligent machines
C106.2	Apply fuzzy logic and reasoning to handle uncertainty and solve various engineering problems
C106.3	Apply genetic algorithms to combinatorial optimization problems
C106.4	Evaluate and compare solutions by various soft computing approaches for a given problem
C106.5	Apply the knowledge of soft computing techniques in artificial neural networks and fuzzy logic

Course Code : C107

Course Name : 20PCS104- ADVANCED DATA STRUCTURES LABORATORY

After the completion of this course, students are able to [Blooms Taxonomy]

C107.1	Design and implement basic and advanced data structures extensively
C107.2	Introduce mathematical aspects and implement solutions for specific problem
C107.3	Design algorithms using graph structures
C107.4	Design and develop efficient algorithms with minimum complexity using design techniques
C107.5	Implement the different algorithmic design techniques



Course Code : C108
Course Name : 20PCS201-ADVANCED OPERATING SYSTEMS

After the completion of this course, students are able to [Blooms Taxonomy]

C108.1	Explain the functionality of a large software system by reading its source.
C108.2	Work on Linux memory management data structures and algorithms
C108.3	Revise any algorithm present in a system.
C108.4	Design a new algorithm to replace an existing one.
C108.5	Appropriately modify and use the data structures of the linux kernel for a different software system

Course Code : C109
Course Name : 20PCS202- INTERNET OF THINGS

After the completion of this course, students are able to [Blooms Taxonomy]

C109.1	Analyze various protocols for IoT
C109.2	Develop web services to access/control IoT devices.
C109.3	Design a portable IoT using Rasperry Pi
C109.4	Deploy an IoT application and connect to the cloud
C109.5	Analyze applications of IoT in real time scenario

Course Code : C110
Course Name : 20PCS304-CLOUD COMPUTING

After the completion of this course, students are able to [Blooms Taxonomy]

C110.1	Employ the concepts of storage virtualization, network virtualization and its management
C110.2	Apply the concept of virtualization in the cloud computing
C110.3	Identify the architecture, infrastructure and delivery models of cloud computing
C110.4	Develop services using Cloud computing
C110.5	Apply the security models in the cloud environment

Course Code : C111
Course Name : 20PCS204-BIG DATA ANALYTICS

After the completion of this course, students are able to [Blooms Taxonomy]

C111.1	Understand how to leverage the insights from big data analytics .
C111.2	Use the big data frameworks in real life problems.
C111.3	Analyze data by utilizing various statistical and data mining approaches
C111.4	Perform analytics on real-time streaming data
C111.5	Use the various NoSql alternative database models

Course Code : C112
Course Name : 20PCSE21- SOFTWARE ARCHITECTURES AND DESIGN

After the completion of this course, students are able to [Blooms Taxonomy]

C112.1	Understand the need of software architecture for sustainable dynamic systems.
C112.2	Have a sound knowledge on design principles and to apply for large scale systems
C112.3	Design architectures for distributed heterogeneous systems
C112.4	Have good knowledge on service oriented and model driven architectures and the aspect oriented architecture
C112.5	Have a working knowledge to develop appropriate architectures through various case studies.

Course Code : C113
Course Name : 20PCSE35 -SOFTWARE QUALITY ASSURANCE AND TESTING

After the completion of this course, students are able to [Blooms Taxonomy]

C113.1	Perform functional and nonfunctional tests in the life cycle of the software product. .
C113.2	Understand system testing and test execution process
C113.3	Use different system techniques
C113.4	Identify defect prevention techniques and software quality assurance metrics.
C113.5	Apply techniques of quality assurance for typical applications.

Course Code : C114
Course Name : 20PCS205-Data Analytics Laboratory

After the completion of this course, students are able to [Blooms Taxonomy]

C114.1	Process big data using Hadoop framework
C114.2	Build and apply linear and logistic regression models
C114.3	Use the storage of big data using H base, Mongo DB
C114.4	Perform data analysis with machine learning methods
C114.5	Perform graphical data analysis

Course Code : C115
Course Name : 20PCS206-Technical Seminar and Internship

After the completion of this course, students are able to [Blooms Taxonomy]

C115.1	Selecting a subject, narrowing the subject into a topic
C115.2	Collecting the relevant bibliography (atleast 15 journal papers)
C115.3	Studying the papers and understanding the authors contributions and critically analysing each paper.
C115.4	Linking the papers and preparing a draft of the paper.
C115.5	Writing the Final Paper and giving final Presentation

Course Code : C201
Course Name : 20PEE301-Research Methodology and Intellectual Properties Rights

After the completion of this course, students are able to [Blooms Taxonomy]

C201.1	Identify and formulate research problem
C201.2	Concentrate on literatures related to research problem
C201.3	Possess the ability to write a standard technical paper and presentation.
C201.4	Find the correct procedure for applying patents
C201.5	Become well versed on patent rights, licensing and transfer of technology

Course Code : C202
Course Name : 20PCSE43-MACHINE LEARNING TECHNIQUES

After the completion of this course, students are able to [Blooms Taxonomy]

C202.1	Interpreting the Basic concepts of Machine learning with types.
C202.2	Compare the solutions for Dynamic Reduction and Component analysis using Genetic Algorithms.
C202.3	Implement different Ways to combine Tree and Probabilistic models with Algorithms
C202.4	Examine the functions using Practical examples of MLP
C202.5	Modify existing machine learning algorithms to improve proposal using Artificial Neural Networks in Machine Learning.

Course Code : C203
Course Name : 20PCSE53- MOBILE APPLICATION DEVELOPMENT

After the completion of this course, students are able to [Blooms Taxonomy]

C203.1	Describe the requirements for mobile applications.
C203.2	Explain the challenges in mobile application design and development.
C203.3	Develop design for mobile applications for specific requirements
C203.4	Design application using Android SDK.
C203.5	Design application using Objective C and iOS. And Deploy mobile applications in Android and iPhone marketplace for distribution

Course Code : C204
Course Name : 20PCS301-PROJECT WORK PHASE – I

After the completion of this course, students are able to [Blooms Taxonomy]

C204.1	Formulate a real world problem and develop its requirements
C204.2	Develop a design solution for a set of requirements
C204.3	Test and validate the conformance of the developed software against the original requirements of the problem
C204.4	Work effectively with peers to pursue a goal
C204.5	Take up any challenging practical problems and find solution by formulating proper methodology

Course Code : C205
Course Name : 20PCS301-PROJECT WORK PHASE – II

After the completion of this course, students are able to [Blooms Taxonomy]

C205.1	Formulate a real world problem and develop its requirements
C205.2	Develop a design solution for a set of requirements
C205.3	Test and validate the conformance of the developed software against the original requirements of the problem
C205.4	Work effectively with peers to pursue a goal
C205.5	Take up any challenging practical problems and find solution by formulating proper methodology



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

M E - COMPUTER SCIENCE AND ENGINEERING

2021-23 BATCH

CO ATTAINMENT

COURSE CODE/COURSE NAME	CO 1	CO2	CO3	CO4	CO5	CO AVERAGE
SEMESTER I						
C101/Applied Probability and Statistics	3.00	3.00	3.00	3.00	3.00	3.00
C102/Mobile and Pervasive Computing	3.00	3.00	3.00	3.00	3.00	3.00
C103/Applied Cryptography	3.00	3.00	3.00	3.00	3.00	3.00
C104/Advanced Data Structures and Algorithms	3.00	3.00	3.00	3.00	3.00	3.00
C105/Real time systems	3.00	3.00	3.00	3.00	3.00	3.00
C106/Soft Computing	3.00	3.00	3.00	3.00	3.00	3.00
C107/Advanced Data Structures Laboratory	3.00	3.00	3.00	3.00	3.00	3.00
SEMESTER II						
C108/Advanced Operating Systems	3.00	3.00	3.00	3.00	3.00	3.00
C109/Internet of Things	3.00	3.00	3.00	3.00	3.00	3.00
C110/Cloud Computing	3.00	3.00	3.00	3.00	3.00	3.00
C111/Big Data Analytics	3.00	3.00	3.00	3.00	3.00	3.00
C112/Software Architectures And Design	3.00	3.00	3.00	3.00	3.00	3.00
C113/Software Quality Assurance and Testing	3.00	3.00	3.00	3.00	3.00	3.00
C114/Data Analytics Laboratory	3.00	3.00	3.00	3.00	3.00	3.00
C115/Technical Seminar and Internship	3.00	3.00	3.00	3.00	3.00	3.00

COURSE CODE/COURSE NAME	CO 1	CO2	CO3	CO4	CO5	CO AVERAGE
SEMESTER III						
C201/Research Methodology and Intellectual Property Rights	3.00	3.00	3.00	3.00	3.00	3.00
C202/Machine Learning Techniques	3.00	3.00	3.00	3.00	3.00	3.00
C203/Mobile Application Development	3.00	3.00	3.00	3.00	3.00	3.00
C204/Project Work Phase - I	3.00	3.00	3.00	3.00	3.00	3.00
SEMESTER IV						
C205/Project Work Phase - II	3.00	3.00	3.00	3.00	3.00	3.00

R.L.

Academic coordinator

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Excel Engineering College
Komarapalayam - 637 303,



COURSE CODE	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
SEMESTER IV															
C205	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
DIRECT ATTAINMENT (100%)	3.00	3.00	2.84	2.83	2.56	3.00	2.67	2.80	2.50	2.00	1.53	1.95	2.95	1.50	2.06
DIRECT ATTAINMENT (80%)	2.40	2.40	2.27	2.27	2.04	2.40	2.13	2.24	2.00	1.60	1.22	1.56	2.36	1.20	1.64
INDIRECT ATTAINMENT (100%)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
INDIRECT ATTAINMENT (20%)	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
TOTAL ATTAINMENT (100%)	3.00	3.00	2.87	2.87	2.64	3.00	2.73	2.84	2.60	2.20	1.82	2.16	2.96	1.80	2.24



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COURSE CODE	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
SEMESTER IV															
C205	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
DIRECT ATTAINMENT (100%)	3.00	3.00	2.84	2.83	2.56	3.00	2.67	2.80	2.50	2.00	1.53	1.95	2.95	1.50	2.06
DIRECT ATTAINMENT (80%)	2.40	2.40	2.27	2.27	2.04	2.40	2.13	2.24	2.00	1.60	1.22	1.56	2.36	1.20	1.64
INDIRECT ATTAINMENT (100%)	2.82	2.68	2.69	2.70	2.64	2.66	2.66	2.66	2.68	2.62	2.71	2.66	2.65	2.58	2.64
INDIRECT ATTAINMENT (20%)	0.56	0.54	0.54	0.54	0.53	0.53	0.53	0.53	0.54	0.52	0.54	0.53	0.53	0.52	0.53
TOTAL ATTAINMENT (100%)	2.96	2.94	2.81	2.81	2.57	2.93	2.67	2.77	2.54	2.12	1.77	2.09	2.89	1.72	2.17


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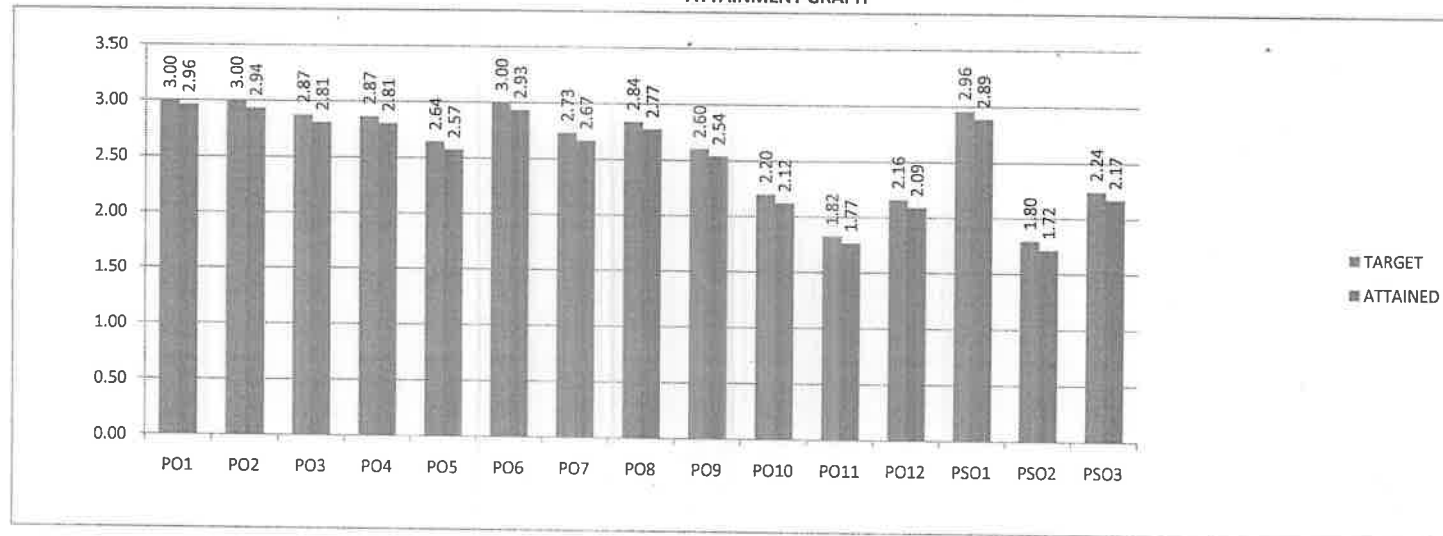


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 KOMARAPALAYAM - 637303
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
M E - COMPUTER SCIENCE AND ENGINEERING
2021-23 BATCH
TARGET AND ATTAINMENT (2021-23 BATCH)

PO-PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
TARGET	3.00	3.00	2.87	2.87	2.64	3.00	2.73	2.84	2.60	2.20	1.82	2.16	2.96	1.80	2.24
ATTAINED	2.96	2.94	2.81	2.81	2.57	2.93	2.67	2.77	2.54	2.12	1.77	2.09	2.89	1.72	2.17

GRAPH-2021-2023

ATTAINMENT GRAPH



INDIRECT ATTINMENT MEASURES															
Attainment measures	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Student exit survey	2.80	2.62	2.71	2.59	2.57	2.63	2.54	2.64	2.63	2.63	2.59	2.69	2.76	2.63	2.64
Parent feedback survey	2.75	2.65	2.62	2.62	2.56	2.59	2.54	2.70	2.70	2.62	2.70	2.65	2.81	2.65	2.62
Alumni survey	2.81	2.58	2.56	2.61	2.61	2.66	2.64	2.53	2.63	2.53	2.69	2.58	2.68	2.59	2.61
Employer survey	2.78	2.70	2.63	2.70	2.63	2.78	2.70	2.78	2.70	2.63	2.70	2.63	2.70	2.55	2.78
Co-curricular, Extra-curricular	2.90	2.80	2.80	2.80	2.90	2.70	2.80	2.90	2.90	2.90	2.90	2.70	2.60	2.50	2.50
Placement training and value added course	2.80	2.90	2.70	2.90	2.70	2.50	2.50	2.60	2.70	2.50	2.90	2.90	2.50	2.50	2.40
Industrial Visit and In plant training	2.90	2.50	2.80	2.70	2.50	2.80	2.90	2.50	2.50	2.50	2.50	2.50	2.50	2.63	2.90
Indirect Attainment	2.82	2.68	2.69	2.70	2.64	2.66	2.66	2.66	2.68	2.62	2.71	2.66	2.65	2.58	2.64
20% of Indirect attainment	0.56	0.54	0.54	0.54	0.53	0.53	0.53	0.53	0.54	0.52	0.54	0.53	0.53	0.52	0.53
DIRECT ATTINMENT MEASURES															
Attainment measures	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Direct attainment	3.00	3.00	2.84	2.83	2.56	3.00	2.67	2.80	2.50	2.00	1.53	1.95	2.95	1.50	2.06
Indirect Attainment	2.40	2.40	2.27	2.27	2.04	2.40	2.13	2.24	2.00	1.60	1.22	1.56	2.36	1.20	1.64
Direct attainment 80%(A)	2.82	2.68	2.69	2.70	2.64	2.66	2.66	2.66	2.68	2.62	2.71	2.66	2.65	2.58	2.64
Indirect attainment 20%(B)	0.56	0.54	0.54	0.54	0.53	0.53	0.53	0.53	0.54	0.52	0.54	0.53	0.53	0.52	0.53
Overall attainment	2.96	2.94	2.81	2.81	2.57	2.93	2.67	2.77	2.54	2.12	1.77	2.09	2.89	1.72	2.17

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Department of Computer Science and Engineering

Course Outcomes

Regulation 2017

Batch 2019-23

Sem : 1	Sub Code & Name :	HS8151 Communicative English
CO No	Course Outcome	
C101.1	Read and understand articles of a general kind in magazines and newspapers.	
C101.2	Participate effectively in Formal and informal conversations; introduce themselves and their friends and express opinions in English	
C101.3	Comprehend conversations and short talks delivered in English	
C101.4	Write short essays of a general kind and personal letters and emails in English.	
C101.5	Speak in informal group activities	

Sem : 1	Sub Code & Name :	MA8151 Engineering Mathematics –I
CO No	Course Outcome	
C102.1	Use both the limit definition and rules of differentiation to differentiate functions.	
C102.2	Apply the functions of several variables in engineering field.	
C102.3	Evaluate integrals using techniques of integration, such as substitution, partial fractions and integration by parts.	
C102.4	Apply integration to compute multiple integrals, area, volume, integrals in polar coordinates, in addition to change of order and change of variables.	
C102.5	Apply various techniques in solving differential equations	



Sem : 1	Sub Code & Name :	PH8151 Engineering Physics
CO No	Course Outcome	
C103.1	Gain knowledge on the basics of properties of matter and its applications,	
C103.2	Acquire knowledge on the concepts of waves and optical devices and their applications in fibre optics,	
C103.3	Adequate knowledge on the concepts of thermal properties of materials and their applications in expansion joints and heat exchangers,	
C103.4	Get knowledge on advanced physics concepts of quantum theory and its applications in tunneling microscopes	
C103.5	Understand the basics of crystals, their structures and different crystal growth techniques.	

Sem : 1	Sub Code & Name :	CY8151 Engineering Chemistry
CO No	Course Outcome	
C104.1	Understanding polymerisation and some important industrial polymers.	
C104.2	Learn Thermodynamic properties and their inter relationship.	
C104.3	Acquaint with UV and IR spectral analysis.	
C104.4	Know the principles of cooling curves and alloys.	
C104.5	Acquire knowledge of Nano and micro structure materials.	



Sem : 1	Sub Code & Name :	GE8151 Problem Solving and Python Programming
CO No	Course Outcome	
C105.1	Apply algorithm, pseudocode and flow chart for problem solving.	
C105.2	Write simple Python programs.	
C105.3	Develop Python programs with various programming constructs and functions.	
C105.4	Implement lists, tuples and dictionaries in various applications.	
C105.5	Use of files and file operations efficiently.	

Sem : 1	Sub Code & Name :	GE8152 Engineering Graphics
CO No	Course Outcome	
C106.1	Perform free hand sketching of basic geometrical constructions, multiple views of objects and curves used in engineering practices.	
C106.2	Do orthographic projection of lines and plane surfaces inclined to both the principal planes by rotating object method.	
C106.3	Draw projections of solids like prisms, pyramids, cylinder, cone and truncated solids.	
C106.4	Draw development of surfaces of solids like prisms, pyramids, cylinder, cone and truncated solids.	
C106.5	Prepare isometric and perspective sectional views of simple solids with cut-outs and holes.	

Sem : 1	Sub Code & Name :	GE8161 Problem Solving and Python Programming Laboratory
CO No	Course Outcome	
C107.1	Write, test, and debug simple Python programs	
C107.2	Implement Python programs with suitable language constructs	
C107.3	Use functions effectively for structuring Python programs	
C107.4	Apply suitable data structures in various applications	
C107.5	Develop python applications using files	

Sem : 1	Sub Code & Name :	BS8161 Physics and Chemistry Laboratory
CO No	Course Outcome	
C108.1	Analyze the mechanical properties and thermal properties of materials	
C108.2	Acquire the practical knowledge about band gap of a semiconductor and in optics such as Interference & Diffraction	
C108.3	Gaining the knowledge of electrochemical redox reaction	
C108.4	Apply knowledge of measurement of hardness producing ions, alkalinity, conductance, EMF	
C108.5	Understand the impact of water quality and to solve engineering problems	

Sem : 2	Sub Code & Name :	HS8251 Technical English
CO No	Course Outcome	
C109.1	Read technical texts and write area- specific texts effortlessly.	
C109.2	Listen and comprehend lectures and talks in their area of specialisation successfully.	
C109.3	Speak appropriately and effectively in varied formal and informal contexts	
C109.4	Write reports and winning job applications.	
C109.5	Perform better in interview through various softskills	

Sem : 2	Sub Code & Name :	MA8251 Engineering Mathematics – II
CO No	Course Outcome	
C110.1	Understand the use of matrix algebra techniques that is needed by engineers for practical applications.	
C110.2	Apply the concept of vector calculus in Engineering disciplines	
C110.3	Evaluate the standard techniques of complex variable to solve core Engineering problems.	
C110.4	Analysis the real integrals by applying concept of complex integration.	
C110.5	Understand the knowledge of Laplace Transforms in solving Ordinary Differential Equations.	

Sem : 2	Sub Code & Name :	PH8252 Physics For Information Science
CO No	Course Outcome	
C111.1	Gain knowledge on classical and quantum electron theories, and energy band structures .	
C111.2	Acquire knowledge on basics of semiconductor physics and its applications in various devices .	
C111.3	Get knowledge on magnetic properties of materials and their applications in data storage.	
C111.4	Have the necessary understanding on the functioning of optical materials for optoelectronics .	
C111.5	Understand the basics of quantum structures and their applications in carbon electronics.	

Sem : 2	Sub Code & Name :	BE8255 Basic Electrical , Electronics and Measurement Engineering
CO No	Course Outcome	
C112.1	The essentials of electric circuits and analysis.	
C112.2	The basic operation of electric machines and transformers	
C112.3	Introduction of renewable sources and common domestic loads.	
C112.4	Understand the fundamentals of electronic circuit constructions	
C112.5	Introduction to measurement and metering for electric circuits.	

Sem : 2	Sub Code & Name :	GE8291 Environmental Science and Engineering
CO No	Course Outcome	
C113.1	Understanding the Environment, Ecosystem, Biodiversity	
C113.2	Learn the preventive methods of environmental pollution	
C113.3	Acquaint with Natural resources and Energy resources	
C113.4	Know the social issues and Environment	
C113.5	Acquire knowledge of Human population and Environment	

Sem : 2	Sub Code & Name :	CS8251 Programming in C
CO No	Course Outcome	
C114.1	Develop simple applications in C using basic constructs.	
C114.2	Write an application with the effective use string manipulation, matrix, sorting and searching.	
C114.3	Create an effective application in C by using functions and pointers.	
C114.4	Create an effective application using structure and linked list.	
C114.5	Design an applications and develop using file processing techniques with sequential and random accesses.	

Sem : 2	Sub Code & Name :	GE8261 Engineering Practices Laboratory
CO No	Course Outcome	
C115.1	Illustrate the basic wiring connection of electrical components	
C115.2	Measure the electrical quantities of circuits	
C115.3	Recall and Apply the basics of electronic principles to the circuits	
C115.4	Develop the fabrication of electronic circuits to improve their knowledge	
C115.5	Analyze the circuit for application oriented	

Sem : 2	Sub Code & Name :	CS8261 C Programming Laboratory
CO No	Course Outcome	
C116.1	Develop simple applications in C using basic constructs	
C116.2	Write an application with the effective use string manipulation, matrix, sorting and searching	
C116.3	Create an effective application in C by using functions and pointers	
C116.4	Create an effective application using structure and linked list	
C116.5	Design an applications and develop using file processing techniques with sequential and random accesses	

Sem : 3	Sub Code & Name :	MA8351 Discrete Mathematics
CO No	Course Outcome	
C201.1	Have knowledge of the concepts needed to test the logic of a program.	
C201.2	Have an understanding in identifying structures on many levels.	
C201.3	Be aware of a class of functions which transform a finite set into another finite set which relates to input and output functions in computer science	
C201.4	Be aware of the counting principles	
C201.5	Be exposed to concepts and properties of algebraic structures such as groups, rings and fields.	

Sem : 3	Sub Code & Name :	CS8351 Digital Principles and System Design
CO No	Course Outcome	
C202.1	Simplify the Boolean expression using k-map and tabulation techniques	
C202.2	Design and analyze combinational circuits	
C202.3	Construct the Synchronous Sequential Circuits	
C202.4	Design Asynchronous Sequential Circuits	
C202.5	Implement memory arrays using Programmable logic Devices	

Sem : 3	Sub Code & Name :	CS8391 Data Structures
CO No	Course Outcome	
C203.1	Implement abstract data types for list linear data structures.	
C203.2	Acquire knowledge about the linear data structures stack and queue with its operations.	
C203.3	Apply non-linear data structure trees to problem solutions.	
C203.4	Apply non-linear data structure graphs to problem solutions.	
C203.5	Critically analyze the various sorting, searching algorithms and hashing techniques.	

Sem : 3	Sub Code & Name :	CS8392 Object Oriented Programming
CO No	Course Outcome	
C204.1	Understand Object Oriented Programming concepts and basic characteristics of Java	
C204.2	Know the principles of packages, inheritance and interfaces	
C204.3	Define exceptions and use I/O streams	
C204.4	Develop a java application with threads and generics classes	
C204.5	Design and build simple Graphical User Interfaces	

Sem : 3	Sub Code & Name :	EC8395 Communication Engineering
CO No	Course Outcome	
C205.1	To introduce the relevance of this course to the existing technology through demonstrations, case studies, simulations, contributions of scientist, national/international policies with a futuristic vision along with socio-economic impact and issues	
C205.2	To study the various analog and digital pulse modulation techniques	
C205.3	To study the various analog and digital modulation techniques	
C205.4	To study the principles behind information theory and coding	
C205.5	To study the various digital communication techniques	

Sem : 3	Sub Code & Name :	CS8381 Data Structures Laboratory
CO No	Course Outcome	
C206.1	Able to write functions to implement linear and non-linear data structure operations.	
C206.2	Suggest appropriate type of linear / non-linear data structure operations for solving a given problem.	
C206.3	Able to understand and compare the application of different data structures.	
C206.4	Appropriately use the linear / non-linear data structure operations for a given problem.	
C206.5	Apply appropriate hash functions that result in a collision free scenario for data storage and retrieval.	

Sem : 3	Sub Code & Name :	CS8383 Object Oriented Programming Laboratory
CO No	Course Outcome	
C207.1	Build software development skills using java programming for real-world applications	
C207.2	Understand and apply the concepts of classes, packages, interfaces, arraylist, exception handling and file processing.	
C207.3	Understand the exceptions and use I/O streams	
C207.4	Develop the java applications using threads.	
C207.5	Develop applications using generic programming and event handling.	

Sem : 3	Sub Code & Name :	CS8382 Digital System Laboratory
CO No	Course Outcome	
C208.1	Implement boolean simplification techniques to design a combinational hardware circuit.	
C208.2	Design and implement combinational and sequential circuits.	
C208.3	Analyse a given circuit-combinational and sequential.	
C208.4	Design the different functional units in a digital computer system.	
C208.5	Design and Implement a simple digital system.	

Sem : 3	Sub Code & Name :	HS8381 Interpersonal Skills/Listening&Speaking
CO No	Course Outcome	
C209.1	Listen and respond appropriately.	
C209.2	Participate in group discussions	
C209.3	Make effective presentations	
C209.4	Participate confidently and appropriately in conversations in formal	
C209.5	Participate confidently and appropriately in conversations in informal	

Sem : 4	Sub Code & Name :	MA8402 Probability and Queuing Theory
CO No	Course Outcome	
C210.1	Understand the fundamental knowledge of the concepts of probability and have knowledge of standard distributions which can describe real life phenomenon.	
C210.2	Understand the basic concepts of one and two dimensional random variables and apply in engineering applications.	
C210.3	Apply the concept of random processes in engineering disciplines.	
C210.4	Acquire skills in analyzing queueing models.	
C210.5	Understand and characterize phenomenon which evolve with respect to time in a probabilistic manner	

Sem : 4	Sub Code & Name :	CS8491 Computer Architecture
CO No	Course Outcome	
C211.1	Understand the basics structure of computers, operations and instructions.	
C211.2	Design arithmetic and logic unit.	
C211.3	Understand pipelined execution and design control unit.	
C211.4	Understand parallel processing architectures.	
C211.5	Understand the various memory systems and I/O communication.	

Sem : 4	Sub Code & Name :	CS8492 Database Management Systems
CO No	Course Outcome	
C212.1	Classify the modern and futuristic database applications based on size and complexity	
C212.2	Map ER model to Relational model to perform database design effectively	
C212.3	Write queries using normalization criteria and optimize queries	
C212.4	Compare and contrast various indexing strategies in different database systems	
C212.5	Appraise how advanced databases differ from traditional databases.	

Sem : 4	Sub Code & Name :	CS8451 Design And Analysis of Algorithms
CO No	Course Outcome	
C213.1	Design algorithms for various computing problems.	
C213.2	Analyze the time and space complexity of algorithms.	
C213.3	Critically analyze the different algorithm design techniques for a given problem.	
C213.4	Modify existing algorithms to improve efficiency.	
C213.5	Apply efficient Algorithms to solve the problems handling standard data structures	

Sem : 4	Sub Code & Name :	CS8493 Operating Systems
CO No	Course Outcome	
C214.1	Analyze various scheduling algorithms & Understand deadlock, prevention and avoidance algorithms.	
C214.2	Compare and contrast various memory management schemes.	
C214.3	Understand the functionality of file systems.	
C214.4	Perform administrative tasks on Linux Servers.	
C214.5	Compare iOS and Android Operating Systems.	

Sem : 4	Sub Code & Name :	CS8494 Software Engineering
CO No	Course Outcome	
C215.1	Identify the key activities in managing a software project & Compare different process models.	
C215.2	Concepts of requirements engineering and Analysis Modeling.	
C215.3	Apply systematic procedure for software design and deployment.	
C215.4	Compare and contrast the various testing and maintenance.	
C215.5	Manage project schedule, estimate project cost and effort required.	

Sem : 4	Sub Code & Name :	CS8481 Database Management Systems Laboratory
CO No	Course Outcome	
C216.1	Use typical data definitions and manipulation commands.	
C216.2	Design applications to test Nested and Join Queries	
C216.3	Implement simple applications that use Views	
C216.4	Implement applications that require a Front-end Tool	
C216.5	Critically analyze the use of Tables, Views, Functions and Procedures	

Sem : 4	Sub Code & Name :	CS8461-Operating Systems Laboratory
CO No	Course Outcome	
C217.1	Compare the performance of various CPU Scheduling Algorithms	
C217.2	Implement Deadlock avoidance and Detection Algorithms	
C217.3	Implement Semaphores	
C217.4	Create processes and implement IPC	
C217.5	Analyze the performance of the various Page Replacement Algorithms, Implement File Organization and File Allocation Strategies	

Sem : 4	Sub Code & Name :	HS8461 Advanced Reading and Writing
CO No	Course Outcome	
C218.1	Write different types of essays.	
C218.2	Write winning job applications.	
C218.3	Read and evaluate texts critically.	
C218.4	Display critical thinking in various professional contexts.	

Sem : 5	Sub Code & Name :	MA8551 Algebra and Number Theory
CO No	Course Outcome	
301.1	Apply the basic notions of groups, rings, fields which will then be used to solve related problems.	
301.2	Explain the fundamental concepts of advanced algebra and their role in modern mathematics and applied contexts.	
301.3	Demonstrate accurate and efficient use of advanced algebraic techniques.	
301.4	Demonstrate their mastery by solving non - trivial problems related to the concepts, and by proving simple theorems about the, statements proven by the text.	
301.5	Apply integrated approach to number theory and abstract algebra, and provide a firm basis for further reading and study in the subject.	

Sem : 5	Sub Code & Name :	CS8591 Computer Networks
CO No	Course Outcome	
302.1	Understand the basic layers and its functions in computer networks.	
302.2	Evaluate the performance of a network.	
302.3	Understand the basics of how data flows from one node to another.	
302.4	Analyze and design routing algorithms.	
302.5	Design protocols for various functions in the network.	

Sem : 5	Sub Code & Name :	EC8691 Microprocessors and Microcontrollers
CO No	Course Outcome	
303.1	Understand and execute programs based on 8086 microprocessor.	
303.2	Design Memory Interfacing circuits.	
303.3	Design and interface I/O circuits.	
303.4	Design the 8051 microcontroller based systems.	
303.5	Implement 8051 microcontroller based systems.	

Sem : 5	Sub Code & Name :	CS8501 Theory Of Computation
CO No	Course Outcome	
304.1	Construct automata, regular expression for any pattern.	
304.2	Write Context free grammar for any construct.	
304.3	Design Turing machines for any language.	
304.4	Propose computation solutions using Turing machines.	
304.5	Derive whether a problem is decidable or not.	

Sem : 5	Sub Code & Name :	CS8592 Object Oriented Analysis And Design
C0 No	Course Outcome	
305.1	Express software design with UML diagrams	
305.2	Design software applications using OO concepts.	
305.3	Identify various scenarios based on software requirements	
305.4	Transform UML based software design into pattern based design using design patterns	
305.5	Understand the various testing methodologies for OO software	

Sem : 5	Sub Code & Name :	EC8681 Microprocessors And Microcontrollers Laboratory
C0 No	Course Outcome	
C307.1	Write ALP Programmes for fixed and Floating Point and Arithmetic operations	
C307.2	Interface different I/Os with processor	
C307.3	Generate waveforms using Microprocessors	
C307.4	Execute Programs in 8051	
C307.5	Explain the difference between simulator and Emulator	

Sem : 5	Sub Code & Name :	CS8582 Object Oriented Analysis And Design Laboratory
CO No	Course Outcome	
C308.1	Perform OO analysis and design for a given problem specification.	
C308.2	Identify and map basic software requirements in UML mapping.	
C308.3	Improve the software quality using design patterns and to explain the rationale behind applying specific design patterns	
C308.4	Test the compliance of the software with the SRS.	
C308.5	Test the compliance of the software.	

Sem : 5	Sub Code & Name :	CS8581 Networks Laboratory
CO No	Course Outcome	
C309.1	Implement various protocols using TCP and UDP.	
C309.2	Compare the performance of different transport layer protocols.	
C309.3	Use simulation tools to analyze the performance of various network protocols.	
C309.4	Analyze various routing algorithms.	
C309.5	Implement error correction codes.	

Sem : 6	Sub Code & Name :	CS8651 Internet Programming
CO No	Course Outcome	
C310.1	Construct a basic website using HTML and Cascading Style Sheets.	
C310.2	Build dynamic web page with validation using Java Script objects and by applying different event handling mechanisms.	
C310.3	Develop server side programs using Servlets and JSP.	
C310.4	Construct simple web pages in PHP and to represent data in XML format.	
C310.5	Use AJAX and web services to develop interactive web applications	

Sem : 6	Sub Code & Name :	CS8691 Artificial Intelligence
CO No	Course Outcome	
C311.1	Use appropriate search algorithms for any AI problem	
C311.2	Represent a problem using first order and predicate logic	
C311.3	Provide the apt agent strategy to solve a given problem	
C311.4	Design software agents to solve a problem	
C311.5	Design applications for NLP that use Artificial Intelligence.	

Sem : 6	Sub Code & Name :	CS8601 Mobile Computing
CO No	Course Outcome	
C312.1	Explain the basics of mobile telecommunication systems	
C312.2	Illustrate the generations of telecommunication systems in wireless networks	
C312.3	Determine the functionality of MAC, network layer and Identify a routing protocol for a given Ad hoc network	
C312.4	Explain the functionality of Transport and Application layers	
C312.5	Develop a mobile application using android/blackberry/ios/Windows SDK	

Sem : 6	Sub Code & Name :	CS8602 Compiler Design
CO No	Course Outcome	
C313.1	Understand the different phases of compiler.	
C313.2	Design a lexical analyzer for a sample language.	
C313.3	Apply different parsing algorithms to develop the parsers for a given grammar.	
C313.4	Understand syntax-directed translation and run-time environment.	
C313.5	Learn to implement code optimization techniques and a simple code generator. Design and implement a scanner and a parser using LEX and YACC tools	

Sem : 6	Sub Code & Name :	CS8603 Distributed Systems
CO No	Course Outcome	
C314.1	Elucidate the foundations and issues of distributed systems	
C314.2	Understand the various synchronization issues and global state for distributed systems.	
C314.3	Understand the Mutual Exclusion and Deadlock detection algorithms in distributed systems	
C314.4	Describe the agreement protocols and fault tolerance mechanisms in distributed systems.	
C314.5	Describe the features of peer-to-peer and distributed shared memory systems	

Sem : 6	Sub Code & Name :	IT8076 Software Testing
CO No	Course Outcome	
C315.1	Design test cases suitable for a software development for different domains.	
C315.2	Identify suitable tests to be carried out.	
C315.3	Prepare test planning based on the document.	
C315.4	Document test plans and test cases designed.	
C315.5	Use automatic testing tools. develop and validate a test plan.	

Sem : 6	Sub Code & Name :	CS8661 Internet Programming Laboratory
CO No	Course Outcome	
C316.1	Construct Web pages using HTML/XML and style sheets.	
C316.2	Build dynamic web pages with validation using Java Script objects and by applying different event handling mechanisms.	
C316.3	Develop dynamic web pages using server side scripting.	
C316.4	Use PHP programming to develop web applications.	
C316.5	Construct web applications using AJAX and web services	

Sem : 6	Sub Code & Name :	CS8662 Mobile Application Development Laboratory
CO No	Course Outcome	
C317.1	Develop mobile applications using GUI and Layouts.	
C317.2	Develop mobile applications using Event Listener.	
C317.3	Develop mobile applications using Databases.	
C317.4	Develop mobile applications using RSS Feed, Internal/External Storage, SMS, Multi-threading and GPS.	
C317.5	Analyze and discover own mobile app for simple needs.	

Sem : 6	Sub Code & Name :	CS8661 Mini Project
CO No	Course Outcome	
C318.1	Formulate a real world problem and develop its requirements	
C318.2	Develop a design solution for a set of requirements	
C318.3	Test and validate the conformance of the developed software against the original requirements of the problem	
C318.4	Work effectively with peers to pursue a goal	
C318.5	Take up any challenging practical problems and find solution by formulating proper methodology	

Sem : 6	Sub Code & Name :	HS8581 Professional Communication
CO No	Course Outcome	
C319.1	Make effective presentations	
C319.2	Participate confidently in Group Discussions	
C319.3	Attend job interviews and be successful in them	
C319.4	Develop adequate Soft Skills required for the workplace	
C319.5	Inculcate leadership qualities and career planning	

Sem : 7	Sub Code & Name :	MG8591 Principles of Management
CO No	Course Outcome	
C401.1	Enable the students to study the evolution of Management	
C401.2	Study the functions and principles of management.	
C401.3	Learn the application of the principles in an organization.	
C401.4	Enable the effective and barriers communication in the organization	
C401.5	Study the system and process of effective controlling in the organization.	

Sem : 7	Sub Code & Name :	CS8792 Cryptography And Network Security
CO No	Course Outcome	
C402.1	Understand the fundamentals of networks security, security architecture, threats and vulnerabilities	
C402.2	Apply the different cryptographic operations of symmetric cryptographic algorithms	
C402.3	Apply the different cryptographic operations of public key cryptography	
C402.4	Apply the various Authentication schemes to simulate different applications.	
C402.5	Understand various Security practices and System security standards	

Sem : 7	Sub Code & Name :	CS8791 Cloud Computing
CO No	Course Outcome	
C403.1	Articulate the main concepts, key technologies, strengths and limitations of cloud computing.	
C403.2	Learn the key and enabling technologies that help in the development of cloud.	
C403.3	Develop the ability to understand and use the architecture of compute and storage cloud, service and delivery models.	
C403.4	Explain the core issues of cloud computing such as resource management and security.	
C403.5	Be able to install and use current cloud technologies.	

Sem : 7	Sub Code & Name :	OME752 – SUPPLY CHAIN MANAGEMENT
CO No	Course Outcome	
C404.1	Summarize the role of logistics in supply chain management	
C404.2	Explain the concept of supply chain network design	
C404.3	Interpret the logistics in supply chain management	
C404.4	Explain the concept of sourcing and coordination in supply chain management	
C404.5	Summarize the role of information technology in supply chain management	

Sem : 7	Sub Code & Name :	CS8079 - Human Computer Interaction
CO No	Course Outcome	
C406.1	Design effective dialog for HCI.	
C406.2	Design effective HCI for individuals and persons with disabilities.	
C406.3	Assess the importance of user feedback.	
C406.4	Explain the HCI implications for designing multimedia/ ecommerce/ e-learning Websites.	
C406.5	Develop meaningful user interface.	

Sem : 7	Sub Code & Name :	CS8711 Cloud Computing Laboratory
CO No	Course Outcome	
C407.1	Configure various virtualization tools such as Virtual Box, VMware workstation.	
C407.2	Design and deploy a web application in a PaaS environment.	
C407.3	Learn how to simulate a cloud environment to implement new schedulers.	
C407.4	Install and use a generic cloud environment that can be used as a private cloud.	
C407.5	Manipulate large data sets in a parallel environment.	

Sem : 7	Sub Code & Name :	IT8761 Security Laboratory
CO No	Course Outcome	
C408.1	Develop code for classical Encryption Techniques to solve the problems.	
C408.2	Build cryptosystems by applying symmetric and public key encryption algorithms.	
C408.3	Construct code for authentication algorithms.	
C408.4	Develop a signature scheme using Digital signature standard.	
C408.5	Demonstrate the network security system using open source tools	

Sem : 8	Sub Code & Name :	CS8074 Cyber Forensics
CO No	Course Outcome	
C409.1	Understand the basics of computer forensics	
C409.2	Apply a number of different computer forensic tools to a given scenario	
C409.3	Analyze and validate forensics data	
C409.4	Identify the vulnerabilities in a given network infrastructure	
C409.5	Implement real-world hacking techniques to test system security	

Sem : 8	Sub Code & Name :	CS8080 Information Retrieval Techniques
CO No	Course Outcome	
C410.1	Understand the strengths and limitations of Information retrieval.	
C410.2	Use an open source search engine framework and explore its capabilities	
C410.3	Apply appropriate method of classification or clustering.	
C410.4	Design and implement innovative features in a search engine.	
C410.5	Design and implement a recommender system.	

Sem : 8	Sub Code & Name :	CS8811-Project Work
CO No	Course Outcome	
C411.1	Formulate a real world problem and develop its requirements	
C411.2	Develop a design solution for a set of requirements	
C411.3	Test and validate the conformance of the developed software against the original requirements of the problem	
C411.4	Work effectively with peers to pursue a goal	
C411.5	Take up any challenging practical problems and find solution by formulating proper methodology	



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DEPARTMENT OF CSE
Excel Engineering College
Komalapeta, dist. 537 303.



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KOMARAPALAYAM - 637303

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

2019-23 BATCH

CO ATTAINMENT

COURSE CODE/COURSE NAME	CO 1	CO2	CO3	CO4	CO5	CO AVERAGE
SEMESTER I						
C101/Communicative English	3.00	3.00	3.00	3.00	3.00	3.00
C102/Engineering Mathematics - I	1.72	1.72	1.72	1.72	1.72	1.72
C103/Engineering Physics	1.72	1.72	1.72	1.72	1.72	1.72
C104/Engineering Chemistry	1.72	1.72	1.72	1.72	1.72	1.72
C105/Problem Solving and Python Programming	1.72	1.72	1.72	1.72	1.72	1.72
C106/Engineering Graphics	3.00	3.00	3.00	3.00	3.00	3.00
C107/Problem Solving and Python Programming Laboratory	3.00	3.00	3.00	3.00	3.00	3.00
C108/Physics and Chemistry Laboratory	3.00	3.00	3.00	3.00	3.00	3.00
SEMESTER II						
C109/Technical English	3.00	3.00	3.00	3.00	3.00	3.00
C110/Engineering Mathematics - II	3.00	3.00	3.00	3.00	3.00	3.00
C111/Physics for Information Science	3.00	3.00	3.00	3.00	3.00	3.00
C112/Basic Electrical, Electronics and Measurement Engineering	3.00	3.00	3.00	3.00	3.00	3.00
C113/Environmental Science and Engineering	3.00	3.00	3.00	3.00	3.00	3.00
C114/Programming in C	3.00	3.00	3.00	3.00	3.00	3.00
C115/Engineering Practices Laboratory	3.00	3.00	3.00	3.00	3.00	3.00
C116/C Programming Laboratory	3.00	3.00	3.00	3.00	3.00	3.00

COURSE CODE/COURSE NAME	CO 1	CO2	CO3	CO4	CO5	CO AVERAGE
SEMESTER VII						
C401/Principles of Management	3.00	3.00	3.00	3.00	3.00	3.00
C402/Cryptography and Network Security	3.00	3.00	3.00	3.00	3.00	3.00
C403/Cloud Computing	3.00	3.00	3.00	3.00	3.00	3.00
C404/Supply Chain Management	3.00	3.00	3.00	3.00	3.00	3.00
C405/Professional Readiness for Innovation, Employability and Entrepreneurship	3.00	3.00	3.00	3.00	3.00	3.00
C406/Human Computer Interaction	3.00	3.00	3.00	3.00	3.00	3.00
C407/Cloud Computing Laboratory	3.00	3.00	3.00	3.00	3.00	3.00
C408/Security Laboratory	3.00	3.00	3.00	3.00	3.00	3.00
SEMESTER VIII						
C409/Cyber Forensics	3.00	3.00	3.00	3.00	3.00	3.00
C410/Information Retrieval Techniques	3.00	3.00	3.00	3.00	3.00	3.00
C411/Project Work	3.00	3.00	3.00	3.00	3.00	3.00

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Academic coordinator

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

B E - COMPUTER SCIENCE AND ENGINEERING

PO'S TARGET ATTAINMENT (2019-23 BATCH)

COURSE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
SEMESTER I															
C101	1.00	1.67	1.00	1.50	1.00	1.00	1.33	1.50	1.20	1.50	1.00	1.67	-	-	-
C102	3.00	3.00	2.40	2.60	1.60	1.20	-	-	1.80	-	-	2.00	-	-	-
C103	2.60	1.25	1.33	1.00	1.50	1.00	1.50	1.00	-	1.00	-	1.00	-	-	-
C104	1.60	1.60	-	2.75	1.75	1.00	1.00	1.75	-	-	2.00	1.20	-	-	-
C105	3.00	3.00	3.00	3.00	2.80	2.00	2.00	-	-	1.00	-	1.00	3.00	1.00	2.00
C106	3.00	3.00	2.00	1.00	3.00	3.00	3.00	-	2.00	3.00	-	3.00	-	-	-
C107	3.00	3.00	3.00	3.00	3.00	2.00	2.00	-	-	1.00	2.00	1.00	-	-	-
C108	2.40	2.00	2.50	2.00	2.00	1.50	2.25	1.00	1.40	1.00	1.60	2.20	-	-	-
SEMESTER II															
C109	2.00	1.67	1.75	2.67	1.50	1.50	2.00	1.40	1.00	2.00	1.33	1.50	-	-	-
C110	2.80	2.80	2.40	2.60	2.00	1.60	-	-	2.00	-	-	2.40	-	-	-
C111	2.20	1.50	2.20	2.00	2.33	1.60	1.50	1.00	-	1.00	-	2.00	-	-	-
C112	3.00	2.00	2.20	1.40	2.20	1.40	1.20	2.00	2.50	2.20	1.75	2.00	1.33	1.50	-
C113	2.40	2.20	2.00	2.00	2.20	1.80	2.00	1.00	1.60	2.00	1.40	2.40	-	-	-
C114	3.00	3.00	3.00	3.00	3.00	1.00	2.00	-	3.00	2.40	2.00	1.60	3.00	3.00	-
C115	1.50	2.50	2.67	-	1.25	-	-	1.00	-	-	1.25	1.80	-	-	-
C116	3.00	3.00	3.00	3.00	3.00	1.00	2.00	-	3.00	2.40	2.00	1.60	3.00	3.00	-
SEMESTER III															
C201	2.60	2.33	2.00	2.00	1.50	-	-	-	2.00	1.00	-	1.50	2.00	2.00	1.00
C202	3.00	3.00	1.80	1.80	1.00	1.00	1.00	1.00	-	-	-	1.50	1.00	2.00	2.00
C203	3.00	3.00	3.00	-	-	-	-	-	-	-	2.00	2.00	3.00	2.00	1.00
C204	3.00	3.00	3.00	3.00	2.00	2.40	1.80	-	-	-	-	2.80	3.00	1.67	2.00
C205	3.00	3.00	3.00	-	-	-	-	-	-	-	-	-	2.00	2.00	3.00
C206	3.00	3.00	3.00	-	-	-	-	3.00	3.00	3.00	-	3.00	3.00	2.00	1.00
C207	3.00	3.00	3.00	3.00	2.00	2.40	1.80	-	-	-	-	2.80	3.00	1.67	2.00
C208	2.80	2.20	2.40	2.80	2.40	1.60	1.60	1.80	1.40	1.40	1.80	1.80	2.20	2.80	2.60
C209	-	-	-	-	-	-	-	1.00	2.00	3.00	-	2.00	-	-	-
SEMESTER IV															
C210	-	2.60	-	-	2.00	-	-	2.00	-	-	3.00	2.00	3.00	3.00	-
C211	2.00	2.00	2.00	1.00	1.00	-	-	-	2.00	2.00	2.00	2.00	2.00	2.00	-
C212	3.00	3.00	3.00	2.20	2.80	1.20	2.00	-	-	-	-	3.00	3.00	3.00	3.00
C213	3.00	3.00	2.00	2.00	-	-	-	-	-	-	-	-	3.00	2.00	3.00
C214	3.00	2.80	2.50	1.80	2.00	2.20	1.80	2.00	1.67	1.67	1.75	1.50	2.00	2.80	2.60
C215	3.00	3.00	2.80	2.40	3.00	3.00	2.20	3.00	1.60	2.40	2.00	2.20	2.20	2.00	2.40
C216	3.00	3.00	3.00	2.00	2.00	2.00	2.00	-	3.00	2.00	2.00	3.00	2.00	2.00	3.00
C217	3.00	2.80	2.50	1.80	2.00	2.20	1.80	2.00	1.67	1.67	1.75	1.50	2.00	2.80	2.60
C218	-	-	-	-	-	1.00	-	2.00	1.00	3.00	-	1.00	-	-	-



SEMESTER V															
C301	3.00	3.00	2.60	3.00	2.20	1.40	1.60	-	1.20	-	-	1.80	3.00	2.00	-
C302	3.00	3.00	2.60	1.80	1.60	2.00	2.00	1.00	1.00	1.20	1.20	3.00	3.00	2.60	1.33
C303	3.00	2.00	3.00	3.00	-	-	-	-	2.00	-	3.00	-	2.75	-	-
C304	3.00	3.00	3.00	3.00	2.00	2.00	2.00	-	-	-	-	3.00	3.00	3.00	-
C305	3.00	3.00	3.00	3.00	2.40	2.00	2.00	-	-	-	-	3.00	3.00	3.00	3.00
C306	2.80	2.75	2.33	2.40	2.00	1.50	2.00	1.00	1.50	2.00	1.50	1.75	2.40	2.00	1.50
C307	2.50	2.00	3.00	2.50	-	-	-	-	-	-	-	-	2.80	-	3.00
C308	3.00	3.00	3.00	3.00	2.40	2.00	2.00	-	-	-	-	3.00	3.00	3.00	3.00
C309	3.00	3.00	3.00	3.00	2.40	2.00	2.00	-	-	-	-	3.00	3.00	3.00	3.00
SEMESTER VI															
C310	2.25	2.00	2.60	2.25	2.00	2.00	2.50	2.33	1.67	1.33	2.20	2.50	2.76	2.60	3.00
C311	3.00	3.00	3.00	3.00	2.00	2.00	2.00	-	-	-	-	3.00	3.00	2.00	3.00
C312	3.00	3.00	3.00	-	1.80	1.60	1.20	-	-	1.40	-	-	2.40	2.80	2.40
C313	3.00	3.00	3.00	3.00	2.60	-	-	-	3.00	3.00	-	2.60	3.00	3.00	3.00
C314	3.00	3.00	3.00	3.00	1.60	1.00	2.20	-	-	-	-	3.00	3.00	3.00	3.00
C315	3.00	3.00	3.00	3.00	2.40	2.00	2.00	-	-	-	-	3.00	3.00	3.00	3.00
C316	3.00	2.80	2.60	2.40	3.00	2.67	2.00	-	-	-	-	2.20	2.80	2.80	3.00
C317	3.00	2.00	3.00	2.00	3.00	2.00	-	-	2.00	-	3.00	2.00	3.00	2.00	3.00
C318	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
C319	-	-	-	-	-	2.00	-	-	-	2.00	-	2.00	-	-	-
SEMESTER VII															
C401	-	-	-	-	-	2.00	-	2.00	2.00	2.00	2.30	1.00	-	-	-
C402	3.00	3.00	3.00	1.33	2.67	2.40	1.50	1.00	1.00	1.50	1.33	2.00	3.00	1.67	1.33
C403	3.00	3.00	3.00	-	-	-	-	-	-	-	-	-	-	3.00	1.00
C404	3.00	1.80	2.40	2.40	2.40	2.60	2.40	2.40	2.60	1.60	2.40	2.00	3.00	2.00	2.00
C405	3.00	3.00	3.00	3.00	2.00	1.00	1.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	3.00
C406	3.00	2.80	2.40	2.40	2.40	1.60	2.20	-	-	-	-	3.00	3.00	3.00	3.00
C407	3.00	3.00	3.00	-	3.00	-	-	-	-	-	-	3.00	3.00	3.00	3.00
C408	3.00	2.80	2.60	2.40	3.00	2.67	2.00	-	-	-	-	2.20	2.80	2.80	3.00
SEMESTER VIII															
C409	1.33	-	-	-	-	2.50	2.00	3.00	-	2.50	2.00	3.00	1.67	1.33	-
C410	3.00	3.00	3.00	-	-	-	-	-	-	-	-	-	-	3.00	2.50
C411	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Direct Attainment	2.78	2.66	2.64	2.40	2.21	1.85	1.92	1.83	1.99	1.98	2.02	2.19	2.65	2.45	2.47
80% Direct Attainment	2.22	2.13	2.11	1.92	1.77	1.78	1.75	1.45	1.60	1.58	1.62	1.75	2.12	1.96	1.97
20% Indirect Attainment	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
100% Attainment	2.82	2.73	2.71	2.52	2.37	2.38	2.35	2.05	2.20	2.18	2.22	2.35	2.72	2.56	2.57

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DEPARTMENT OF CSE
Excel Engineering College
Kombhupalayam - 637 303.

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**EXCEL ENGINEERING COLLEGE
(Autonomous)**

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai
Accredited by NBA(AERO, CSE, ECE, MECH & NAAC with "A+" and Recognised by UGC (2f &12B)
KOMARAPALAYAM - 637303

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
B E - COMPUTER SCIENCE AND ENGINEERING**

PO'S ATTAINMENT (2019-23 BATCH)

COURSE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
SEMESTER I															
C101	1.00	1.67	1.00	1.50	1.00	1.00	1.33	1.50	1.20	1.50	1.00	1.67			
C102	1.72	1.72	1.38	1.49	0.92	0.69	-	-	1.03	-	-	1.15			
C103	1.49	0.71	0.76	0.57	0.86	0.57	0.86	0.57	-	0.57	-	0.57	-	-	
C104	1.14	0.91	1.15	1.14	1.03	0.80	0.91	0.57	0.80	0.76	0.68	1.37			
C105	1.72	1.72	1.72	1.72	2.20	1.15	1.15	-	-	0.60	-	0.60	1.72	0.60	1.15
C106	3.00	3.00	2.00	1.00	3.00	3.00	3.00	-	2.00	3.00	-	3.00	-	-	-
C107	3.00	3.00	3.00	3.00	3.00	2.00	2.00	-	-	1.00	2.00	1.00	-	-	-
C108	2.40	2.00	2.50	2.00	2.00	1.50	2.25	1.00	1.40	1.00	1.60	2.20	-	-	-
SEMESTER II															
C109	2.00	1.67	1.75	2.67	1.50	1.50	2.00	1.40	1.00	2.00	1.33	1.50	-	-	-
C110	2.80	2.80	2.40	2.60	2.00	1.60	-	-	2.00	-	-	2.40	-	-	-
C111	2.20	1.50	2.20	2.00	2.33	1.60	1.50	1.00	-	1.00	-	2.00	-	-	-
C112	3.00	2.00	2.20	1.40	2.20	1.40	1.20	2.00	2.50	2.20	1.75	2.00	1.33	1.50	
C113	2.40	2.20	2.00	2.00	2.20	1.80	2.00	1.00	1.60	2.00	1.40	2.40	-	-	-
C114	3.00	3.00	3.00	3.00	3.00	1.00	2.00	-	3.00	2.40	2.00	1.60	3.00	3.00	-
C115	1.50	2.50	2.67	-	1.25	-	-	1.00	-	-	1.25	1.80	-	-	-
C116	3.00	3.00	3.00	3.00	3.00	1.00	2.00	-	3.00	2.40	2.00	1.60	3.00	3.00	-
SEMESTER III															
C201	2.60	2.33	2.00	2.00	1.50	-	-	-	2.00	1.00	-	1.50	2.00	2.00	1.00
C202	3.00	3.00	1.80	1.80	1.00	1.00	1.00	1.00	-	-	-	1.50	1.00	2.00	2.00
C203	3.00	3.00	3.00	-	-	-	-	-	-	-	2.00	2.00	3.00	2.00	1.00
C204	3.00	3.00	3.00	3.00	2.00	2.40	1.80	-	-	-	-	2.80	3.00	1.67	2.00
C205	3.00	3.00	3.00	-	-	-	-	-	-	-	-	-	2.00	2.00	3.00
C206	3.00	3.00	3.00	-	-	-	-	3.00	3.00	3.00	-	3.00	3.00	2.00	1.00
C207	3.00	3.00	3.00	3.00	2.00	2.40	1.80	-	-	-	-	2.80	3.00	1.67	2.00
C208	2.80	2.20	2.40	2.80	2.40	1.60	1.60	1.80	1.40	1.40	1.80	1.80	2.20	2.80	2.60
C209	-	-	-	-	-	-	-	1.00	2.00	3.00	-	2.00	-	-	-
SEMESTER IV															
C210	-	2.60	-	-	2.00	-	-	2.00	-	-	3.00	2.00	3.00	3.00	-
C211	2.00	2.00	2.00	1.00	1.00	-	-	-	2.00	2.00	2.00	2.00	2.00	2.00	-
C212	3.00	3.00	3.00	2.20	2.80	1.20	2.00	-	-	-	-	3.00	3.00	3.00	3.00
C213	3.00	3.00	2.00	2.00	-	-	-	-	-	-	-	-	3.00	2.00	3.00
C214	3.00	2.80	2.50	1.80	2.00	2.20	1.80	2.00	1.67	1.67	1.75	1.50	2.00	2.80	2.60
C215	3.00	3.00	2.80	2.40	3.00	3.00	2.20	3.00	1.60	2.40	2.00	2.20	2.20	2.00	2.40
C216	3.00	3.00	3.00	2.00	2.00	2.00	2.00	-	3.00	2.00	2.00	3.00	2.00	2.00	3.00
C217	3.00	2.80	2.50	1.80	2.00	2.20	1.80	2.00	1.67	1.67	1.75	1.50	2.00	2.80	2.60
C218	-	-	-	-	1.00	-	2.00	1.00	3.00	-	1.00	-	-	-	-



SEMESTER V															
C301	3.00	3.00	2.60	3.00	2.20	1.40	1.60	-	1.20	-	-	1.80	3.00	2.00	-
C302	3.00	3.00	2.60	1.80	1.60	2.00	2.00	1.00	1.00	1.20	1.20	3.00	3.00	2.60	1.33
C303	3.00	2.00	3.00	3.00	-	-	-	-	2.00	-	3.00	-	2.75	-	-
C304	3.00	3.00	3.00	3.00	2.00	2.00	2.00	-	-	-	-	3.00	3.00	3.00	-
C305	3.00	3.00	3.00	3.00	2.40	2.00	2.00	-	-	-	-	3.00	3.00	3.00	3.00
C306	2.80	2.75	2.33	2.40	2.00	1.50	2.00	1.00	1.50	2.00	1.50	1.75	2.40	2.00	1.50
C307	2.50	2.00	3.00	2.50	-	-	-	-	-	-	-	-	2.80	-	3.00
C308	3.00	3.00	3.00	3.00	2.40	2.00	2.00	-	-	-	-	3.00	3.00	3.00	3.00
C309	3.00	3.00	3.00	3.00	2.40	2.00	2.00	-	-	-	-	3.00	3.00	3.00	3.00
SEMESTER VI															
C310	2.25	2.00	2.60	2.25	2.00	2.00	2.50	2.33	1.67	1.33	2.20	2.50	2.76	2.60	3.00
C311	3.00	3.00	3.00	3.00	2.00	2.00	2.00	-	-	-	-	3.00	3.00	2.00	3.00
C312	3.00	3.00	3.00	-	1.80	1.60	1.20	-	-	1.40	-	-	2.40	2.80	2.40
C313	3.00	3.00	3.00	3.00	2.60	-	-	-	3.00	3.00	-	2.60	3.00	3.00	3.00
C314	3.00	3.00	3.00	3.00	1.60	1.00	2.20	-	-	-	-	3.00	3.00	3.00	3.00
C315	3.00	3.00	3.00	3.00	2.40	2.00	2.00	-	-	-	-	3.00	3.00	3.00	3.00
C316	3.00	2.80	2.60	2.40	3.00	2.67	2.00	-	-	-	-	2.20	2.80	2.80	3.00
C317	3.00	2.00	3.00	2.00	3.00	2.00	-	-	2.00	-	3.00	2.00	3.00	2.00	3.00
C318	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
C319	-	-	-	-	-	2.00	-	-	-	2.00	-	2.00	-	-	-
SEMESTER VII															
C401	-	-	-	-	-	2.00	-	2.00	2.00	2.00	2.30	1.00	-	-	-
C402	3.00	3.00	3.00	1.33	2.67	2.40	1.50	1.00	1.00	1.50	1.33	2.00	3.00	1.67	1.33
C403	3.00	3.00	3.00	-	-	-	-	-	-	-	-	-	-	3.00	1.00
C404	3.00	1.80	2.40	2.40	2.40	2.60	2.40	2.40	2.60	1.60	2.40	2.00	3.00	2.00	2.00
C405	3.00	3.00	3.00	3.00	2.00	1.00	1.00	3.00	3.00	3.00	3.00	2.00	2.00	3.00	3.00
C406	3.00	2.80	2.40	2.40	2.40	1.60	2.20	-	-	-	-	3.00	3.00	3.00	3.00
C407	3.00	3.00	3.00	-	3.00	-	-	-	-	-	-	3.00	3.00	3.00	3.00
C408	3.00	2.80	2.60	2.40	3.00	2.67	2.00	-	-	-	-	2.20	2.80	2.80	3.00
SEMESTER VIII															
C409	1.33	-	-	-	-	2.50	2.00	3.00	-	2.50	2.00	3.00	1.67	1.33	-
C410	3.00	3.00	3.00	-	-	-	-	-	-	-	-	-	-	3.00	2.50
C411	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Direct Attainment	2.71	2.59	2.57	2.32	2.16	1.81	1.88	1.77	1.94	1.92	1.98	2.17	2.63	2.44	2.45
80% Direct Attainment	2.16	2.08	2.05	1.85	1.73	1.45	1.50	1.42	1.55	1.54	1.58	1.73	2.10	1.96	1.96
20% Indirect Attainment	0.57	0.55	0.53	0.54	0.53	0.54	0.53	0.53	0.54	0.53	0.54	0.53	0.54	0.53	0.53
100% Attainment	2.74	2.62	2.59	2.39	2.25	1.99	2.04	1.95	2.08	2.07	2.12	2.27	2.64	2.48	2.48

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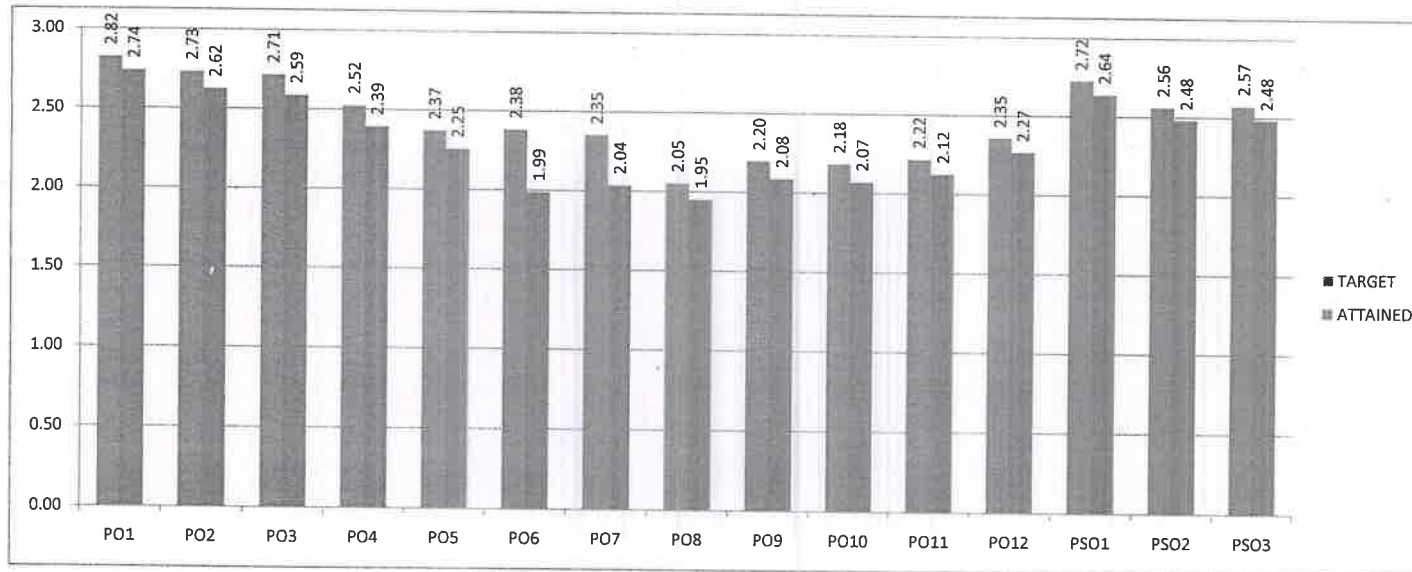
**EXCEL ENGINEERING COLLEGE
KOMARAPALAYAM - 637303**

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

TARGET AND ATTAINMENT (2019-23 BATCH)

PO-PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
TARGET	2.82	2.73	2.71	2.52	2.37	2.38	2.35	2.05	2.20	2.18	2.22	2.35	2.72	2.56	2.57
ATTAINED	2.74	2.62	2.59	2.39	2.25	1.99	2.04	1.95	2.08	2.07	2.12	2.27	2.64	2.48	2.48

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INDIRECT ATTINMENT MEASURES															
Attainment measures	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Student exit survey	2.80	2.62	2.71	2.59	2.57	2.63	2.54	2.64	2.63	3.00	2.59	2.69	2.76	3.00	2.64
Parent feedback survey	2.75	2.80	2.62	2.62	2.56	2.90	2.54	2.70	2.70	2.62	2.70	2.65	3.00	2.65	2.62
Alumni survey	2.81	2.58	2.56	2.61	2.61	2.66	2.64	2.53	2.63	2.53	2.69	2.58	2.68	2.59	2.61
Employer survey	3.00	2.70	2.63	2.70	2.63	2.78	2.70	2.78	2.70	2.63	2.70	2.63	2.70	2.55	2.78
Co-curricular, Extra-curricular	2.90	2.80	2.80	2.80	2.90	2.70	2.80	2.90	2.90	2.90	2.90	2.70	2.60	2.50	2.50
Placement training and value added course	2.80	2.90	2.70	2.90	2.70	2.50	2.50	2.60	2.70	2.50	2.90	2.90	2.50	2.50	2.40
Industrial Visit and In plant training	2.90	2.72	2.65	2.70	2.50	2.80	2.90	2.50	2.50	2.50	2.50	2.50	2.50	2.63	2.90
Indirect Attainment	2.85	2.73	2.67	2.70	2.64	2.71	2.66	2.66	2.68	2.67	2.71	2.66	2.68	2.63	2.64
20% of Indirect attainment	0.57	0.55	0.53	0.54	0.53	0.54	0.53	0.53	0.54	0.53	0.54	0.53	0.54	0.53	0.53
DIRECT ATTINMENT MEASURES															
Attainment measures	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
Direct attainment	2.71	2.59	2.57	2.32	2.16	1.81	1.88	1.77	1.94	1.92	1.98	2.17	2.63	2.44	2.45
Indirect Attainment	2.85	2.73	2.67	2.70	2.64	2.71	2.66	2.66	2.68	2.67	2.71	2.66	2.68	2.63	2.64
Direct attainment 80%(A)	2.16	2.08	2.05	1.85	1.73	1.45	1.50	1.42	1.55	1.54	1.58	1.73	2.10	1.96	1.96
Indirect attainment 20%(B)	0.57	0.55	0.53	0.54	0.53	0.54	0.53	0.53	0.54	0.53	0.54	0.53	0.54	0.53	0.53
Overall attainment	2.74	2.62	2.59	2.39	2.25	1.99	2.04	1.95	2.08	2.07	2.12	2.27	2.64	2.48	2.48




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