MARWADI SIKSHA SAMITHI

Ramnath Guljarilal Kedia College of Commerce

(Affiliated to Osmania University, NAAC Re-Accredited)

3-1-336, Esamia Bazar, Opp. New Chaderghat Bridge, Hyderabad- 500027.

PROGRAMME OUTCOMES (POs)

The programme aims at preparing professionals for the Computer Application industry and focuses on both theoretical and practical application of computer technology in enabling the students to be knowledgeable in programming, analytical ability, networking, computational techniques, multimedia communication methods, simulation, modeling etc.

PO 1: . **Professional Thinking**. The students will become successful professionals by demonstrating logical and analytical thinking abilities.

PO 2: **Team Work** The students will work and communicate effectively in interdisciplinary environment, either independently or in team, and demonstrate leadership in academia and industry.

PO 3: **Practical Approach and Analytical Skills**. The students will engage in lifelong learning and professional development through discussion, professional studies and research and Recognize the need for and an ability to engage in continuing professional development.

PO 4: **Professional Integrity.** Identify computer application related problems, analyze them and design the system or provide the solution for the problem considering legal, ethical and societal issues.

PO5: . **Communication and Leadership Skills**. Work and communicate effectively in interdisciplinary environment, either independently or in team, and demonstrate scientific leadership in academia and industry

ACADEMIC YEAR 2022- 2023

SEMESTER-I

SUBJECT: DISCRETE MATHEMATICS   **Code: PCC 101**

CO No	Course Outcomes	Bloom'sT axonomy level
CO1	For a given logic sentence express it in terms of predicates, quantifiers, and logical connectives	Remember
CO2	For a given a problem, derive the solution using deductive logic and prove the solution based on logical inference	Understand
CO3	For a given a mathematical problem, classify its algebraic structure	Apply
CO4	Evaluate Boolean functions and simplify expressions using the properties of Boolean algebra	Analyze
CO5	Develop the given problem as graph networks and solve with techniques of graph theory	Evaluate

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

CourseOutcomes(COs)	ProgramOutcomes(POs)						
	1	2	3	4	5	6	7
CO 1	3		2				
CO 2	3		3				
CO 3	3		2				
CO 4	3		2				
CO 5	3		2				
AVg	3		2.2				

SUBJECT: Data Structures using C   **CODE: PCC102**

CO No	Course Outcomes	Bloom'sTaxonomylevel
CO1	Implement linear and non-linear data structure operations using C	Remember
CO2	Suggest appropriate linear / non-linear data structure for any given data set.	Understand
CO3	Apply hashing concepts for a given problem	Apply
CO4	Modify or suggest new data structure for an application	Analyze
CO5	Appropriately choose the sorting algorithm for an application	Evaluate

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes(COs)	ProgramOutcomes(POs)						
	1	2	3	4	5	6	7
CO 1	3	3	2	2	2		
CO 2	3	3	2		1		
CO 3	3			2			
CO 4	3		2	3			
CO 5	3			3			
AVG	3	1.2	1.2	2	0.6		

Subject: Object Oriented Programming using Java   **Code:**PCC103

CO No	CourseOutcomes	Bloom'sTaxonomy level
CO1	Explain OOPs features and concepts	Understand
CO2	Write basic Java programs	Understand
CO3	Write I/O programs in Java	Apply
CO4	Use various built-in Java classes and methods	Analysis
CO5	Create window based Java programs	Apply

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes(COs)	ProgramOutcomes(POs)						
	1	2	3	4	5	6	7
CO 1	3		2	1			
CO 2	-3		3	2			
CO 3	3		3	2			
CO 4	3						
CO 5	3						
AVG	3		1.6	1.00			

Subject: Computer Architecture   **Code: PCC104**

CO No	CourseOutcomes	Bloom's Taxonomy level
CO1	Apply data representation methods	Understand
CO2	Write logic diagrams for microoperations	Apply
CO3	Write general register organization diagrams	Apply
CO4	Analyze computer arithmetic algorithms.	evaluate
CO5	Explain I/O organization	elaborate

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes(COs)	ProgramOutcomes(POs)						
	1	2	3	4	5	6	7
CO 1	3		3	3			
CO 2	1						
CO 3		2		1			
CO 4	3	1		3			
CO 5		1					
AVG	1.4	0.8	0.6	2			

Subject: Probability & Statistics   **Code: PCC105**

CO No	CourseOutcomes	Bloom'sT axonomy level
CO1	Understanding of Linear Algebra will boost the ability to understand and apply various data science algorithms.	Understand
CO2	Calculate probabilities by applying probability laws and theoretical results, knowledge of important discrete and continuous distributions, their inter relations with real time applications.	Understand
CO3	Understanding the use of sample statistics to estimate unknown parameters	Apply
CO4	Become proficient in learning to interpret outcomes.	Analyze
CO5	Compute and interpret Correlation Analysis, regression lines and multiple regression analysis with applications.	Understand

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes(COs)	ProgramOutcomes(POs)						
	1	2	3	4	5	6	7
CO 1	3		3	3	1		
CO 2	3		3		1		
CO 3	3	1	3		1		
CO 4	3		3	3			
CO 5	3						
AVG	2.6	0.2	2.4		2		

Subject: Managerial Economics and Accountancy   **Code: PCC106**

CO No	CourseOutcomes	Bloom'sT axonomyl evel
CO1	Apply the fundamental concepts of managerial economics to evaluate business Decisions.	Understand
CO2	Understand types of Demand and factors related to it.	Understand
CO3	Identify different types of markets and determine price –output under perfect competition	Apply
CO4	Determine working capital requirement and payback	Understand
CO5	Analyze and interpret financial statements through ratios	Apply

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes(COs)	ProgramOutcomes(POs)						
	1	2	3	4	5	6	7
CO 1	3		3				
CO 2	3			2			
CO 3	3			2			
CO 4	3						

CO 5	3		3				
AVG	3		0.16	0.8			

SEMESTER –II

CO No	Course Outcomes	Bloom'sTaxonomy level
CO1	Explain operating systems and Unix OS, illustrate the workings of various OS components	Understand
CO2	Analyze the process, its states and process scheduling algorithms	Analyze
CO3	Demonstrate paging, demand paging, page replacement and segmentation with illustrations.	Apply
CO4	Elaborate the file access and allocation methods and mass storage structures.	Understand
CO5	Describe concrete implementations of Linux system and Windows 7.	Evaluate

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes (COs)	ProgramOutcomes(POs)						
	1	2	3	4	5	6	7
CO 1	3		3	2			
CO 2	2		2	1			
CO 3	3		2	1			
CO 4	3		2	1			
CO 5	3		2	2			
AVG	2.8		2.2	1.4			

CO No	Course Outcomes	Bloom'sTaxonomylevel
CO1	Explain the DB concepts and model requirements as ER-modeL	Apply
CO2	Suggest relational algebra queries from text specification	Evaluate
CO3	Write SQL queries for the given questions	Apply
CO4	Elaborate indexing and hashing and describe concurrency control concepts	Understand
CO5	Comprehend NoSQL technology	Evaluate

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes(COs)	ProgramOutcomes(POs)						
	1	**2**	**3**	**4**	**5**	**6**	**7**
CO 1	3		3	3	2		
CO 2	3		2				
C0 3	2		2	1			
C04	2		2	1			
C05	2		1	1			
AVG	2.4		2				

Subject: Design and Analysis of Algorithms   **Code: PCC203**

CO No	CourseOutcomes	Bloom'sT axonomy level
CO1	Carry out algorithms time complexity	Understand
CO2	Explain divide and conquer approach	Analyze
CO3	Illustrate greedy method	Apply
CO4	Elaborate dynamic programming	Understand
CO5	Explore backtracking	Evaluate

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes (COs)	ProgramOutcomes(POs)						
	1	**2**	**3**	**4**	**5**	**6**	**7**
CO 1	3		2	2	1		
CO 2	3		2	2			
CO 3	2		2	1	1		
CO 4	2		1	2			
CO 5	2		2	1			
AVG	2.4		1.8	1.6	0.4		

CO No	CourseOutcomes	Bloom'sT axonomy level
CO1	Understand the basics of Python Programming Language	Understand
CO2	Handle different types of files and work with text data	Analyze
CO3	Use regular expression operations, Use relational databases via SQL	Apply
CO4	Use tabular numeric data, Use the data structures: data series and frames	Understand
CO5	Use PyPlot for visualization, Use Python for basic Machine Learning	Evaluate

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes (COs)	ProgramOutcomes(POs)						
	1	2	3	4	5	6	7
CO1	3		2	3			
CO2	2		1	2			
CO3	3		2	2			
CO4	2		2	2			
CO5	2		2				
AVG	2.4		1.8	1.8			

CO No	CourseOutcomes	Bloom'sT axonomy level
CO1	Solve regression problems	Understand
CO2	Apply dimensionality reduction methods	Analyze
CO3	Analyze classification schemes	Apply
CO4	Explore clustering mechanisms	Understand
CO5	Explain evaluation metrics.	Evaluate

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes (COs)	ProgramOutcomes(POs)						
	1	**2**	**3**	**4**	**5**	**6**	**7**
CO 1	3		3	1	2		
CO 2	2		3	3	2		
CO 3	2		2	2	2		
CO 4	3		2	2	1		
CO 5	2		1	2	1		
AVG	2.4		2.2	2	1.6		

Subject: Operations Research   **Code:** MGC206

CO No	CourseOutcomes	Bloom'sT axonomy level
CO1	Solve linear problems	Understand
CO2	Apply transportation problems	Analyze
CO3	Analyze assignment problem	Apply
CO4	Explore dynamic programming	Understand
CO5	Explain gaming theory	Evaluate

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes (COs)	ProgramOutcomes(POs)						
	1	**2**	**3**	**4**	**5**	**6**	**7**
CO 1	3	2		2			
CO 2	3	2		2			
CO 3	3	2		1			
CO 4	2	2		2			
CO 5		2		2			
AVG	2.2	2		1.8			

SEMESTER - III

Subject: Software Engineering   **Code: PCC301**

CO No	CourseOutcomes	Bloom'sTaxonomy level
CO1	Apply software processes to solve software problem	Understand
CO2	Create SRS document and software architecture	Analyze
CO3	Perform software planning in terms of staffing and scheduling	Apply
CO4	Create test cases and procedures	Understand
CO5	Re-engineer the developed software	Evaluate

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes (COs)	ProgramOutcomes(POs)						
	1	**2**	**3**	**4**	**5**	**6**	**7**
CO 1	3	2		1			
CO 2	2	2		2			
CO 3	3		2	3			
CO 4	3		3	3			
CO 5	2		2	2			
AV G	2.6	0.8	1.4	2.2			

Subject: Computer Networks   **Code: PCC302**

CO No	Course Outcomes	Bloom'sTaxonomy level
CO1	Elaborate the network model	Understand
CO2	Explain transmission media and functions of datalink layer	Analyze
CO3	Create routing tables based on DVR and LSR	Apply
CO4	Describe TCP and UDP protocols	Understand
CO5	Explain application layer protocols	Evaluate

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes (COs)	ProgramOutcomes(POs)						
	1	**2**	**3**	**4**	**5**	**6**	**7**
CO 1	3		3	1			
CO 2	3		2	1			
CO 3	2		3	3			
CO 4	2		1	3			
CO 5	3		2	2			
AV G	2.6		2.2	2			

Subject: Data Science　　　　　　　　　　　　　　　　**Code:**
PCC303

CO No	Course Outcomes	Bloom'sT axonomy level
CO1	Use various data structures and packages in R for data visualization and summarization	Understand
CO2	Use linear , non-linear regression models, and classification techniques for data analysis	Analyze
CO3	Use clustering methods including K-means and CURE algorithm	Apply

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes (COs)	ProgramOutcomes(POs)						
	1	**2**	**3**	**4**	**5**	**6**	**7**
CO 1	3		3	3			
CO 2	3		2	3			
CO 3	3		3	2			
CO 4	3		2	1			
CO 5	2		1	2			
AV G	2.8		2.2	2.2			

Subject: Web Technologies   **Code:** PCC304

CO No	CourseOutcomes	Bloom'sT axonomy level
CO1	Write HTML and DHTML programs.	Understand
CO2	Create programs on event models	Analyze
CO3	Implement java script programs	Apply
CO4	Write VB script programs	Understand
CO5	Create ASP programs	Evaluate

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes (COs)	ProgramOutcomes(POs)						
	1	**2**	**3**	**4**	**5**	**6**	**7**
CO 1	3		3	3			
CO 2	3		3	2			
CO 3	2		2	1			
CO 4	3		1	2			
CO 5	2		2	1			
AVG	2.6		2.2	1.8			

Subject: Information Security   **Code:** PEC311

CO No	Course Outcomes	Bloom'sT axonomy level
CO1	Explain the SDLC and security model	Understand
CO2	Describe various issues in information security	Analyze
CO3	State the techniques for risk management	Apply
CO4	Elaborate the security technology	Understand
CO5	Specify the cryptography and implementation of information security	Evaluate

Course Outcomes (COs)	ProgramOutcomes(POs)						
	1	**2**	**3**	**4**	**5**	**6**	**7**
CO 1	3		3	2			
CO 2	2		1	1			
CO 3	2		1	2			
CO 4	2		2	1			
CO 5	3		2	1			
AV G	2.4		1.8	1.4			

Subject: Network Security   **Code:** PEC321

CO No	Course Outcomes	Bloom's Taxonomy level
CO1	Understand the basics of Python Programming Language	Understand
CO2	Handle different types of files and work with text data	Analyze
CO3	Use regular expression operations, Use relational databases via SQL	Apply
CO4	Use tabular numeric data, Use the data structures: data series and frames	Understand
CO5	Use PyPlot for visualization, Use Python for basic Machine Learning	Evaluate

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes (COs)	ProgramOutcomes(POs)						
	1	**2**	**3**	**4**	**5**	**6**	**7**
CO 1	3		3	3			
CO 2	3		2	3			
CO 3	2		2	2			
CO 4	1		2	1			

CO 5	3		1	2		
AV G	2.4		2	2.2		

SEMESTER - IV

Subject: Big Data Analytics   **Code: PEC412**

CO No	Course Outcomes	Bloom's Taxonomy level
CO1	Learn how to handle big data	Understand
CO2	Learn hdoop ecosystem	Analyze
CO3	Learn mapreduce and h base fundamentals	Apply
CO4	Learn database concepts related to big data	Understand
CO5	Learn NoSQL fundamentals	Evaluate

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes (COs)	ProgramOutcomes(POs)						
	1	2	3	4	5	6	7
CO 1	3	3	1	2			
CO 2	2	2	3	2			
CO 3	3	2	1	3			
CO 4	3	2	2	2			
CO 5	3	2	1				
AV G	2.8	2.2	1.6	1.8			

Subject: Enterprise Architecture   **Code:** PEC424

CO No	Course Outcomes	Bloom's Taxonomy level
CO1	Learn the fundamentals of EA	Understand
CO2	Study the business architecture	Analyze
CO3	Understand the organizational structure of EA	Apply

CO No	CourseOutcomes	Bloom's Taxonomy level
CO4	Comprehend enterprise engineering	Understand
CO5	Gain insights into cloud computing opportunities for EA	Evaluate

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes (COs)	ProgramOutcomes(POs)						
	1	2	3	4	5	6	7
CO1	3	1	2	2			
CO2	2	1	3	2			
CO3	3		1	1			
CO4	2		2	2			
CO5	2		1	2			
AVG	2.4	0.4	1.8	1.8			

Subject: Organization Behaviour **Code: OE434**

CO No	CourseOutcomes	Bloom'sT axonomy level
CO1	Explain management process and functions	Understand
CO2	Discuss decision making and negotiations	Analyze
CO3	Describe psychological contract	Apply
CO4	Elaborate models of organization behaviour	Understand
CO5	Elucidate the organization design	Evaluate

MAPPINGCOURSEOUTCOMESLEADINGTOTHEACHIEVEMENTOFPROGRAMOUTCOMES

Course Outcomes (COs)	ProgramOutcomes(POs)						
	1	2	3	4	5	6	7
CO1	3	2		1			
CO2	2	2		2			
CO3	1		2				

CO 4	3		2	1			
CO 5	3		1	1			
AVG	2.4	0.8	1.2	0.8			

Principal
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