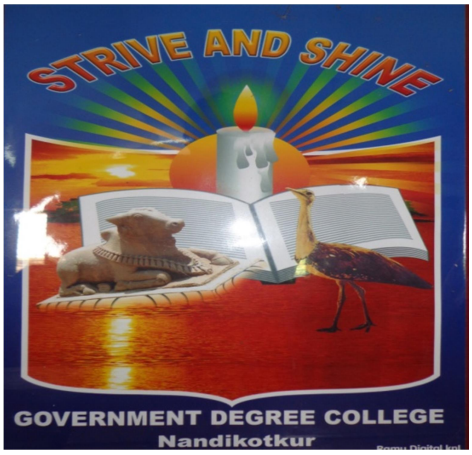
GOVERNMENT DEGREE COLLEGE

NANDIKOTKUR, Nandyal (Dist.,)

DEPARTMENT OF COMPUTER SCIENCE



Programme Outcomes (POs)
Programme Specific Outcomes(PSOs)
&
Course Outcomes (COs)

POs, PSOs & COs Mapping

PROGRAMME OUTCOMES

Students admitted in to B.Sc. Programme are expected to acquire the following outcomes

PO1	**Domain Knowledge:** Students understand the basic scientific principles and theories related to various phenomena in their disciplines and their relevance in the day-to-day life .Students develop demonstrating comprehensive knowledge and understanding of one or more other disciplines that form a part of an undergraduate programme of study.
PO2	**Communication Skills:**Students able to express thoughts and ideas effectively in writing and orally and communicate with others using appropriate media, confidently share views and express herself/himself,
PO3	**Critical thinking:**Student will be able to analyze and synthesize data from a variety of sources and draw valid conclusions and support them with evidence and examples.
PO4	**Creativity:** Students will be able to • create, perform, or think in different and diverse ways about the same objects or scenarios, • innovate and perform tasks in a better manner
PO5	**Teamwork / Coordination:** Being able to facilitate a group's cooperative effort and act together as a group or team to achieve a common goal. Work effectively as an individual as well as a member of the team.
PO6	**Digital and technological skills:** The graduates will be able to demonstrate the capability to: • use ICT in a variety of learning and work situations, • access, evaluate, and use a variety of relevant information sources, and use appropriate software for analysis of data.
PO7	**Research-related skills**: The graduates will be able to demonstrate: • a keen sense of observation, inquiry, and capability for asking relevant/ appropriate questions, • the capacity to develop appropriate methodology and tools for data collection
PO8	**Environmental awareness and action:** The graduates should be able to demonstrate the acquisition of and ability to apply the knowledge, skills, attitudes, and values required to take appropriate actions for effective waste management, conservation of biological diversity, management of biological resources and biodiversity, forest and wildlife conservation, and sustainable development and living
PO9	**Community engagement and service:** The graduates will be able to demonstrate the capability to participate in community-engaged services/ activities for promoting the wellbeing of society
PO10	**Career opportunities:** Students after graduation have several career and employment opportunities such as research firms, agriculture industry, health care industry, pharmacy industry, chemical industry, diagnostic laboratories, software companies, banks, higher studies etc.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

The Department of Computer Science in Government Degree College,Nandikotkur,Nandyal Dist. offers Three Year (comprising 6 semesters) Undergraduate Programme in Computer Science with objective of making students expert in understanding the computer software programming in the academics. Upon completion of B.Sc. Computer Science Degree Programme successfully, the students shall acquire the following skills and competencies.

PSO1	Understand the basic principles, structure and development methodologies of system software
PSO2	Design, develop, implement and test application software for systems including distributed software systems
PSO3	Employ critical thinking and the scientific knowledge to computer programing in real time applications
PSO4	Understand the architecture and organization of computer systems, embedded systems and networked systems.
PSO5	Design, Develop, Test and maintain software systems for business applications
PSO6	Develop their skills to solve problems in the broad area of programming concepts and appraise environmental and social issues with ethics and manage different projects in inter-disciplinary field

PSO-PO Mapping

		PO									
		1	2	3	4	5	6	7	8	9	10
PSO	1	*					*	*			
	2	*			*		*				*
	3			*							*
	4	*		*				*			
	5		*		*		*				
	6			*	*						*

COURSE OUTCOMES (COs)

SEMESTER-I

Course Code: 20C1311A
Course Name: Problem Solving in C

	On successful completion of this course, the student will be able to:	PSO	PO
CO1	Understand the evolution and functionality of a Digital Computer	1,4	1,3,6,7
CO2	Apply logical skills to analyse a given problem	3	3,10
CO3	Develop an algorithm for solving a given problem	5	2,4,7
CO4	Understand „C“ language constructs like Iterative statements, Array processing, Pointers, etc.	1	1,6,7
CO5	Apply „C“ language constructs to the algorithms to write a „C“ language program	3	3,10

SEMESTER-II

Course Code: 20C2311A

Course Name: Data Structures using C

	On successful completion of this course, the student will be able to	PSO	PO
CO1	Understand available Data Structures for data storage and processing.	4	1,3,7
CO2	Comprehend Data Structure and their real-time applications - Stack, Queue, Linked List, Trees and Graph	1,2	1,4,6
CO3	Develop ability to implement different Sorting and Search methods	3,5	2,4,6
CO4	Have knowledge on Data Structures basic operations like insert, delete, search, update and traversal	1,4	1,7
CO5	Implement the applications of algorithms for sorting, pattern matching etc	5,6	2,3,4,10

SEMESTER-III

Course Code: 20C3311A

Course Name: Data Base Management Systems

	On successful completion of this course, the student will be able to:	PSO	PO
CO1	Gain knowledge of Database and DBMS and Understand the fundamental concepts of DBMS with special emphasis on relational data model	1,4	1,7
CO2	Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database	2	1,4,6
CO3	Model database using ER Diagrams and design database schemas based on the model	2,5	4,6,10
CO4	Create a small database using SQL	6	3,4,10
CO5	Store, Retrieve data in database	3,5	2,4,6

SEMESTER-IV

Course Code: 20C4311A

Course Name: OOPs through JAVA

	On successful completion of this course, the student will be able to:	PSO	PO
CO1	Understand the benefits of a well-structured program	1,4	1,7
CO2	Understand different computer programming paradigms	2,4	1,4,6,10
CO3	Understand underlying principles of Object-Oriented Programming in Java	1	1,6,7
CO4	Develop problem-solving and programming skills using OOP concepts	3,5	2,4,6
CO5	Develop the ability to solve real-world problems through software development in high-level programming language like Java	6	3,4,10

Course Code: 20C4311B

Course Name: Operating Systems

	On successful completion of this course, the student will be able to:	PSO	PO
CO1	Know Computer system resources and the role of operating system in resource management with algorithms	1,4	1,7
CO2	Understand Operating System Architectural design and its services and Gain knowledge of various types of operating systems	4	1,3,7
CO3	Understand various process management concepts including scheduling, synchronization, and deadlocks and Have a basic knowledge about multithreading	2,4	1,4,6,10
CO4	Comprehend different approaches for memory management.	4	1,3,7
CO5	Understand and identify potential threats to operating systems and the security features design to guard against them	1	1,6,7
CO6	Specify objectives of modern operating systems and describe how operating systems have evolved over time with its functions of a contemporary operating system	3	3,10

SEMESTER-V

Course Code: 20C53116C

Course Name: Data Science

	On successful completion of this course, the student will be able to:	PSO	PO
CO1	Develop relevant programming abilities	3	3,10
CO2	Demonstrate proficiency with statistical analysis of data	6	3,4,10
CO3	Develop the ability to build and assess data-based models	1,4	1,7
CO4	Demonstrate skill in data management	5	2,4,6
CO5	Apply data science concepts and methods to solve problems in real-world contexts and will communicate these solutions effectively	6	3,4,10

Course Code: 20C53117C

Course Name: Python for Data Science

	On successful completion of this course, the student will be able to:	PSO	PO
CO1	Identify the need for data science and solve basic problems using Python built-in data types and their methods	1	1,6,7
CO2	Design an application with user-defined modules and packages using OOP concept	5	2,4,6
CO3	Employ efficient storage and data operations using NumPy arrays	2,4	1,4,6,10
CO4	Apply powerful data manipulations using Pandas	3,5	2,4,6
CO5	Do data pre-processing and visualization using Pandas	2,5	4,6,10