



STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086

DEPARTMENT OF COMPUTER SCIENCE

PROGRAMME – PGDCS

Programme Learning Outcomes

The Postgraduate Diploma in Computer Science offers knowledge on the concepts of computer technology and use of various programming languages as tools for designing and solving problems. This degree not only helps the students to pursue career in the IT industry or master's programme in the discipline but also opens up avenues in different domains of their interest as Computer technology plays a vital role in almost all disciplines.

The understanding of concepts are enhanced with appropriate components which includes case studies, presentations and projects. The students are also given an opportunity to critically analyse an advanced technology of their interest.

Students completing postgraduate Diploma in Computer Science will be equipped in recent advances computer technology.

PSLO NO.	PROGRAMME SPECIFIC LEARNING OUTCOMES On successful completion of the course, students will be able to
1.	Describe and define concepts in Computer Science
2.	Understand, analyse and interpret data
3.	Understand and analyse the current research issues
4.	Interpret concepts in the discipline and apply them to new areas
5.	Understand and analyse problems in different domains and develop solutions or strategies to solve those problems
6.	Communicate effectively in both oral and written contexts individually and in teams
7.	Cultivate skills for successful careers, entrepreneurship and higher studies

SEMESTER - I

COURSE TITLE	MAJOR CORE: PROGRAMMING WITH PYTHON		
CODE	19CS/DC/PP14		
CLO NO.	COURSE LEARNING OUTCOMES	PSLOs Addressed	Cognitive Level
1.	Comprehend the elements of a program	1,3	R,U
2.	Understand the notion of data types, and higher order data structures such as lists, tuples and dictionaries	5,8	R,U
3.	Understand how Python can be used for application development	1,2,8	U,An,Ap
4.	Identify and repair coding errors in a program	2,5,8	An,Ap,C
5.	Write programs to read and write data from/to files	1,2,5,8	An,Ap,C

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

COURSE TITLE	MAJOR CORE: Operating System :Concepts and Applications		
CODE	19CS/DC/OS14		
CLO NO.	COURSE LEARNING OUTCOMES	PSLOs Addressed	Cognitive Level
1.	Describe the basic components of an operating system and its services	PSLOs 1,2,5	R,U
2.	Define the concepts of processes and competitive system resource allocation	PSLOs 1	R,U
3.	Outline standard scheduling algorithms for multi-tasking	PSLOs 1,5	R,U,Ap,An, E
4.	Describe process synchronization and understand process utilities	PSLOs 1,5	R,U,Ap
5.	Describe memory management and File management concepts	PSLOs 1,5	R,U,Ap,An

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COURSE TITLE	MAJOR CORE: Software Engineering		
CODE	19CS/DC/SE14		
CLO NO.	COURSE LEARNING OUTCOMES	PSLOs Addressed	Cognitive Level
1.	Know software engineering principles	PSLOs 2,3,4	U,An
2.	Apply software life cycle models for software development	PSLOs3,4,7,8	Ap,An
3.	Apply estimation techniques	PSLOs4,5,6,7	U,Ap,An
4.	Model a software application	PSLOs6,7,8,9	Ap,An,C

5.	Implement project management techniques	PSLOs6,7,8,9,10	Ap,An
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COURSE TITLE	RESEARCH METHODOLOGY		
CODE	19CS/DC/RM14		
CLO NO.	COURSE LEARNING OUTCOMES	PSLOs Addressed	Cognitive Level
1.	Develop an understanding of research methods	PSLOs 1,2	R,U
2.	Formulate a research problem	PSLOs 3,4	U,An,Ap
3.	Collect and analyse data	PSLOs 3,4	U, An
4.	Effectively write a research paper	PSLOs 1,2,3,4	U,Ap,An,C

5.	Present the Paper more professionally.	PSLOs 1,6,7	U,Ap,C
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COURSE TITLE	MAJOR CORE: Data Analytics		
CODE	19CS/PC/DA14		
CLO NO.	COURSE LEARNING OUTCOMES	PSLOs Addressed	Cognitive Level
1.	Critically analyze and follow the mechanisms to manage and explore	1,3	U,An,R
2.	Understand uncertain and complex data	1,3	U,An
3.	Apply Machine Learning techniques to extract actionable value from data	1,3,4	U,An,Ap

4.	Assess the use of data from acquisition through cleansing, analytics, and visualization	1,3,4,5	U,An,Ap,R
5.	Critically evaluate challenges in data analytics	1,3,4,5	An,Ap
6.	Think critically in decision making by applying analytics	1,3,4,5,8	An,Ap

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COURSE TITLE	MAJOR CORE: Design Thinking		
CODE	19CS/DC/DT13		
CLO NO.	COURSE LEARNING OUTCOMES	PSLOs Addressed	Cognitive Level
1.	Edit images using GIMP	1,2,3	U,An,R

2.	Use transformation tools locally and globally	1,2,3,4	U,An
3.	Design pictures using advanced tools in GIMP	1,3,4,5	U,An,Ap
4.	Design their own textures, logos and also to create animations using GIMP	2,3,5	U,An,Ap,C
5.	Create their own animations	1,3,4,5	An,Ap,C

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SEMESTER - II

COURSE TITLE	MAJOR CORE: Object Oriented Programming		
CODE	19CS/DC/OO24		
CLO NO.	COURSE LEARNING OUTCOMES	PSLOs Addressed	Cognitive Level

1.	Justify the use of Object-Oriented Programming	PSLOs1,2,3,9	U,Ap
2.	Use the right access specifiers to protect the data	PSLOs4,7,9	Ap,An
3.	Apply the different Object-Oriented features	PSLOs3,4,5,6,9	Ap,An
4.	Develop applications using Object-Oriented concepts	PSLOs4,5,6,9	An,C
5.	Create applications that are reusable	PSLOs4,5,6,9	An,C

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COURSE TITLE	MAJOR CORE: Cloud Computing		
CODE	19CS/DC/CC23		
1.	Describe about cloud, parallel and distributed computing	1,2,3	R,U

2.	Define virtualization and the architecture of cloud computing	2,3,5	R,U,Ap
3.	Demonstrate the need for resource pooling, scaling, capacity planning and load balancing along with their roles in the cloud	2,5,6	U,An,Ap
4.	Interpret on securing and storing data over the cloud	4,5,6	An,E
5.	Build a simple application and host it using cloud	1,2,4,5	An,Ap,E,C

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COURSE TITLE	MAJOR CORE: DATABASE MANAGEMENT SYSTEMS
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CODE	19CS/DC/DB25		
CLO NO.	COURSE LEARNING OUTCOMES	PSLOs Addressed	Cognitive Level
1.	Define the features and Queries of database systems	1, 2, 3	U, R, An, Ap
2.	Normalize database effectively from ER Diagrams	1, 2, 3, 5	U, R, An, Ap
3.	Understand and discuss the importance of relational data modeling and conceptual Modelling	1, 2, 3	U, R
4.	Apply knowledge to new situations	2, 3, 5	An, Ap, E
5.	Describe the transaction processing, concurrency control and recovery control	1, 2, 3	U, R
6.	Understand the use of NOSQL and its approach to the database	1, 2, 3, 6, 9	U, R, Ap

COURSE TITLE	MAJOR CORE: CRITICAL ANALYSIS ON AN ADVANCED TECHNOLOGY		
CODE	19CS/DC/CA21		
CLO NO.	COURSE LEARNING OUTCOMES	PSLOs Addressed	Cognitive Level
1.	Demonstrate clear, precise, ethically sound ideas on the chosen topic	1,2,3	U, An, Ap
2.	Find, evaluate and use information from varied sources effectively	1,2,4,5	An,Ap,E
3.	Critically analyse, argue and counter argue on the topic chosen	1,2,3,4,5	U,R, An, Ap, E
4.	Understand the significance, bias and applications of the technology chosen	1,2,3	U, An
5.	Formulate and synthesise new ideas and opinions in the form of projects /and papers	1,2,3,4,5,7	U, An, Ap, C
6.	Create clear, grammatically correct, ethically sound, well-organised pieces of writing	1,2,3,4,6	R, U, Ap, C

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COURSE TITLE	Dissertation		
CODE	19CS/DC/DI28		
CLO NO.	COURSE LEARNING OUTCOMES	PSLOs Addressed	Cognitive Level
1.	Understand and analyze a problem	PSLOs 1,2	R,U,An
2.	Review necessary literatures to define a problem and to understand the problem better	PSLOs 1,3,4	R,U
3.	Select an appropriate tool based on the need	PSLOs 3,4,5	R,U,An
4.	Develop an application/implement a research problem effectively	PSLOs 3,5	U,An,Ap
5.	Test the accuracy of the result	PSLOs 4,5	U,Ap,C
6.	Document the process in an efficient manner	PSLOs 1,5	U,An,C

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