Indo-American College
Not just another college
Permanently Affiliated to THIRUVALLUVAR UNIVERSITY, Vellore.
Accredited by NAAC with 'B' Grade
Recognised Under Section 2 (f) & 12 (b) of UGC Act.
T.N.Govt.G.O.MS. No.172, Higher Education Dept, dt.27-4-1998

DEPARTMENT OF COPUTER SCIENCE
PROGRAMME OUTCOMES (M. Sc)

PO1:	Basic fundamental knowledge in problem solving and in depth knowledge in computer science.
PO 2:	Ability to identify, analyze, design, optimize and implement systems and solutions using appropriate algorithms with acceptable complexity.
PO 3:	Capacity to produce cost effective, quality and maintainable software products and solutions meeting the global standards and requirements with the knowledge acquired and using the emerging techniques, tools and software engineering methodologies and principles.
PO 4:	Ability to understand the intricacies of a various process across the globe, by extracting facts and build models for marketing and business strategies.
PO 5:	Capable to work with multidisciplinary teams in small and large scale projects by utilizing modern software engineering tools and emerging technologies to develop complex products for the societal and engineering needs with skills to communicate effectively in group discussions and report writing.
PO 6:	Enriched knowledge to plan, develop and manage software tools and/or become an entrepreneur with the due consideration of the public health and safety, in the context of cultural, societal, and environmental situations.
PO 7:	Provide socially acceptable technical solutions to complex computer science engineering problems with the application of modern and appropriate techniques for sustainable development relevant to professional engineering practice.
PO 8:	Responsibility towards societal issues and environmental sustainability with an orientation to optimize resource utilization and conservations.
PO 9:	Apply the knowledge of ethical and management principles required to work in a team as well as to lead a team.
PO 10:	Ability to communicate within the computing community to interpret, produce, and present clear instructions, as well as design and create good documentation.

COURSE OUTCOME

S.No	Subject Code	Course Name	Course Outcomes
1	GCS11	Relational Database Management System	• After the end of the Course, the students are able to • 1.Have a broad understanding of database concepts and database management system software • 2.Have a high-level understanding of major DBMS components and their function • 3. Know the various normalization techniques. • 4. Write SQL commands to create tables and indexes, insert/update/delete data, and query data in a relational DBMS. • 5. Understand the PL/SQL and Stored Procedures.
2	GCS12	Enterprise Java Programming	• After the end of the Course, the students are able to • Understand about applets concepts. • Understand java networking system. • Understand about collections and design patterns. • Develop applications using JSP. • 5. Concept of web programming.
3	GCS13	Programming Using C#.Net	• After the end of the Course, the students are able to • Understand about introduction of C#.NET. • Understand what is mean by windows forms. • Understand about delegates and events. • Understand reflection and remoting. • 5.Understand about database in C#.NET
4	GPCS16	Core Practical 1: Relational Database Management System	• After the end of the Course, the students are able to • Understanding of database concepts and database management system software • Have a high-level understanding of major DBMS components and their function • Know the various normalization techniques.

			• Write SQL commands to create tables and indexes, insert /update/delete data, and query data in a relational DBMS. • 5. Understand the PL/SQL and
5	GPCS17	Core Practical 2: Enterprise Java Programming	• After the end of the Course, the students are able to • Understand about applets concepts. • Understand java networking system. • Understand about collections and design patterns. • Develop applications using JSP. • 5. Concept of web programming
6	GPCS18	Core Practical 3: Programming Using C#.Net	• After the end of the Course, the students are able to • Understand about introduction of C#.NET. • Understand what is mean by windows forms. • Understand about delegates and events. • Understand reflection and remoting. • 5. Understand about database in C#.NET.
7	GECS14A	Computer Organization	• After the end of the Course, the students are able to • Understand about Organization and design concepts • Describe the translation model of assembly language to machine language. • Understand about Micro program control concepts. • Understand central processor unit. • 5. Understand about pipeline and vector processing concepts.
8	GCS21	Advanced Enterprise Java Programming	• After the end of the Course, the students are able to • Work with JSP, JSF and Servlet using MVC approach. • Develop the web applications using the MVC framework provided by Apache Struts • Develop Enterprise web application using EJB. • Implement the Object-Relation Mapping technique using Hibernate • 5. Gets knowledge of Aspect Oriented

			Programming using Spring and Spring MVC.
9	GCS22	Design And Analysis Of Algorithm	• After the end of the Course, the students are able to • Prove the correctness and analyze the running time of the basic algorithms for those classic problems. • Learn the key techniques of Divide-and-Conquer and Greedy Method. • Recognize the concept of Dynamic Programming and its algorithms • Understand backtracking. • 5. Understand Branch and Bound techniques for designing and analyzing algorithms.
10	GCS23	Web Application Using C#.Net	• After the end of the Course, the students are able to • Know the differences between desktop application and web application. • Construct classes, methods, and access modifier and instantiate objects. • Create and manipulate GUI components in C# for windows application. • Code solutions and compile C# projects within the .NET framework. • 5. Build the web application with Database.
11	GPCS26	Core Practical 4: Advanced Enterprises Java Programming	• After the end of the Course, the students are able to • Work with JSP, JSF and Servlet using MVC approach. • Develop the web applications using the MVC framework provided by Apache Struts • Develop Enterprise web application using EJB. • Implement the Object-Relation Mapping technique using Hibernate • 5. Gets knowledge of Aspect Oriented Programming using Spring and Spring MVC.
12	GPCS27	Core Practical 5: Design And Analysis Of	• After the end of the Course, the students are able to • Prove the correctness and analyze the

		Algorithm	running time of the basic algorithms for those classic problems. • 2. Learn the key techniques of Divide-and-Conquer and Greedy Method. • 3. Recognize the concept of Dynamic Programming and its algorithms • 4. Understand backtracking. • 5. Understand Branch and Bound techniques for designing and analyzing algorithms.
13	GPCS28	Core Practical 6: Web Application Using C#.Net	• After the end of the Course, the students are able to • 1.Know the differences between desktop application and web application. • 2. Construct classes, methods, and access modifier and instantiate objects. • 3. Create and manipulate GUI components in C# for windows application. • 4. Code solutions and compile C# projects within the .NET framework. • 5. Build the web application with Database.
14	GECS24C	Cloud Computing	• After the end of the Course, the students are able to • Understand the broad perceptive of cloud architecture and model. • Understand the concept of parallel and distributed computing • Understand the different technologies. • Understand the features of virtualization. • 5. Design the trusted cloud computing system with different cloud platforms
15	GHR20	Human Rights	• After the end of the course, the student will be able to • 1.Know the nature of human rights its origin • ,the theories, the movements in the march of human rights and the facets of future of human • rights. • 2. After studying, the student will be able to know the international dimension of • human rights, the role of UN and the

			global effort in formulating conventions and • declarations • 3. After studying ,the student will be able to Perceive the regional developments of • human rights in Europe , Africa and Asia and the enforceable value of human rights in • International arena. • 4. After studying, the student will be able to have knowledge on the human rights • perspectives in India, more developed by its constitution and special legislations • 5. After studying, the student will be able to know the redressal mechanism made • available in case of human rights violation confined to India
16	DCS31	Distributed Operating System	• At the end of the Course, Students are able to • Understand foundations of Distributed Systems. • Get the idea of memory management • Comprehend in detail the system level and support required for distributed system. • 4. Recognize the shell script commands of Unix
17	DCS32	Xml And Web Services	• At the end of the Course, Students are able to • 1.Understand the use of web services in B2C and B2B applications. • 2. Understand the design principles and application of SOAP and REST based web services. • 3. Design collaborating web services according to a specification. • 4. Implement an application that uses multiple web services in a realistic business scenario.
18	DCS33	Programming Using Python	• At the end of the Course, Students are able to • 1.Explore the fundamental concepts of

			Python • 2. Understand Basics of Python programming language • 3. Solve simple problems using Python • 4. Acquire fundamental knowledge and skills on Python Programming • 5. Understand the nuances of this language. • 6. Know the usage of modules and packages in Python • 7. Familiarize with file concepts in Python • 8. Familiarize with web concepts using Python
19	DPCS37	Core Practical -7 Distributed Operating System	• At the end of the Course, Students are able to • Understand foundations of Distributed Systems. • Get the idea of memory management. • comprehend in detail input and output process • Know the concept of multimedia operating system. • 5. Understand the concept of security mechanism in distributed operating system
20	DPCS38	Core Practical 8: Xml And Web Services	• At the end of the Course, Students are able to • 1.Understand fundamental XML technology • 2. After studied unit-2, Students are able to understand the use of JSON. • 3. After studied unit-3, Students are able to design collaborating web services according to a specification. • 4. After studied unit-4, Students are able to know the concept of SOAP, WSDL and UDDI. • 5. After studied unit-4, Students are able to know the role of web services in CMS.
21	DPCS39	Core Practical - 9 Programming Using Python	• At the end of the Course, Students are able to • 1.Explore the fundamental concepts of Python

			• 2. Understand Basics of Python programming language • 3. Solve simple problems using Python • 4. Acquire fundamental knowledge and skills on Python Programming • 5. Understand the nuances of this language. • 6. Know the usage of modules and packages in Python • 7. Familiarize with file concepts in Python • 8. Familiarize with web concepts using Python
22	DECS34B	Internet Of Things	• At the end of the Course, Students are able to • 1.Design and develop IOT based solution for real world applications • 2. Realize the evolution of Internet in Mobile Devices, Cloud & Sensor Networks • 3. Understand the building blocks of Internet of Things and its characteristics. • 4. Understand the concept of IOT and its application.
23	DCS41	Mobile Application Development	• At the end of the Course, Students are able to • 1.Know about the mobile application development environment • 2. Develop interface and design • 3. Use the techniques in Mobile Applications
24	DCS42	Software Project Management	• At the end of the Course, Students are able to • Understand the activities during the project scheduling of any software application. • Learn the risk management activities and the resource allocation for the projects. • Apply the software estimation and recent quality standards for evaluation of the software Projects. • Acquire knowledge and skills needed for the construction of highly reliable software project.

			• Create reliable, replicable cost estimation that links to the requirements of project planning and managing.
25	DPCS45	Core Practical 10: Mobile Application Development	• At the end of the Course, Students are able to • Know about the mobile application development environment • Develop interface and design • 3. Use the techniques in Mobile Applications
25	DPCS46	Project With Viva Voce (Compulsory)	• 1.In a specialization domain of his / her choice, student manager will be able to choose an appropriate topic for study and will be able to clearly formulate& state a research problem • 2. For a selected research topic, student manager will be able to compile the relevant literature and frame hypotheses for research as applicable • 3.For a selected research topic, student manager will be able to plan a research design including the sampling, observational, statistical and operational designs if any • 4. For a selected research topic, student manager will be able to compile relevant data, interpret & analyze it and test the hypotheses wherever applicable
26	DECS43A	Big Data Analysis	• At the end of the Course, Students are able to • Learn about types of digital data and big data • Gain knowledge of various Big data analytics and its Technologies • Study about various NoSQL databases and management techniques • Work with NoSQL databases such as MongoDB and Cassendra • Design big data queries using Hive and Pig.