D.N.R College (A): Bhimavaram, W.G. Dist. A.P
(A College with Potential for Excellence)
M.Sc (Computer Science) DEPARTMENT
M.Sc (Computer Science) Course Objectives

Semester	Paper Code	Paper Name	Course Objective
Semester I	MCS1.1	Discrete Mathematical Structures	Discrete Mathematics (DM), or Discrete Math is the backbone of Mathematics and Computer Science. DM is the study of topics that are discrete rather than continues. Discrete Mathematics gives students the ability to understand Math language and based on that, the course is divided into 8 sections.
	MCS1.2	Data Structures & File Structures	To learn algorithmic techniques for solving various computational problems and will implement about 100 algorithmic coding problems in a programming language of your choice. No other online course in **Algorithm s**even comes close to offering you a wealth of **programming challenges** that you may face at your next job interview.
	MCS1.3	Computer Organization and Architecture	It's about the design of different hardware computer parts and how they come together to form a computer system. Typically this type of class is split into 2 major parts: CPU design and cache/memory design.
	MCS1.4	Object Oriented Programming using C++ and Java	Object-Oriented Programming (OOP) is the term used to describe a programming approach based on **objects** and **classes**. The object-oriented paradigm allows us to organise software as a collection of objects that consist of both data and behaviour. This is in contrast to conventional functional programming practice that only loosely connects data and behaviour.
	MCS1.5	Advanced Computer Networks	It is the interconnection of multiple devices, generally termed as Hosts connected using multiple paths for the purpose of sending/receiving data or media. There are also multiple devices or mediums which helps in the communication between two different devices which are known as **Network devices**.
Semester II	MCS2.1	Formal Languages & Automata Theory	Understand the concept of formal grammar and their types, as well as the type of language,finite automaton as a regular language recognizer,regular expression as a description of a regular language.
	MCS2.2	Relational Database Management Systems	A relational database management system (RDBMS) is system software for creating and managing databases. The DBMS provides users and programmers with a systematic way to create, retrieve, update and manage data. A DBMS makes it possible for end users to create, read, update and delete data in a database.
	MCS2.3	Advanced Operating	An advanced operating system (AOS) is a collection of software that manages computer hardware resources and provides common services for computer programs. The

		Systems	operating system is a vital component of the system software in a computer system. This tutorial will take you through step by step approach while learning Operating System concepts.
	MCS2.4	Data Warehousing & Data Mining	A **data warehouse** is a **subject** oriented, integrated, time-variant, and non-volatile collection of **data**. This **data** helps analysts to take informed decisions in an organization. ... These tools help us in interactive and effective **analysis** of **data**in a multidimensional space.
	MCS2.5	Web Technologies	**Web technology** refers to the means by which computers communicate with each other **using** markup languages and multimedia packages. It gives us a way to interact with hosted information, like websites. **Web technology** involves the **use** of hypertext markup language (HTML) and cascading style sheets (CSS).
Semester III	MCS3.1	Artificial Intelligence	The expert systems are the computer applications developed to solve complex problems in a particular domain, at the level of extra-ordinary human intelligence and expertise.
	MCS3.2	Object Oriented Software Engineering	Object-Oriented Software Engineering (OOSE) is a software design technique that is used in software design in object-oriented programming.
	MCS3.3	Information Security and Cryptography	cryptography historically dealt with the construction and analysis of protocols that would prevent any third parties from reading a private communication between two parties. In the digital age, cryptography has evolved to address the encryption and decryption of private communications through the internet and computer systems, a branch of cyber and network security, in a manner far more complex than anything the world of cryptography had seen before the arrival of computers.
	MCS3.4	Big Data Analytics	In this course, part of the Big Data MicroMasters program, you will develop your knowledge of big data analytics and enhance your programming and mathematical skills. You will learn to use essential analytic tools such as Apache Spark and R.
	MCS3.5	Cloud computing	Cloud computing is a method of computing where a shared group of resources such as file storage, web servers, data processing services and applications are accessed via the internet. Resources are housed in data centers around the world and are available to any person or device connected to the web.
Semester IV	MCS4.1	Project work	Computer applications is the most sought branch of knowledge pervading all walks of life and is the most dynamic academic field of specialization. IT, ICT and IT enabled services that is transforming today's lifestyle is going to make much more transformations, especially for a country like India, the fastest growing economies of the world.