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

Semester I	Paper Code	Paper Name	Course Objective
	MCA 1.1	Computer Fundamentals and Programming in C	This subject has been prepared for beginners as well as advanced learners who want to deal with computers. This is also very useful for undergraduate students of computer science. Today's world is an information-rich world and it has become a necessity for everyone to know about computers
	MCA 1.2	Data 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.
	MCA 1.3	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.
	MCA 1.4	Computer Organization	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.
	MCA 1.5	Management Accountancy	Management accounting, or managerial accounting, is, by definition, the process of identifying, analysing, recording, and presenting financial information that can be used internally by managers for planning, decision-making, and operational control.
Semester II	MCA 2.1	Probability, Statistics & Queuing Theory	Probability, Statistics and Queuing Theory is considered to be a 'tough' subject by most engineering and science students all over the world. What Professor Sundarapandian with his indepth knowledge and rich and long experience strives to do is to make the concepts very clear and comprehensible to the students by his lucid presentation and illustrative approach.
	MCA 2.2	Database Management Systems	A database management system (DBMS) 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.
	MCA 2.3	Object Oriented Programming With C++ & 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.
	MCA 2.4	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.
	MCA 2.5	Information Systems & Organizational Behavior	Organizational Behaviour (OB) is the academic study of the ways people act within groups The study of organizational behavior includes areas of research dedicated to improving job performance, increasing job satisfaction, promoting innovation, and encouraging leadership. Each has its own recommended actions, such as reorganizing groups, modifying compensation structures, or changing methods of performance evaluation.
Semester III	MCA 3.1	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**. Ex: Router, Switch, Hub, Bridge.
	MCA 3.2	Artificial Intelligence and Expert Systems	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.
	MCA 3.3	Design and Analysis of Algorithms	Design and Analysis of Algorithm is very important for designing algorithm to solve different types of problems in the branch of computer science and information technology.
	MCA 3.4	Operating Systems	An operating system (OS) is a collection of software that manages computer hardware resources and provides common services for computer programs. The 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.
	MCA 3.5	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 IV	MCA 4.1	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.
	MCA 4.2	Operations Research	**Operations research** (OR) is an analytical method of problem-solving and decision-making that is useful in the **management** of organizations. ... Analytical methods used in OR include mathematical logic, simulation, network

			analysis, queuing theory , and game theory . The process can be broadly broken down into three steps.
	MCA 4.3	Advanced Data Structures	Data Structures are used to store and manage data in an efficient and organised way for faster and easy access and modification of Data. Some of the basic data structures are Arrays, LinkedList, Stacks, Queues etc.
	MCA 4.4	Object Oriented Software Engineering	Object-Oriented Software Engineering (OOSE) is a software design technique that is used in software design in object-oriented programming.
	MCA 4.5	Data Warehousing and 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.
Semester V	MCA 5.1	Wireless and Adhoc Networks	An ad hoc network is a network that is composed of individual devices communicating with each other directly. The term implies spontaneous or impromptu construction because these networks often bypass the gatekeeping hardware or central access point such as a router.
	MCA 5.2	Cyber Security	Cyber Security refers to a set of techniques used to protect systems, network and data from cyber-attacks. It aims at ensuring a system's integrity and confidentiality of information. There are many kinds of cyber-attacks
	MCA 5.3	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.
	MCA 5.4	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.
	MCA 5.5	Software Testing and Quality Assurance	**Software quality assurance** (SQA) consists of a means of monitoring the **software**engineering processes and methods used to ensure **quality**. The methods by which this is accomplished are many and varied, and may include ensuring conformance to one or more standards, such as ISO 9000 or a model such as CMMI
Semester VI	MCA 6.1	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.