CURRICULUM AND ITS RELEVANCE TO LOCAL / NATIONAL / REGIONAL / GLOBAL NEEDS

DEPARTMENT NAME – SCHOOL OF IT

Sr. No.	Course Code	Course Name	Relevance (Local / National / Global)	Description(Importance for Student)
1	MCA-101	Mathematical Foundations in Computer Science	Global	Apply the management principles with computing knowledge to manage the projects in multidisciplinary environments.Identify opportunities and use innovative ideas to create value and wealth for the betterment of the individual and society.Expertise in developing application with required domain knowledge
2	MCA-102	Programming in C	Global	Illustrate the flowchart and designing an algorithm for a given problem to develop c programs using operators. Develop conditional and iterative statements to write c programs. Exercise user defined functions to solve real time problems.C programs that use pointers to accessarrays ,strings and functions. Learns the basiccomputer language
3	MCA-103	Operating System	Global	To understand the basic concepts and working procedure of various Operating Systems.Understand the basics of operating systems like kernel, shell, types and views of Operating systems. Describe the various CPU scheduling algorithms and remove deadlocks. To use the computer system resources in an efficient way.
4	MCA-104	Computer System & Architecture	Global	Learn the concepts of parallel processing, pipelining and interprocessor communication.Understand the

				architecture and functionality of central processing unit. Exemplify in a better way the I/O and memory organization.
5	MCA-105	Database Management System	Global	Understand Data Normalization and its usage in database design so as to successfully design a complete application. Learn transaction properties and types in a DBMS including concurrency control and recovery. Able to write SQL statements to create tables and indexes, set constraints, insert/update/delete data, and query data in a relational DBMS thereby building a successful application.
6	MCA-106	Internet Programming	Global	Understand basics of web technologies. Create interactive web applications using latest web technologies.Publish and maintain interactive web applications.Use XML standards and tools towards smart web applications.
7	MCA-201	Object Oriented Programming with C++	Global	To understand a software development problem and express it precisely.To identify the objects of a system and to establish their relationships. To implement a module structure this executes efficiently. Able to generate a design which can be converted into applications with OO languages
8	MCA-202	Computer Network	Global	Describe communication models TCP/IP, ISO-OSI model, network topologies along with communicating devices and connecting media. Apply knowledge of error detection, correction and learn concepts of flow control along with error control. Classify various IP addressing techniques, subnetting along with network routing protocols and algorithms.
9	MCA-203	Data Structure	Global	Understand the classification of data structures and Knowledge of basic and dynamic data structures. Compare and

				contrast various data structures and design techniques in the area of Performance and Memory Representation. Ability to evaluate algorithms and data structures in terms of time and complexity of basic operations.
10	MCA-204	Software Engineering	Global	Understand the basic concepts of software engineering and software development life cycle models. Comprehend the concepts of requirement analysis and specification and software design. Learn Function-oriented software design and Object Oriented software development and to draw various Diagrams using UML.
11	MCA-205	Java Programming	Global	Understand & analyze the Java features and Program Structure. Apply the concepts of encapsulation in classes and objects. Classify and implement the types of Inheritance & Packages. Differentiate and demonstrate the types in Thread creation and Exception Handling. Create the Applet Program and apply the Collection Framework.
12	MCA-206	Business Informatics	Global	Identify and evaluate factors that dictate leadership, administration and development of enterprises in free market economy, seen from the information technology viewpoint. Demonstrate expertise in theoretical aspects, and especially in practical skills applicable in the fields of e-services, computer systems organization, web design, software engineering, etc.
13	MCA-301	Cloud Computing	Global	Understand the concepts of Cloud Computing, key technologies, Strengths and limitations of cloud computing. Develop the ability to understand and use the architecture to compute and storage cloud, service and models. Understand the application in cloud

				computing.
14	MCA-302	Windows Programming using C#	Global	Read, write, execute, and debug C# applications. Understand variables and data types. Code decision and control structures (if, if/else, switch, while, do/while, for) and use primitive data types .Write user-defined methods. Write and manipulate arrays.Write programs using object-oriented programming techniques including classes, objects, inheritance, and polymorphism. Use graphical user interface (GUI) components
15	MCA-303	Cyber Security	Global	Design and implement risk analysis, security policies, and damage assessment. Plan, implement and audit operating systems' security in a networked, multi-platform and cross platform environment .Provide contingency operations that include administrative planning process for incident response, disaster recovery, and business continuity planning within information security.
16	MCA-304	Python Programming	Global	Describe the Numbers, Math functions, Strings, List, Tuples and Dictionaries in Python .Express different Decision Making statements and Functions. Interpret Object oriented programming in Python Understand and summarize different File handling operations
17	MCA-305	Computer Graphics	Global	Students will be able to summarize different hidden surface elimination algorithms and shading techniques used in computer graphics and digital media production. Students will be able to explain about the technology necessary for creating multimedia content for the web, video, DVD, 2D and 3D graphics, Sound and programming. Students can apply the knowledge, techniques, skills

				and modern tools to become successful professionals in communication and media industries
18	MCA-306	Elective1 (DATA MINING AND WAREHOUSING)	Global	Learn fetch the data easily from large value of data. Understand the tools and technique of data mining .Able to apply data mining techniques in various application and its case studies. Know the architecture of data ware house and its application. Understand the concept of Online analytical processing (OLAP) and its implementation.
19	MCA-306	Elective2(SEARCH ENGINE OPTIMIZATION)	Global	Define search engine marketing. Identify elements of search engine marketing plan. Develop Web pages designed to be easily crawled and optimally indexed by search engines.
20	MCA-401	Software Quality Assurance & Engineering	Global	Students can compute test coverage and yield, according to a variety of criteria Students can use statistical techniques to evaluate the defect density and the likelihood of fault
21	MCA-402	Elective1 (ARTIFICIAL INTELLIGENCE)	Global	Demonstrate proficiency developing applications in an 'AI language', expert system shell, or data mining tool. Demonstrate proficiency in applying scientific method to models of machine learning.
22	MCA-402	Elective2(NETWORK SECURITY & CRYPTOGRAPHY)	Global	Understand and analyze data encryption standard. Understand and analyze public-key cryptography, RSA and other public-key cryptosystems such as Diffie-Hellman Key Exchange, ElGamal Cryptosystem, etc. Understand key management and distribution schemes and design User Authentication Protocols. Analyze and design hash and MAC algorithms, and digital signatures.