CURRICULUM
MASTER OF COMPUTER APPLICATIONS
CHOICE BASED CREDIT SYSTEM

STUDENTS LEARNING OUTCOMES

The curriculum and syllabi for Master of Computer Applications (MCA) program (2017-18) conform to Outcome Based Education (OBE) for a flexible and structured Choice Based Credit System (CBCS). In general, **ELEVEN STUDENT OUTCOMES** (a-k) have been identified and the curriculum and syllabi have been chosen in such a way that each of the modules meets one or more of these outcomes. Student outcomes describe what students are expected to know and be able to do by the time of graduation. These relate to the skills, knowledge, and behaviors that students acquire as they progress through the program. Further, each module in the program spells out clear instructional objectives which are mapped to the student outcomes.

The Student Outcomes are:
(a) Ability to apply knowledge of Mathematical Foundations in computing problems.
(b) Ability to understand the Software concepts and their applications.
(c) Ability to practice and develop software for interpretation and analysis of data.
(d) Ability to use the techniques, skills, and modern Software tools necessary for software Development.

(e) Ability to identify and analyze software problems in multiple aspect including coding, testing and implementation in industrial applications.
(f) Ability to design, develop and verify a software system to meet desired needs ensuring its reliability and security in addition to
     satisfying economic, social and ethical constraints.
(g) Ability to apply Enterprise level application software for design of engineering product/process.
(h) Ability to function as consultant for the development of sustainable software solutions.
(i) An understanding of professional and ethical values.
(j) Ability to communicate effectively in diverse groups and exhibit leadership skills.
(k) To develop an understanding of global environment and its protection.

MASTER OF COMPUTER APPLICATIONS
SUMMARY OF PROGRAM CURRICULUM

Category	Total Number of Credits (MCA)	Percentage of Total credits
Program Core (PC)	98.5	63%
Program Elective (PE)	16.5	10%
Generic Elective (GE)	8	5%
Seminar & Special Problem (SP)	4	3%
PROJECT (PR)	30	19%
	157	100%

PROGRAM SCHEME

SEMESTER I

MODULE CODE	CATEGORY	SUB-CATEGORY	MODULE	L	T	P	C
COAP5101	MCA	PC	PROBLEM SOLVING AND PROGRAMMING	4	0	0	4
COAP5102	MCA	PC	EXERCISES FOR LEARNING BASIC PRINCIPLES OF STRUCTURED PROGRAMMING WITH C	0	0	4	2
COAP5103	MCA	PC	PC- SOFTWARE AND WEB TECHNOLOGIES	4	0	0	4
COAP5104	MCA	PC	EXERCISE IN MS-OFFICE,HTML AND DHTML	0	0	4	2
COAP5105	MCA	PC	COMPUTER ORGANIZATION AND ARCHITECTURE	4	0	0	4
COAP5106	MCA	PC	ASSEMBLY LAB	0	0	4	2
COAP5107	MCA	PC	STRUCTURED SYSTEM ANALYSIS AND DESIGN	3	1	0	3.5
MATH0114	MCA	PC	MATHEMATICAL FOUNDATION OF COMPUTER APPLICATIONS	3	1	0	3.5
COAP5108	SP	SP	SPECIAL PROBLEM	0	0	2	1
TOTAL CREDITS				18	2	14	26

L = Lecture

T = Tutorial

P = Practical

C = Credit Point

SEMESTER II

MODULE CODE	CATEGORY	SUB-CATEGORY	MODULE	L	T	P	C
COAP5109	MCA	PC	DATA STRUCTURES	4	0	0	4
COAP5110	MCA	PC	EXERCISES TO IMPLEMENT VARIOUS DATA STRUCTURE	0	0	4	2
COAP5111	MCA	PC	DATA BASE MANAGEMENT SYSTEM	4	0	0	4
COAP5112	MCA	PC	EXERCISES /CASE STUDIES THAT REQUIRE TABLE DESIGN NORMALIZA	0	0	4	2
COAP5113	MCA	PC	OPERATING SYSTEM	3	1	0	3.5
COAP5114	MCA	PC	OBJECT ORIENTED PROGRAMMING	4	0	0	4
COAP5115	MCA	PC	OBJECT ORIENTED PROGRAMMING USING C++	0	0	4	2
COAP5116	MCA	PC	ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEM	3	1	0	3.5
COAP5117	SP	SP	SEMINAR	0	0	2	1
TOTAL CREDITS				18	2	14	26

L = Lecture

T = Tutorial

P = Practical

C = Credit Point

SEMESTER - III

MODULE CODE	CATEGORY	SUB CATEGORY	MODULE	L	T	P	C
COAP6101	MCA	PC	COMPUTER GRAPHICS	4	0	0	4
COAP6102	MCA	PC	EXERCISE IN COMPUTER GRAPHICS USING C	0	0	4	2
COAP6103	MCA	PC	INTERNET AND JAVA PROGRAMMING	4	0	0	4
COAP6104	MCA	PC	PROGRAMMING IN JAVA	0	0	4	2
COAP6105	MCA	PC	SYSTEM PROGRAMMING	4	0	0	4
COAP6106	MCA	PC	EXERCISE TO LEARN VARIOUS COMMANDS IN UNIX & SHELL PROGRAMMING	0	0	4	2
COAP6107	MCA	PC	SOFTWARE ENGINEERING	3	1	0	3.5
		PE	ELECTIVE-I*	3	1	0	3.5
COAP6111	SP	SP	SEMINAR	0	0	2	1
			TOTAL CREDITS	**18**	**2**	**14**	**26**

L = Lecture

T = Tutorial

P = Practical

C = Credit Point

ELECTIVES

MODULE CODE	ELECTIVE-I*
COAP6208	COMPUTER NETWORK
COAP6209	ADVANCED SYSTEM ADMINISTRATION
COAP6210	SOFT COMPUTING

SEMESTER - IV

MODULE CODE	CATEGORY	SUB CATEGORY	MODULE	L	T	P	C
COAP6112	MCA	PC	ASP.NET USING C#	4	0	0	4
COAP6113	MCA	PC	BUILDING SMALL APPLICATION USING DOT NET	0	0	4	2
COAP6114	MCA	PC	ADVANCE JAVA	4	0	0	4
COAP6115	MCA	PC	LEARNING PROGRAMMING IN ADVANCE JAVA	0	0	4	2
COAP6116	MCA	PC	SOFTWARE TESTING AND QUALITY ANALYSIS	4	0	0	4
COAP6117	MCA	PC	DEVELOPING APPLICATIONS USING PHP	0	0	4	2
	MCA	PE	ELECTIVE-II	3	1	0	3.5
	MCA	GE	ELECTIVE-A*	3	1	0	3.5
COAP6121	SP	SP	SEMINAR	0	0	2	1
TOTAL CREDITS				18	2	14	26

ELECTIVES

L = Lecture

T = Tutorial

P = Practical

C = Credit Point

MODULE CODE	PROGRAM ELECTIVE-II
COAP6218	COMPUTER NETWORK
COAP6219	ADVANCED SYSTEM ADMINISTRATION
COAP6220	SOFT COMPUTING
MODULE CODE	GENERIC ELECTIVE-A*
SAPA0320	SAP (ABAP)
SAPM0321	SAP (MM)
SAPS0322	SAP (SD)
SAPF0323	SAP (FI)
SAPH0324	SAP (HR)
CCNA0325	CCNA

Additional fee, if any, shall be borne by the student.

SEMESTER - V

MODULE CODE	CATEGORY	SUB-CATEGORY	MODULE	L	T	P	C
COAP7101	MCA	PC	ADVANCED DBMS	4	0	0	4
COAP7102	MCA	PC	ADBMS LAB	0	0	4	2
COAP7103	MCA	PC	SOFTWARE PROJECT MANAGEMENT	3	1	0	3.5
	MCA	PE	ELECTIVE-III	3	1	0	3.5
	MCA	PE	ELECTIVE-IV	4	0	0	4
	MCA	PE	ELECTIVE-IV LAB	0	0	4	2
COAP7112	PR	PR	MINOR PROJECT (RESEARCH ORIENTED)	0	0	8	4
	MCA	GE	ELECTIVE-B**	4	0	0	4
TOTAL CREDITS				18	2	16	27

ELECTIVES

L = Lecture

T = Tutorial

P = Practical

C = Credit Point

MODULE CODE	PROGRAM ELECTIVE-III
COAP7204	COMPUTER BASED MANAGEMENT SYSTEM
COAP7205	E-COMMERCE & I.T.MANAGEMENT

MODULE CODE	PROGRAM ELECTIVE-IV
COAP7206	VISUAL BASIC .NET
COAP7207	WINDOWS PROGRAMMING
COAP7208	PYTHON PROGRAMMING

MODULE CODE	PROGRAM ELECTIVE-IV LAB
COAP7209	VISUAL BASIC .NET LAB
COAP7210	WINDOWS PROGRAMMING LAB
COAP7211	.PYTHON PROGRAMMING LAB

** To be chosen from Generic Electives offered by Departments other than the parent Department.

SEMESTER - VI

MODULE CODE	CATEGORY	SUB-CATEGORY	MODULE	L	T	P	C
COAP7113	PR	PR	INDUSTRIAL TRAINING	-	-	-	26
TOTAL CREDITS				0	0	0	26

L = Lecture

T = Tutorial

P = Practical

C = Credit Point