Details of Course Structure (2024) : MCA

● **Summary of Credits and Total Marks :**

Sem	MCA	
	Total Credits (TH+PR /OR/TU)	**Total Marks**
I	22	700
II	22	700
III	22	700
IV	22	500
Total	**88**	**2600**

● **Definition of Credit :**

The Under Graduate (U.G.) and Post Graduate (P.G.) programmes will have credit system. The details of credit will be as follow

1 Credit = 1 hour/week for lecture
= 2 hours /week for practical
= 1 hour /week for tutorial

● **Course Nomenclature :**

- Each Course offered in the MCA curriculum shall be listed by using Seven/Eight Characters, as follows:

- The first two characters will represent the pattern e.g. 24

- The 3rd and 4th characters will represent the branch code /BoS code. For MCA Branch/BoS code is 09

- The 5th characters will represent the class e.g. 5-FY PG, 6-SY PG

- The 6th and 7th characters will represent the subject code. 01-10: SEM-I, 11-20: SEM-II

- The 8th characters is for Elective subjects

- Thus, as an example, courses offered at the Department of MCA could be listed from 2409501to 2409613.

K.K.Wagh Institute of Engineering Education and Research, Nashik (Autonomous)
Details of Course Structure (2024): MCA

● **Description of various Courses:**

Type of Course	Description
MC	Major Core
ME	Major Elective
RP	Research Project
OJT	On Job Training
HSSM	Humanities and Social Science and Management
VSEC	Vocational Skill Enhancement Course

● **Abbreviations :**

FY : First Year	SY : Second Year	ISE : In Sem Exam	ESE : End Sem Exam
TH : Theory	PR : Practical	TU : Tutorial	OR : Oral
CCE: Continuous Comprehensive Evaluation	TW: TermWork	MOOCs : Massive Open Online Courses	
NPTEL : National Programme on Technology Enhanced Learning			

Course Code	Course Type	Title of Course	Teaching Scheme Hrs./week			Evaluation Scheme and Marks							Credits			
			TH	TU	PR	In Sem	End Sem	CCE	TW	TU	PR	Total	TH	TU	PR*	Total
2409501	MC	Discrete Mathematics	3	-	-	20	60	20	-	-	-	100	3	-	-	3
2409502		Data Structures and Algorithms	3	-	4	20	60	20	25	-	50	175	3	-	2	5
2409503		Software Engineering and Testing	3	-	-	20	60	20	-	-	-	100	3	-	-	3
2409504		Java Programming	1	1	2	-	-	20	25	25	-	70	1	1	1	3
2409505A	ME	Cloud Computing	3	-	-	20	60	20	-	-	-	100	3	-	-	3
2409505B		UI-UX Design	3	-	-	20	60	20	-	-	-	100	3	-	-	3
2409505C		Augmented Reality and Virtual Reality	3	-	-	20	60	20	-	-	-	100	3	-	-	3
2409506	VSEC	Mobile App Development /Animation	1	-	2	-	-	50	25	-	-	75	1	-	1	2
2409507	RM	Research Methodology	3	-	-	-	60	20	-	-	-	80	3	-	-	3
Total			17	1	8	80	300	170	75	25	50	700	17	1	4	22

Note: Credits are as per the Teaching Scheme. * Credits for 'PR' head are linked with 'TW' marks.

Course Code	Course Type	Title of Course	Teaching Scheme Hrs./week			Evaluation Scheme and Marks							Credits			
			TH	TU	PR	In Sem	End Sem	CCE	TW	TU	PR	Total	TH	TU	PR*	Total
2409511	MC	Artificial Intelligence	3	-	-	20	60	20	-	-	-	100	3	-	-	3
2409512		Database System and SQL	3	-	4	20	60	20	25	-	25	150	3	-	2	5
2409513		Web Technologies	3	-	4	20	60	20	25	-	25	150	3	-	2	5
2409514		Python Programming	-	1	2	-	-	-	25	25	-	50	-	1	1	2
2409515A	ME	Cyber Security	3	-	-	20	60	20	-	-	-	100	3	-	-	3
2409515B		Operating System	3	-	-	20	60	20	-	-	-	100	3	-	-	3
2409515C		Operation Research	3	-	-	20	60	20	-	-	-	100	3	-	-	3
2409516	HSSM	Management Information System	2	-	-	-	30	20	-	-	-	50	2	-	-	2
2409517	OJT	On Job Training/ Industry Internship	-	-	-	-	-	-	50	-	50	100	-	-	2	2
Total			**14**	**1**	**10**	**80**	**270**	**100**	**125**	**25**	**100**	**700**	**14**	**1**	**7**	**22**
Multiple Entry Multiple Exit			The student can exit from the course after completion of first year and awarded the PG Diploma certificate with level 6 of NHEQF. To avail PG Diploma certificate the student must comply the following requirements 1. **Credit Requirements**: The student must earn a total of **44 credits** from the prescribed courses of Semester -I and Semester-II of FYMCA 2. **Course Completion**: The student must successfully complete at least one MOOC in subjects Blockchain Technology and Business Intelligence and Analysis equivalent to 3 credits														

Note: Credits are as per the Teaching Scheme. * Credits for 'PR' head are linked with 'TW' marks.

Course Code	Course Type	Title of Course	Teaching Scheme Hrs./week			Evaluation Scheme and Marks							Credits			
			TH	TU	PR	In Sem	End Sem	CCE	TW	TU	PR	Total	TH	TU	PR*	Total
2409601	MC	Software Project Management	3	-	-	20	60	20	-	-	-	100	3	-	-	3
2409602		Machine Learning	3	-	2	20	60	20	25	-	-	125	3	-	1	4
2409603		Full Stack Development	3	-	4	20	60	20	25	-	50	175	3	-	2	5
2409604		NoSQL	-	1	2	-	-	-	25	25	-	50	-	1	1	2
2409605A	ME	Quantum Computation	3	-	-	20	60	20	-	-	-	100	3	-	-	3
2409605B		Industry Elective	3	-	-	20	60	20	-	-	-	100	3	-	-	3
2409605C		Business Intelligence and Analytics	3	-	-	20	60	20	-	-	-	100	3	-	-	3
243001	HSSM	Introduction to Constitution	2	-	-	-	30	20	-	-	-	50	2	-	-	2
2409607	RP	Research Work	-	-	6	-	-	-	50	-	50	100	-	-	3	3
		Total	14	1	14	80	270	100	125	25	100	700	14	1	7	22

Note: Credits are as per the Teaching Scheme. * Credits for 'PR' head are linked with 'TW' marks.

K.K.Wagh Institute of Engineering Education and Research, Nasik (Autonomous)

Master of Computer Application
Details of Course Structure (2024):   Semester – IV   S.Y.MCA

Course Code	Course Type	Title of Course	Teaching Scheme Hrs./week			Evaluation Scheme and Marks							Credits			
			TH	TU	PR	In Sem	End Sem	CCE	TW	TU	OR	Total	TH	TU	PR	Total
2409611	**MC**	Industrial Training	-	-	-	-	-	-	100	-	200	300	-	-	12	12
2409612	**ME**	Research Paper/ MOOCs	-	-	8	-	-	-	50	-	-	50	-	-	4	4
2409613	**RP**	Research Project	-	-	12	-	-	-	50	-	100	150	-	-	6	6
		Total	-	-	**20**	-	-	-	**200**	-	**300**	**500**	-	-	**22**	**22**

Suggested MOOCs List-NPTEL/SWAYAM
Natural Language Processing
Advanced Computer Networks
Data Mining
Introduction To Industry 4.0 And Industrial Internet Of Things
Introduction To Soft Computing
Deep Learning
Edge Computing
Any other MOOC course suggested by institute