

**20. Structure of the Programme and detail syllabus of each course:**

<b>MCA Semester I</b>					
<b>Sr. No.</b>	<b>Course Title</b>	<b>Course Code</b>	<b>CP</b>	<b>EXT</b>	<b>INT</b>
1	Python Programming	PPR501MJ	3	45	30
2	Data Structure and Algorithms	DSA502MJ	3	45	30
3	Advanced DBMS	ADB503MJ	3	45	30
4	Business Statistics	BST504MJ	3	45	30
5	Software Engineering and Project Management	SEP505MJ	3	45	30
6	<b>Elective- I (Select any one from following)</b>		3	45	30
	Fundamentals of Cloud Computing	FCC510MJ			
	Web Development	WDE511MJ			
	Fundamental of Data Science	FDS512MJ			
	Introduction to Cyber Security	ICE513MJ			
<b>*Practical</b>					
7	Practical based on Python and DS	PBP506MJP	3	-	50
8	Mini Project	MP541MP	3	-	50
<b>Soft Skills and IKS</b>					
9	Soft Skills – I	SSI507MJ	1	-	25
10	IKS-I	IKS508MJ	1	-	25
<b>Semester-I Total</b>			<b>26</b>	<b>270</b>	<b>330</b>
<b>MCA Semester II</b>					
<b>Sr. No.</b>	<b>Course Title</b>	<b>Course Code</b>	<b>CP</b>	<b>EXT</b>	<b>INT</b>
1	Java Programming	JPR551MJ	3	45	30
2	Optimization Techniques	OTE552MJ	3	45	30
3	Software Testing and Quality Assurance	STQ553MJ	3	45	30
4	Research Methodology	RMW554MJ	3	45	30
5	<b>Elective- II (Select any one from following)</b>		3	45	30
	Cloud Computing Management and Security	CCM560MJ			
	JavaScript	JS561MJ			
	Machine Learning Techniques	MLT562MJ			
	Essentials of Cyber Security	ECS563MJ			
6	<b>Elective- III (Select any one from following)</b>		3	45	30
	Essentials of Cloud Computing and Security	ECS564MJ			
	Advance Web Development	AWD565MJ			
	Power BI	PBI566MJ			
	Essentials of Information Security	EIS567MJ			
<b>*Practical</b>					
7	Practical based on Java	PBJ555MJP	3	-	50
8	Mini Project	MP581MP	3	-	50
<b>Soft Skills and IKS</b>					
9	Soft Skills – II	SSK556MJ	1	-	25
10	IKS-II	IKS557MJ	1	-	25
<b>Semester-II Total</b>			<b>26</b>	<b>270</b>	<b>330</b>

MCA Semester III					
Sr. No.	Course Title	Course Code	CP	EXT	INT
1	Organizational Behaviour	OBE601MJ	3	45	30
2	Design and Analysis of Algorithm	DAA602MJ	3	45	30
3	<b>Elective- IV (Select any one from following)</b>		3	45	30
	Cloud API's and Services	CAS610MJ			
	Mobile Application Development	MAD611MJ			
	Tableau	TAB612MJ			
	End -Point Security	EPS613MJ			
4	<b>Elective- V (Select any one from following)</b>		3	45	30
	Cloud Migration and Management	CMM614MJ			
	MERN Stack Development	MSD615MJ			
	Deep Learning	DEL616MJ			
	Ethical Hacking	EH617MJ			
5	<b>Elective- VI (Select any one from following)</b>		3	45	30
	Enterprise Resource Planning (ERP)	ERP618MJ			
	E-Commerce	EC619MJ			
	Social media Marketing	SMM620MJ			
	Innovation and Entrepreneurship Development	IED621MJ			
<b>*Practical</b>					
6	Practical based on Electives IV and V	PBE603MJP	3	-	50
7	Research Project	RP641RP	6	-	100
<b>Soft Skills</b>					
8	Soft Skills- III	SSK604MJ	1		25
<b>Semester-III Total</b>			<b>25</b>	<b>225</b>	<b>325</b>

MCA Semester IV					
Sr. No.	Course Title	Course Code	CP	EXT	INT
1	Internship/Project Work (FP/OJT)	IPW681FP	12	270	180
2	MOOC- I	MOO682MJ	3	-	50
3	MOOC- II	MOO683MJ	3	-	50
<b>Semester-IV Total</b>			<b>18</b>	<b>270</b>	<b>280</b>

Semester	Credit Points	UE	IE
Semester I	26	270	330
Semester II	26	270	330
Semester III	25	225	325
Semester IV	18	270	280
<b>Total</b>	<b>95</b>	<b>1035</b>	<b>1265</b>
		Total Marks	<b>2300</b>