MVJ College of Engineering, Whitefield, Bangalore

An Autonomous Institution, Affiliated to VTU, Belagavi

Scheme of Teaching and Examination 2020-21

Outcome Based Education (OBE) and Choice Based Credit System (CBCS)

Effective from the academic year 2020-21

Department of Artificial Intelligence & Machine Learning

III SEMESTER B.E. (6 Theory, 2 Labs, 1 Kannada/CPH, 1 MATDIP, 1 AICTE Activity)

S No	Course		Course Title	Teaching Department	Teaching hours/week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in Hours	CIE Marks	SEE Marks	Total marks	
	Type	Code			L	T	P					
1	BSC	MVJ20MCS31	Transform Calculus, Fourier Series And Numerical Techniques	Mathematics	3	0	0	3	50	50	100	3
2	PCC	MVJ20AM32	Data Structures and Applications	AM Dept	4	0	0	3	50	50	100	4
3	PCC	MVJ20AM33	Operating Systems	AM Dept	3	0	0	3	50	50	100	3
4	PCC	MVJ20AM34	Software Engineering	AM Dept	3	0	0	3	50	50	100	3
5	PCC	MVJ20AM35	Computer Organization and Architecture	AM Dept	3	0	0	3	50	50	100	3
6	PCC	MVJ20AM36	Analog and Digital Electronics	ECE Dept	3	0	0	3	50	50	100	3
7	PCC	MVJ20AML37	Data Structures and Applications Laboratory	AM Dept	0	0	4	3	50	50	100	2
8	PCC	MVJ20AML38	Analog and Digital Electronics Laboratory	ECE Dept	0	0	4	3	50	50	100	2
9	HSMC	MVJ20KAN402	Kannada	Humanities	1	0	0	3	50	50	100	1
		MVJ20CPH403	CPH					3	50	50		
10	NCMC	MVJ20MDSDIP301	Additional Mathematics-1	Mathematics				3	50	50	100	-
11	NCMC	AICTE Activity for 80-90 hours (20 points)			-	-	-	-	-	-	-	-
				Total				30	500	500	1000	**24**

Note: BSC: Basic Science, PCC: Professional Core Course , HSMC: Humanity and Social Science
MVJ20MXXDIP301- Mandatory non-credit course, NCMC: Non-credit mandatory course

IV SEMESTER B.E. (6 Theory, 2 Labs, 1 Kannada/CPH, 1 MATDIP, 1 AICTE Activity)

S No	Course		Course Title	Teaching Department	Teaching hours/week			Examination				Credits
	Type	Code			Theory Lecture	Tutorial	Practical/ Drawing	Duration in Hours	CIE Marks	SEE Marks	Total marks	
					L	T	P					
1	BSC	MVJ20MCS41	Complex Analysis, Probability And Statistical Methods	Mathematics	3	0	0	3	50	50	100	3
2	PCC	MVJ20AM42	Analysis and Design of Algorithms	AM Dept	4	0	0	3	50	50	100	4
3	PCC	MVJ20AM43	Database Management Systems	AM Dept	3	0	0	3	50	50	100	3
4	PCC	MVJ20AM44	Artificial Intelligence	AM Dept	3	0	0	3	50	50	100	3
5	PCC	MVJ20AM45	Embedded Systems	AM Dept	3	0	0	3	50	50	100	3
6	PCC	MVJ20AM46	Object Oriented Concepts	AM Dept	3	0	0	3	50	50	100	3
7	PCC	MVJ20AML47	Analysis and Design of Algorithms Lab	AM Dept	0	0	4	3	50	50	100	2
8	PCC	MVJ20AML48	Database Management Systems Lab	AM Dept	0	0	4	3	50	50	100	2
9	HSMC	MVJ20KAN49	Kannada	Humanities	1	0	0	3	50	50	100	1
		MVJ20CPH49	CPH					3	50	50		
10	NCMC	MVJ20MDSDIP401	Additional Mathematics-2	Mathematics				3	50	50	100	-
11	NCMC		AICTE Activity for 80-90 hours (20 points)	-	-	-	-	-	-	-	-	-
				Total				30	500	500	1000	**24**

Note: BSC: Basic Science, PCC: Professional Core Course , HSMC: Humanity and Social Science
MVJ20MXXDIP401- Mandatory non-credit course, NCMC: Non-credit mandatory course

V SEMESTER B.E. (5 Theory, 3 Labs, 1 Environmental study, 1 AICTE Activity)

S No	Course Type	Course Code	Course Title	Teaching Department	Theory Lecture L	Tutorial T	Practical/Drawing P	Duration in Hours	CIE Marks	SEE Marks	Total marks	Credits
1	HSMC	MVJ20TEM51	Technical Management & Entrepreneurship	AM Dept	3	0	0	3	50	50	100	3
2	PCC	MVJ20AM52	Machine Learning	AM Dept	4	0	0	3	50	50	100	4
3	PCC	MVJ20AM53	Data Communication & Computer Networks	AM Dept	4	0	0	3	50	50	100	4
4	PCC	MVJ20AM54	Web Technologies	AM Dept	3	0	0	3	50	50	100	3
5	PE	MVJ20AM55X	Professional Elective – I	AM Dept	3	0	0	3	50	50	100	3
6	PCC	MVJ20AML56	Machine Learning Laboratory	AM Dept	0	0	4	3	50	50	100	2
7	PCC	MVJ20AML57	Communication Network Laboratory	AM Dept	0	0	4	3	50	50	100	2
8	PCC	MVJ20AML58	Web Technologies Laboratory	AM Dept	0	0	4	3	50	50	100	2
9	HSMC	MVJ20ENV59	Environmental Studies	Humanities	1	0	0	3	50	50	100	1
10	HSMC	MVJ19UHV510	UHV-2	Humanities	2	0	0					2
	NCMC		AICTE Activity for 80-90 hours (20 points)	-	-	-	-	-	-	-	-	-
			Total					27	450	450	1000	**26**

Note: PCC: Professional Core Course , PE: Professional Elective, HSMC: Humanity and Social Science, NCMC: Non-credit mandatory course

Course Code	Professional Elective-I
MVJ20AM551	Sensors and Sensor Applications
MVJ20AM552	Computer Graphics and Image Processing
MVJ20AM553	Virtual Reality
MVJ20AM554	Software Testing Methodologies

VI SEMESTER B.E. (5 Theory, 2 Labs, 1 Mini Project, 1 AICTE Activity)

S No	Course Type	Course Code	Course Title	Teaching Department	Theory Lecture (L)	Tutorial (T)	Practical/ Drawing (P)	Duration in Hours	CIE Marks	SEE Marks	Total marks	Credits
1	PCC	MVJ20AM61	Foundations of Data Science	AM Dept	4	0	0	4	50	50	100	4
2	PCC	MVJ20AM62	Internet of Things	AM Dept	4	0	0	4	50	50	100	4
3	PE	MVJ20AM63X	Professional Elective-II	AM Dept	3	0	0	3	50	50	100	3
4	PE	MVJ20AM64X	Professional Elective-III	AM Dept	3	0	0	3	50	50	100	3
5	OE	MVJ20AM65X	Open Elective-I	AM Dept	3	0	0	3	50	50	100	3
6	PCC	MVJ20AML66	Internet of Things Laboratory	AM Dept	0	0	4	3	50	50	100	2
7	PCC	MVJ20AML67	Data Science Laboratory	AM Dept	0	0	4	3	50	50	100	2
8	Proj	MVJ20AMP68	Mini-Project	AM Dept	-	-	-	3	50	50	100	3
9	NCMC		AICTE Activity for 80-90 hours (20 points)	-	-	-	-	-	-	-	-	-
			Total					24	400	400	800	**24**

Note: PCC: Professional Core Course , PE: Professional Elective, OE: Open Elective, Proj: Project Work, NCMC: Non-credit mandatory course

Course Code	Professional Elective-II	Course Code	Professional Elective-III	Course Code	Open Elective-I
MVJ20AM631	Quantum Computing	MVJ20CS641	Ethical Hacking	MVJ20AM651	Artificial Intelligence
MVJ20CS632	Cloud Computing	MVJ20AM642	Cyber Security	MVJ20AM652	Web Technologies
MVJ20AM633	Introduction to Drones	MVJ20CS643	Green Computing	MVJ20AM653	Foundations of Data Science
MVJ20CS634	Social Network Analysis	MVJ20AM644	Computer Vision	MVJ20AM654	Python Programming

VII SEMESTER B.E. (5 Theory, 2 Labs, Project Phase-I, 1 AICTE Activity)

S No	Course Type	Course Code	Course Title	Teaching Department	Theory Lecture (L)	Tutorial (T)	Practical/ Drawing (P)	Duration in Hours	CIE Marks	SEE Marks	Total marks	Credits
1	PCC	MVJ20AM71	Artificial Intelligence For Robotics	AM Dept	4	0	0	4	50	50	100	4
2	PCC	MVJ20AM72	Natural Language Processing	AM Dept	4	0	0	4	50	50	100	4
3	PE	MVJ20AM73X	Professional Elective-IV	AM Dept	3	0	0	3	50	50	100	3
4	PE	MVJ20AM74X	Professional Elective-V	AM Dept	3	0	0	3	50	50	100	3
5	OE	MVJ20AM75X	Open Elective-II	AM Dept	3	0	0	3	50	50	100	3
6	PCC	MVJ20AML76	Artificial Intelligence For Robotics Lab	AM Dept	0	0	4	3	50	50	100	2
7	PCC	MVJ20AML77	Natural Language Processing Lab	AM Dept	0	0	4	3	50	50	100	2
8	Proj	MVJ20AMP78	Project Phase-I	AM Dept	-	-	-	-	50	-	50	2
9	NCMC		AICTE Activity for 80-90 hours (20 points)		-	-	-	-	-	-	-	-
				Total				21	400	350	750	**23**

Note: PCC: Professional Core Course , PE: Professional Elective, OE: Open Elective, Proj: Project Work , NCMC: Non-credit mandatory course

Course Code	Professional Elective-IV	Course Code	Professional Elective-V	Course Code	Open Elective-II
MVJ20AM731	High Performance Computing	MVJ20CS741	Deep Learning	MVJ20AM751	Internet of Things
MVJ20AM732	Big Data Analytics	MVJ20AM742	Robotic Process Automation	MVJ20AM752	Cyber Forensics
MVJ20AM733	Pervasive Computing	MVJ20AM743	Human Computer Interaction	MVJ20AM753	Introduction to Drones
MVJ20AM734	Cognitive Science	MVJ20AM744	AI in Block chain	MVJ20AM754	Big Data Analytics

VIII SEMESTER B.E. (2 Theory, Project Phase-II, Internship, 1 Technical Seminar, 1 Certification course, 1 AICTE Activity)

S No	Course		Course Title	Teaching Department	Teaching hours/week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in Hours	CIE Marks	SEE Marks	Total marks	
	Type	Code			L	T	P					
1	Proj	MVJ20AMP81	Project Phase-2	AM Dept	-	-	-	3	50	50	100	8
2	Int	MVJ20AM82	Internship	AM Dept	-	-	-	3	50	50	100	3
3	Sem	MVJ20AM83	Seminar	AM Dept	-	-	-	3	50	50	100	1
4	CRT	MVJ20AM84	*Certification course	Industry/Institute	-	-	-	-	-	-	-	2
5	NCMC	AICTE Activity for 80-90 hours (20 points)			-	-	-	-	-	-	-	-
				Total				15				**14**

Note: Proj: Project Work, Int.: Internship, Sem : Seminar, CRT: Certification Course (Can be carried out during the program period but same will reflect in the final semester grade card) NCMC: Non-credit mandatory course