

MVJ College of Engineering, Whitefield, Bangalore 560067

An Autonomous Institution, Affiliated to VTU, Belagavi

Scheme of Teaching and Examination

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

Effective from the academic year 2021-22

Department of Artificial Intelligence & Machine Learning Engineering

Semester III

Sl. No.	Course		Course Title	BoS	Teaching hrs./week				Examination			Credits	
	Type	Code			Lecture L	Tutorial T	Practical P	Self-Study S	Duration Hrs.	CIE Marks	SEE Marks		Total Marks
1	BSC	MVJ21MA31X	Mathematics	MA	2	2	-	-	3	50	50	100	4
2	PCC	MVJ21AI32	Object Oriented Programming		4	-	-	-	3	50	50	100	4
3	PCC	MVJ21AI33	Operating Systems		2	2	-	-	3	50	50	100	3
4	IPCC	MVJ21AI34	Data Structures & Applications & Lab		3	-	2	-	3	100	100	200	4
5	IPCC	MVJ21AI35	Analog and Digital Electronics & Lab		3	-	2	Y	3	100	100	200	4
6	HSMC	MVJ21SK/BK36 MVJ21CPH36	Kannada/ Constitution of India and Professional Ethics and Cyber law		1				2	50	50	100	1
7	AEC	MVJ21AEC37	AEC3		1		2		2	50	50	100	2
8	BSC	MVJ21MATDIP-I			1	2			3	50	50	100	-
Total					16/17	4/6	6			450/500	450/500	1000	22

Kannada will be taught by the following departments- AE,AS,CH,CS,CV,AI&ML

Constitution of India and Professional Ethics will be taught by the following departments-CG,DS,EE,EE,IS,ME

Summer Internship I Viva Voce will be conducted for the 03 weeks inter/intra institutional summer internship activities carried out during the intervening period of II and III semester. The internship will be considered as a head of passing and will be considered for the award of the degree. Those who do not take up / complete the internship will be declared fail and will have to complete during the subsequent examination after satisfying the internship requirements.

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Semester IV

Sl. No.	Course		Course Title	BoS	Teaching hrs./week				Examination				Credits
	Type	Code			Lecture L	Tutorial T	Practical P	Self-Study S	Duration Hrs.	CIE Marks	SEE Marks	Total Marks	
1	BSC	MVJ21MA41X	Mathematics	MA	2	2	-	-	3	50	50	100	3
2	PCC	MVJ21AI42	Python Programming		3		-	-	3	50	50	100	3
3	PCC	MVJ21AI43	Computer Organisation and Architecture		3		-	-	3	50	50	100	3
4	IPCC	MVJ21AI44	Design and Analysis of Algorithms and Lab		3		2	-	3	100	100	200	4
5	IPCC	MVJ21AI45	Microcontroller and Embedded Systems and lab		3		2	Y	3	100	100	200	4
6	HSMC	MVJ21SK/BK46 MVJ21CPH46	Kannada/ Constitution of India and Professional Ethics and Cyber law		1	-			2	50	50	100	1
7	AEC	MVJ21AEC47	C# and .Net Framework		1	-	2		2	50	50	100	2
8	INT	MVJ21INT48	Summer Internship I		-	-	-						2
9	BSC	MVJ21MATDIP-II			1	2	-	-	3	50	50	100	-
Total					16/17	2/4	6			450/500	450/500	1000	22

Kannada will be taught by the following departments-CG, DS, EE, EE, IS, ME

Constitution of India and Professional Ethics will be taught by the following departments-AE, AS, CH, CS, CV, AI&ML

Summer Internship II Viva Voce will be conducted for the 04 weeks industrial/ Govt./NGO/MSME/rural internship/Innovation/ Entrepreneurship summer internship activities carried out during the intervening period of IV and V semester. The internship will be considered as a head of passing and will be considered for the award of the degree. Those who do not take up / complete the internship will be declared fail and will have to complete during the subsequent examination after satisfying the internship requirements.

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Semester V

Sl. No.	Course		Course Title	BoS	Teaching hrs./week				Examination			Credits	
	Type	Code			Lecture L	Tutorial T	Practical P	Self-Study S	Duration Hrs.	CIE Marks	SEE Marks		Total Marks
1	HSMC	MVJ21AI51	Software Engineering and Project Management		3	-	-	-	3	50	50	100	3
2	PCC	MVJ21AI52	Data Communication and Computer Networks		3	-	-	-	3	50	50	100	3
3	IPCC	MVJ21AI53	Database & Management Systems and Lab		3	-	2	-	3	100	100	200	4
4	IPCC	MVJ21AI54	Artificial Intelligence and Lab		3	-	2	Y	3	100	100	200	4
5	PEC	MVJ21AI55X	Professional Elective-I		3	-	-	-	3	50	50	100	3
6	HSMC	MVJ21CIV56	Environmental Studies	CV	1	-	-	-	2	50	50	100	1
7	AEC	MVJ21AEC57	Research Methodology & IPR/Life Science AEC5		1	2	-		2	50	50	100	2
8	UHV	MVJ21UHVI58	Universal Human Values		2	-			3	50	50	100	2
Total					19	2	4			500	500	1000	22

Course Code	Professional Elective-I
MVJ21AI551	Artificial Neural Network
MVJ21AI552	Compiler Design
MVJ21AI553	Cryptography and Network Security
MVJ21AI554	Virtual Reality
MVJ21AI555	Digital Image Processing

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Semester VI

Sl. No.	Course		Course Title	BoS	Teaching hrs./week				Examination				Credits
	Type	Code			Lecture L	Tutorial T	Practical P	Self-Study S	Duration Hrs.	CIE Marks	SEE Marks	Total Marks	
1	HSMC	MVJ21AI61	Brain Computer Interface		2	2	-	-	3	50	50	100	3
2	IPCC	MVJ21AI62	Machine Learning and Lab		3	-	2	-	3	100	100	200	4
3	IPCC	MVJ21AI63	Web Technologies and Lab		3	-	2	Y	3	100	100	200	4
4	OEC	MVJ21AI64X	Open Elective-I		3	-	-	-	3	50	50	100	3
5	OEC	MVJ21AI65	MOOC Courser (OEC 2)		3	-	-	-	3	50	50	100	3
6	AEC	MVJ21AEC66	AEC6		2	-	-	-	2	50	50	100	1
7	PRJ	MVJ21AIPRJ67	Mini project		-	-	4	-	3	50	50	100	2
8	INT	MVJ21INT68I	Summer Internship II		-	-	-	-	3	50	50	100	2
Total					16	2	8			500	500	1000	22

Research /IndustrialInternship- shall be carried out during VI and VII-semester for 24 weeks duration. The **Research /IndustrialInternship** shall be on Industrial/Govt./NGO/MSME/Rural Internship/Innovation/Entrepreneurship. **Research Internship** must be taken up at Centers of Excellence (CoE)/ Study Centers established in the institute/ at the reputed research organizations. The viva-voce examinations for **Research /IndustrialInternship** shall be carried out during VIII semester.

Under open elective ,departments shall offer only one course. Student will have option to select one course from any of the departments.

Course Code	Open Elective-I
MVJ21AI641	Cloud Computing
MVJ21AI642	Foundation of Data Science
MVJ21AI643	Introduction to Drones
MVJ21AI644	Java Programming
MVJ21AI645	Ethical Hacking

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Semester VII

Sl. No.	Course		Course Title	BoS	Teaching hrs./week				Examination			Credits	
	Type	Code			Lecture L	Tutorial T	Practical P	Self-Study S	Duration Hrs.	CIE Marks	SEE Marks		Total Marks
1	IPCC	MVJ21AI71	Foundation of Data Science		3	-	2	-	3	100	100	200	4
2	PEC	MVJ21AI72X	Professional ElectiveII		3	-	-	-	3	50	50	100	3
3	PEC	MVJ21AI73X	Professional ElectiveIII		3	-	-	-	3	50	50	100	3
4	OEC	MVJ21AI74X	OEC 3		3	-	-	-	3	50	50	100	3
5	PRJ	MVJ21AIPR76	Project Phase I		-	-	4		3	50	50	100	2
6	AEC	MVJ21AEC77	AEC (online minimum of 4 weeks duration)		1	-	-	-	2	50	50	100	1
Total					13	-	6			350	350	700	16

Course Code	Professional Elective-II	Course Code	Professional Elective-III	Course Code	Open Elective-III
MVJ21AI721	Computer Vision	MVJ21AI731	Natural Language Processing	MVJ21AI741	Game Design and development
MVJ21AI722	Information Retrieval	MVJ21AI732	Healthcare Analytics	MVJ21AI742	Computer Graphics
MVJ21AI723	High Performance Computing	MVJ21AI733	Pattern Recognition	MVJ21AI743	Introduction to Human Computer Interaction
MVJ21AI724	Big Data Analytics	MVJ21AI734	Vision Systems and Robotics	MVJ21AI744	Mobile Application Development
MVJ21AI725	Pervasive Computing	MVJ21AI735	Deep Learning Techniques	MVJ21AI745	Quantum Computing

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Semester VIII

Sl. No.	Course		Course Title	BoS	Teaching hrs./week				Examination				Credits
	Type	Code			Lecture L	Tutorial T	Practical P	Self-Study S	Duration Hrs.	CIE Marks	SEE Marks	Total Marks	
1	PRJ	MVJ21AIP81	Project Phase II		-	-	-	-	3	50	50	100	10
2	INT	MVJ21AIINT82	Research / Industrial Internship		-	-	-	-	3	50	50	100	05
3	Seminar	MVJ21AIS83	Seminar		-	-	-	-	3	50	50	100	01
Total					-	-	-	-		150	150	300	16

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Scheme of study - 2021 Scheme- Semester VIII

Distribution of Credits

Course Type/Semester	Semester I	Semester II	Semester III	Semester IV	Semester V	Semester VI	Semester VII	Semester VIII	Total
HSMC	2	2	1	1	3+1	3	-	-	13
BSC	7	7	4	3	-	-	-	-	21
ESC	10	10	-	-	-	-	-	-	20
PCC	-	-	7	6	3	-	-	-	16
IPCC	-	-	8	8	8	8	4	-	36
PEC	-	-	-	-	-3	-	6	-	9
OEC	-	-	-	-	-	6	3	-	9
INT	-	-	-	2	-	2	-	5	9
Project	-	-	-	-	-	2	2	10	14
AEC	1	1	2	2	2	1	1	-	10
UHV	-	-	-	-	2	-	-	-	2
Seminar	-	-	-	-	-	-	-	1	1
Total	20	20	22	22	22	22	16	16	160

