

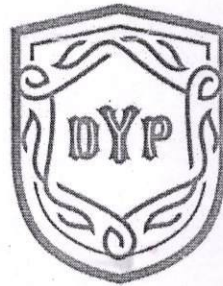
D. Y. Patil College of Engineering and Technology

Kasaba Bawada, Kolhapur

(An Autonomous Institute)

NBA Accredited

Accredited by NAAC with 'A' Grade



D Y PATIL

COLLEGE *of*

ENGINEERING & TECHNOLOGY

(AN AUTONOMOUS INSTITUTE)

KASABA BAWADA, KOLHAPUR

Structure and Syllabus

(As per NEP 2020)

for

Second Year B. Tech in

**Computer Science and Engineering
(Artificial Intelligence and Machine
Learning)**

Department of CS-AIML

w. e. f. 2024-25

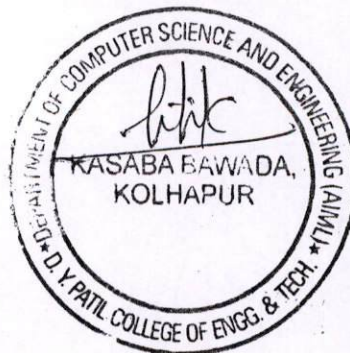
Teaching and Evaluation Scheme from Year 2024-25 (as per NEP 2020)

SEMESTER-III													
Sr. No	Course Code	Course Type	Course Name	Credits	Teaching Scheme			Theory			Practical		Total Marks
					Contact Hrs			ISE	MSE	ESE	INT	OE/POE	
					L	P	T						
1	231AIMLPCCL201	PCC	Data Structures using C	3	3	-	-	20	30	50	-	-	100
2	231AIMLPCCL202	PCC	Fundamentals of Artificial Intelligence	2	2	-	-	20	30	-	-	-	50
3	231AIMLPCCL203	PCC	Discrete Mathematics and Graph Theory	3	3	-	-	20	30	50	-	-	100
4	231AIMLPCCP201	PCC	Data Structures using C Laboratory	1	-	2	-	-	-	-	25	25	50
5	231AIMLPCCP202	PCC	Fundamentals of Artificial Intelligence Laboratory	1	-	2	-	-	-	-	25	25	50
6	231AIMLCEPP201	CEP/FP	Introduction to OOPS & Java Programming	2	1	2	-	-	-	-	25	25	50
7	231AIMLMDML201	MDM-1	Web Mining	2	2	-	-	20	-	30	-	-	50
8	231AIMLVECL201	VEC	Formal Automata and Applications	2	2	-	-	-	-	50	-	-	50
9	231AIMLOECL201	OEC-1	ODL only – Fundamentals of Python Programming	4	2§	-	-	20	30	50	25	-	125
10	231AIMLHSSML201	HSSM	Intellectual Property Rights and Management	2	2	-	-	20	30	-	-	-	50
11	231AIMLMCL201	MC	Finishing School Training III	Audit	3*	-	-	50*	-	-	-	-	Grade
12	231AIMLCCAP201	CCA	Liberal Learning	-	2*	-	-	50*	-	-	-	-	Grade
Total				22	17	6		120	150	230	100	75	675

* - Values not included in total

§ - Contact hours for online courses

Min. Marks for Passing: 40% of total marks of individual course



Teaching and Evaluation Scheme from Year 2024-25 (as per NEP 2020)

SEMESTER-IV													
Sr. No.	Course Code	Course Type	Course Name	Teaching Scheme				Theory			Practical		Total Marks
				Credits	Contact Hrs			ISE	MSE	ESE	INT	OE/POE	
					L	P	T						
1	231AIMLPCCL204	PCC	Data Communication & Networking	3	3	-	-	20	30	50	-	-	100
2	231AIMLPCCL205	PCC	Computer Algorithms	3	3	-	-	20	30	50	-	-	100
3	231AIMLPCCL206	PCC	Operating System	2	2	-	-	20	30	-	-	-	50
4	231AIMLPCCP204	PCC	Data Communication & Networking Laboratory	1	-	2	-	-	-	-	25	-	25
5	231AIMLPCCP205	PCC	Computer Algorithms Laboratory	1	-	2	-	-	-	-	-	25	25
6	231AIMLMDML202	MDM-2	Data Handling with R Programming	2	2	-	-	20	-	30	-	-	50
7	231AIMLVECL202	VEC	Environmental Studies	2	2	-	-	-	-	50	-	-	50
8	231AIMLHSSML202	HSSM	Software Engineering and Project Management	2	1	2	-	20	30	-	-	-	50
9	231AIMLAEC201	AEC	AR-VR with Mini Project	2	1	2	-	-	-	-	25	25	50
10	231AIMLOECL202	OEC-2	Foundations of Artificial Intelligence	2	2	-	-	-	-	50	-	-	50
11	231AIMLVSECP201	VSEC	Web Technologies	2	1	2	-	-	-	-	25	25	50
12	231AIMLMCL202	MC	Finishing School Training IV	Audit	2*	-	-	50*	-	-	-	-	Grade
13	231AIMLCCAP202	CCA	Liberal Learning	-	2*	-	-	50*	-	-	-	-	Grade
Total				22	17	10	-	100	120	230	75	75	600

* - Values not included in total

Min. Marks for Passing: 40% of total marks of individual course



Teaching and Evaluation Scheme from Year 2024-25 (as per NEP 2020)

SEMESTER-V													
Sr. No.	Course Code	Course Type	Course Name	Teaching Scheme				Theory			Practical		Total Marks
				Credits	Contact Hrs			ISE	MSE	ESE	INT	OE/POE	
					L	P	T						
1	231AIMLPCCL301	PCC	Machine Learning	3	3	-	-	20	30	50	-	-	100
2	231AIMLPCCL302	PCC	Database Engineering	3	3	-	-	20	30	50	-	-	100
3	231AIMLPCCL303	PCC	Real-Time Problem solving using AI (Digital Image Processing)	3	3	-	-	20	30	50	-	-	100
4	231AIMLPCCP301	PCC	Machine Learning Laboratory	1	-	2	-	-	-	-	25	25	50
5	231AIMLPCCP302	PCC	Database Engineering Laboratory	1	-	2	-	-	-	-	25	25	50
6	231AIMLPCCP303	PCC	Real-Time Problem solving using AI (Digital Image Processing) Laboratory	1	-	2	-	-	-	-	25	-	25
7	231AIMLMDML301	MDM-3	ODL only -Data Analysis and Visualization on Tableau	4	3	2	-	20	30	50	25	-	125
8	231AIMLOECL301	OEC-III	Machine Learning with Python	2	2	-	-	20	30		-	-	50
9	231AIMLPECL301-303	PEC-I	Professional Elective - I	3	3	-	-	20	30	50	-	-	100
10	231AIMLPECP301-303	PEC-I	Professional Elective – I Laboratory	1	-	2	-	-	-	-	25	-	25
11	231AIMLMCL301	MC	Finishing School Training V	Audit	3*	-	-	50*	-	-	-	-	Grade
12	231AIMLCCAP301	CCA	Liberal Learning	-	-	-	-	50*	-	-	-	-	Grade
			Total	22	17	10	-	120	180	150	125	50	725

* - Values not included in total

Min. Marks for Passing: 40% of total marks of individual course

Professional Elective-I:			Professional Elective-I Laboratory :		
Sr. no.	Course Code	Name of the Course	Sr. no.	Course Code	Name of the Course
1.	231AIMLPECL301	Cloud Computing	1.	231AIMLPECP301	Cloud Computing Laboratory
2.	231AIMLPECL302	Big Data	2.	231AIMLPECP302	Big Data Laboratory
3.	231AIMLPECL303	DevOps and Kubernetes	3.	231AIMLPECP303	DevOps and Kubernetes Laboratory

Teaching and Evaluation Scheme from Year 2024-25 (as per NEP 2020)

SEMESTER-VI													
Sr. No.	Course Code	Course Type	Course Name	Teaching Scheme			Theory			Practical		Total Marks	
				Credits	Contact Hrs			ISE	MSE	ESE	INT		OE/POE
					L	P	T						
1	231AIMLPCCL304	PCC	Advanced Machine Learning	3	3	-	-	20	30	50	-	-	100
2	231AIMLPCCL305	PCC	Advanced Database Systems	2	2	-	-	-	-	50	-	-	50
3	231AIMLPCCL306	PCC	Information Security	3	3	-	-	20	30	50	-	-	100
4	231AIMLPCCP304	PCC	Advanced Machine Learning Laboratory	1	-	2	-	-	-	-	25	25	50
5	231AIMLPCCP305	PCC	Advanced Database Systems Laboratory	1	-	2	-	-	-	-	25	25	50
6	231AIMLMDML302	MDM-4	Data Analysis on PowerBi	2	1	2	-	20	-	30	-	-	50
7	231AIMLPECL304-306	PEC-II	Professional Elective - II	3	3	-	-	20	30	50	-	-	100
8	231AIMLPECL307-309	PEC-III	Professional Elective - III	3	3	-	-	20	30	50	-	-	100
9	231AIMLPECP304-306	PEC-II	Professional Elective – II Laboratory	1	-	2	-	-	-	-	25	-	25
10	231AIMLPECP307-309	PEC-III	Professional Elective – III Laboratory	1	-	2	-	-	-	-	25	-	25
11	231AIMLVSECP301	VSEC	Application Development	2	1	2	-	25	-	-	25	-	50
12	231AIMLMCL302	MC	Finishing School Training VI	Audit	3*	-	-	50*	-	-	-	-	Grade
13	231AIMLCCAP302	CCA	Liberal Learning	-	-	-	-	50*	-	-	-	-	Grade
Total				22	16	12	-	125	120	280	125	50	700

* - Values not included in total

Min. Marks for Passing: 40% of total marks of individual course

Professional Elective-II:			Professional Elective-II Laboratory :		
Sr. no.	Course Code	Name of the Course	Sr. no.	Course Code	Name of the Course
1.	231AIMLPECL304	Ethics in AI	1.	231AIMLPECP304	Ethics in AI Laboratory
2.	231AIMLPECL305	Advanced Data Structures	2.	231AIMLPECP305	Advanced Data Structures Laboratory
3.	231AIMLPECL306	Reinforcement Learning	3.	231AIMLPECP306	Reinforcement Learning Laboratory
Professional Elective-III:			Professional Elective-III Laboratory :		
Sr. no.	Course Code	Name of the Course	Sr. no.	Course Code	Name of the Course
1.	231AIMLPECL307	Applications of AIML	1.	231AIMLPECP304	Applications of AIML Laboratory
2.	231AIMLPECL308	Pattern recognition	2.	231AIMLPECP305	Pattern recognition Laboratory
3.	231AIMLPECL309	Natural Language Processing	3.	231AIMLPECP306	Natural Language Processing Laboratory

Teaching and Evaluation Scheme from Year 2024-25 (as per NEP 2020)

SEMESTER-VII													
Sr. No.	Course Code	Course Type	Course Name	Teaching Scheme			Theory			Practical		Total Marks	
				Credits	Contact Hrs			ISE	MSE	ESE	INT		OE/POE
					L	P	T						
1	231AIMLPCCL401	PCC	Deep Learning	3	3	-	-	20	30	50	-	-	100
2	231AIMLPCCL402	PCC	Internet of Things	1	1	-	-	25	-	-	-	-	25
3	231AIMLPCCP401	PCC	Deep Learning Laboratory	1	-	2	-	-	-	-	25	25	50
4	231AIMLPCCP402	PCC	Internet of Things Laboratory	1	-	2	-	-	-	-	25	-	25
5	231AIMLMDML401	MDM-5	Advances in Generative AI	2	2	-	-	20	30	-	-	-	50
6	231AIMLRML401	RM	ODL Only - Research Methodology	4	2	-	-	20	30	50	25	-	125
7	231AIMLPECL401-403	PEC-IV	Professional Elective - IV	3	3	-	-	20	30	50	-	-	100
8	231AIMLPECL404-407	PEC-V	Professional Elective – V	3	3	-	-	20	30	50	-	-	100
9	231AIMLPRP401	PR	Project	4	-	4	-	-	-	-	100	25	125
10	231AIMLCCAP401	CCA	Liberal Learning	Audit	-	-	-	50*	-	-	-	-	Grade
Total				22	14	8	-	125	150	200	175	50	700

* - Values not included in total

Min. Marks for Passing: 40% of total marks of individual course

Professional Elective-IV:			Professional Elective-V		
Sr. no.	Course Code	Name of the Course	Sr. no.	Course Code	Name of the Course
1.	231AIMLPECL401	Cyber Security	1.	231AIMLPECP404	Embedded Deep Learning
2.	231AIMLPECL402	Blockchain Technology	2.	231AIMLPECP405	Optimization Techniques in Machine Learning
3.	231AIMLPECL403	Applications of Generative AI	3.	231AIMLPECP406	Computer Vision

Teaching and Evaluation Scheme from Year 2024-25 (as per NEP 2020)

SEMESTER-VIII													
Sr. No.	Course Code	Course Type	Course Name	Teaching Scheme			Theory			Practical		Total Marks	
				Credits	Contact Hrs			ISE	MSE	ESE	INT		OE/POE
					L	P	T						
1	231AIMLPCCL403	PCC	ODL only -Transformers and OpenCV	4	2	-	-	20	30	50	25	-	125
2	231AIMLMDML402	MDM-6	ODL only - AI Tools	2	1	-	-	-	-	50	-	-	50
3	231AIMLPECL408-410	PEC-VI	ODL only - Professional Elective - VI	2	1	-	-	-	-	50	-	-	50
4	231AIMLINTP401	INT	Internship	12	-	-	-	-	-	-	100	300	400
			Total	20	4	-	-	20	30	150	125	300	625

* - Values not included in total

Min. Marks for Passing: 40% of total marks of individual course

Professional Elective-VI:		
Sr. no.	Course Code	Name of the Course
1.	231AIMLPECL408	AI in Marketing
2.	231AIMLPECL409	AI for Investments
3.	231AIMLPECL410	ML for Soil and Crop Management