



JOY UNIVERSITY
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School of Computational Intelligence

B.Tech. CSE (Artificial Intelligence and Machine Learning)

Semester I

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	BTAM 1111	Fundamentals of Computing	3	0	2	5	4
2.	BTAM1112	Introduction to Programming	3	0	2	5	4
3.	BTAM1113	Mathematics I	3	1	0	4	4
4.	BTAM1114	Physics I	3	1	0	4	4
5.	AEEN1111	Effective Communication	3	0	0	3	3
6.	AUAM1111	Performing Arts/Sports (Non-Graded)	3	0	0	3	0
		TOTAL	18	2	4	24	19

Semester II

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	BTAM1121	Python Programming	3	0	2	5	4
2.	BTAM1122	Probability, Statistics and Stochastic Processes	3	0	0	3	3
3.	BTAM1123	Mathematics II	3	1	0	4	4
4.	BTAM1124	Physics II	3	0	2	5	4
5.	BTAM1125	Discrete Structures for Computer Science	3	0	0	3	3
6.	AEEV1121	Environmental Science	2	0	0	2	2
		TOTAL	17	1	4	22	20

Semester III

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	BTAM 1211	Artificial Intelligence	3	0	0	3	3
2.	BTAM1212	Signals and Systems	3	0	0	3	3
3.	BTAM1213	Digital Design	3	0	2	5	4
4.	BTAM1214	Data Structures and Algorithms	3	0	2	5	4
5.	BTAM1215	Object-Oriented Programming	3	0	2	5	4
6.	AEPH 1213	Professional Ethics	2	0	0	2	2
7.	AUAM 1211	Indian Constitution	1	0	0	1	0
		TOTAL	18	0	6	24	20

Semester IV

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	BTAM 1221	Machine Learning	3	0	2	5	4
2.	BTAM1222	Database Management Systems	3	0	2	5	4
3.	BTAM1223	Design and Analysis of Algorithms	3	0	2	5	4
3.	BTAM1224	Computer organization	3	0	0	3	3
5.	BTAM1225	Operating systems	3	0	0	3	3
6.	BTAM 1226	Engineering Economics and foreign trade	3	0	0	3	3
		TOTAL	18	0	6	24	21

Semester V

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	BTAM 1311	Deep Learning	3	0	2	5	4
2.	BTAM1312	Computer Networks	3	0	2	5	4
3.	BTAM1313	Computer Architecture	3	0	0	3	3
4.	BTAM 1314	Software Engineering	3	0	0	3	3
5	BTAM1315	Programming with Java	3	0	2	5	4
6	BTAM1316	Theory of Computation	3	1	0	4	4
7	BTAM 1317	Principles of Management	3	0	0	3	3
		TOTAL	21	1	6	28	25

Semester VI

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	BTAM1321	Predictive Data Analytics	3	0	2	5	4
2.	BTAM1322	Compiler Design	3	0	0	3	3
3.	BTAM1323	Cryptography and Network Security	3	0	0	3	3
4.	BTAM1324	Realistic AI	3	0	2	5	4
5.	BTAM1325	Data Visualization	3	0	0	3	3
6.	PEAM132#	Programme Specific Elective I	3	0	0	3	3
7.	GEAM132#	Generic Elective I	3	0	0	3	3
		TOTAL	21	0	6	27	24

Programme Specific Electives I

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/ Wk	Credits
1.	PEAM1411	Applied Artificial Intelligence	3	0	0	3	3
2.	PEAM1412	Applied Machine Learning	3	0	0	3	3
3.	PEAM1413	Scalable Machine Learning	3	0	0	3	3
4.	PEAM1414	Neuromorphic Computing	3	0	0	3	3
5.	PEAM1415	Computer Vision	3	0	0	3	3
6.	PEAM1416	Internet of things	3	0	0	3	3

Generic Electives I

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	GEAM1321	Continual Learning	3	0	0	3	3
2.	GEAM1322	Social Network Analysis	3	0	0	3	3
3.	GEAM1323	Full Stack Development-DevOps	3	0	0	3	3
4.	GEAM1324	Foundations of Quantum Information Processing	3	0	0	3	3
5.	GEAM1325	Block Chain and its Applications	3	0	0	3	3
6.	GEAM1326	Digital Image Processing	3	0	0	3	3

Semester VII

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	BTAM1411	High Performance Computing	3	0	2	5	4
2.	BTAM1412	Ethics, Policy, Laws and Standards in AI	3	0	0	3	3
3.	BTAM1413	Web Technology	3	0	2	5	4
4.	BTAM1414	Pattern Recognition	3	0	0	3	3
5.	BTAM3415	Industrial Internship	0	0	0	0	2
6.	GEAM141#	Generic Elective II	3	0	0	3	3
7.	BTAM1415	Systems Engineering	3	0	0	3	3
		TOTAL	18	0	4	22	22

Generic Electives II

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/ Wk	Credits
1.	GEAM1411	Nature Inspired Computing	3	0	0	3	3
2.	GEAM1412	Fuzzy sets, Logics and Systems	3	0	0	3	3
3.	GEAM1413	Full Stack Development-UI/UX	3	0	0	3	3
4.	GEAM1414	Cognitive Computing	3	0	0	3	3
5.	GEAM1415	Six Sigma	3	0	0	3	3
6.	GEAM1416	Computational and Systems Biology	3	0	0	3	3

Semester VIII

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/ Wk	Credits
1.	BTAM 3421	Capstone Project	0	0	0	0	15
2.	PEAM 142#	Programme Specific Elective II	3	0	0	3	3
3.	PEAM 142#	Programme Specific Elective III	3	0	0	3	3
		TOTAL	9	0	0	9	21

Programme Specific Electives II

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	PEAM1421	Game Theory for Machine Learning	3	0	0	3	3
2.	PEAM1422	Semantic Web Technology	3	0	0	3	3
3.	PEAM1423	Resource Constrained Artificial Intelligence	3	0	0	3	3
4.	PEAM1424	Web data Mining	3	0	0	3	3
5.	PEAM1425	GPU Computing	3	0	0	3	3
6.	PEAM1426	Approximation Algorithms	3	0	0	3	3

Programme Specific Electives III

Sl. No.	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Credits
1.	PEAM1426	Evolutionary Computation	3	0	0	3	3
2.	PEAM1427	Advanced Python- Object Oriented Programming	3	0	0	3	3
3.	PEAM1428	Generative AI	3	0	0	3	3
4.	PEAM1429	Digital Marketing	3	0	0	3	3
5.	PEAM1420	Augmented Intelligence	3	0	0	3	3
		TOTAL					

Credit Summary

Semesters	Credits
Semester-I	19
Semester-II	20
Semester-III	20
Semester-IV	21
Semester-V	25
Semester-VI	24
Semester-VII	22
Semester VIII	21
Total	172