SCHOOL
OF
INFORMATION AND COMMUNICATION TECHNOLOGY

COURSE STRUCTURE

B. TECH.

in

ARTIFICIAL INTELLIGENCE

4 YEARS PROGRAMME

GAUTAM BUDDHA UNIVERSITY
GAUTAM BUDH NAGAR, GREATER NOIDA

SEMESTER I

S. No	Course Code	Courses	L-T-P	Credits
1	MA101	Engineering Mathematics-I	3-1-0	4
2	CY101	Engineering Chemistry	3-1-0	4
3	CS101	Fundamentals of Computer Programming	3-1-0	4
4	CS105	Introduction of Artificial Intelligence	2-0-0	2
5	EC101	Basic Electronics Engineering	3-1-0	4
6	EN101	English Proficiency	2-0-0	2
7	CE103	Engineering Graphics	1-0-2	2
8	CY103	Engineering Chemistry Lab	0-0-2	1
9	CS181	Computer Programming Lab	0-0-2	1
10	EC181	Basic Electronics Engineering	0-0-2	1
11	GP	General Proficiency	Non Credit	
		Total Credits		**25**
		Total Contact Hours	**16-5-8 =**	**29**

SEMESTER II

S. No	Course Code	Courses	L-T-P	Credits
1	MA102	Engineering Mathematics-II	3-1-0	4
2	PH102	Engineering Physics	3-1-0	4
3	EE102	Basic Electrical Engineering	3-1-0	4
4	ME101	Engineering Mechanics	3-1-0	4
5	ES101	Environmental Studies	3-1-0	4
6	AI 102	Introduction to Python	2-0-0	2
7	PH104	Engineering Physics Lab	0-0-2	1
8	EE104	Basic Electrical Engineering Lab	0-0-2	1
9	EN151	Language Lab	0-0-2	1
10	ME102	Workshop Practice	1-0-2	2
11	AI182	Python Lab	0-0-2	1
12	GP	General Proficiency	Non Credit	
		Total Credits		**28**
		Total Contact Hours	**16-5-10 =**	**31**

SEMESTER III

S. No	Course Code	Courses	L-T-P	Credits
1	AI201	Software Engineering	3-0-0	3
2	AI203	Intelligent Systems	3-0-0	3
3	AI205	Data Structure and Algorithms	3-0-0	3
4	AI207	Database Management Systems	3-0-0	3
5	AI209	Computer Vision	3-0-0	3
6	AI211	Introduction to R Programming	3-1-0	4
7	AI281	Database Management Systems Lab	0-0-3	2
8	AI283	Data Structure & Algorithms Lab using Python	0-0-3	2
9	AI285	Programming in R	0-0-3	2
10	GP	General Proficiency	Non Credit	
		Total Credits	**25**	
		Total Contact Hours	**18-1-9=28**	

SEMESTER IV

S. No	Course Code	Courses	L-T-P	Credits
1	AI202	Machine Learning	3-0-0	3
2	AI204	Operating System	3-0-0	3
3	AI206	Biometric Security	3-0-0	3
4	AI208	Introduction to Matlab	3-0-0	3
5	AI210	Theory of Automata	3-0-0	3
6	AI212	Computer Networks	3-0-0	3
7	AI282	Machine Learning Lab using python	0-0-3	2
8	AI284	Computer Networks Lab	0-0-3	2
9	AI286	Matlab	0-0-3	2
10	GP	General Proficiency	Non Credit	
		Total Credits		**24**
		Total Contact Hours	**18-0-9 =**	**27**

SEMESTER – V

S. No	Course Code	Courses	L-T-P	Credits
1	AI301	Big Data Analytics	3-0-0	3
2	AI303	Compiler Design	3-0-0	3
3	AI305	Deep Learning and Reinforcement Learning	3-0-0	3
4	AI307	Operational Information Security Management and Biometrics	3-1-0	4
5		**Elective I**	3-0-0	3
6		**Elective II**	3-0-0	3
7	AI381	Deep Learning Lab using Python	0-0-3	2
8	AI383	Compiler Design Lab	0-0-3	2
9	AI385	Analysis &Design of Algorithms using Python	0-0-3	2
10	GP	General Proficiency	Non Credit	
		Total Credits		**25**
		Total Contact Hours	**18-1-9 =**	**28**

ELECTIVE I

S. No	Course Code	Courses	L-T-P	Credits
1	AI309	Computer Graphics	3-0-0	3
2	AI311	Introduction to Brain and Neuroscience	3-0-0	3
3	AI313	Stochastic Processes	3-0-0	3
4	AI315	Computer Based Numerical & Statistical Techniques	3-0-0	3

ELECTIVE II

S. No	Course Code	Courses	L-T-P	Credits
1	AI317	Sequence Models	3-0-0	3
2	AI319	Bayesian Data Theory	3-0-0	3
3	AI321	Reinforcement Learning	3-0-0	3
4	AI 323	3-d Printing	3-0-0	3

SEMESTER VI

S. No	Course Code	Courses	L-T-P	Credits
1	AI302	IoT and its Applications	3-0-0	3
2	AI304	Expert Systems	3-0-0	3
3	AI306	Digital Fabrication	3-0-0	3
4	AI308	Convex Optimization	3-0-0	3
5		**Elective III**	3-0-0	3
6		**Elective IV**	3-0-0	3
7	AI384	IoT and its Applications Lab	0-0-3	2
8	AI386	Expert Systems Lab	0-0-3	2
9	AI388	Digital Fabrication Lab	0-0-3	2
10	**Industrial Training (Min Six Weeks) Evaluation will be in VII Semester**			
11	GP	General Proficiency	Non Credit	
		Total Credits		**24**
		Total Contact Hours	**18-0-9**	**= 27**

ELECTIVE III

S. No	Course Code	Courses	L-T-P	Credits
1	AI310	Digital Image Processing	3-0-0	3
2	AI312	Gaming	3-0-0	3
3	AI314	Knowledge Engineering	3-0-0	3
4	AI316	Predictive Analysis	3-0-0	3

ELECTIVE IV

S. No	Course Code	Courses	L-T-P	Credits
1	AI318	Computer Security	3-0-0	3
2	AI320	Management Information System	3-0-0	3
3	AI322	Evolutionary Computation	3-0-0	3
4	AI324	Fuzzy logic	3-0-0	3

SEMESTER VII

Sr. No	Course Code	Courses	L-T-P	Credits
1	AI401	Cloud Computing	3-0-0	3
2	AI403	Computational Intelligence	3-0-0	3
3	AI405	Robotics and Drones	3-0-0	3
4	AI407	Natural Language Processing	3-0-0	3
5		**Elective V**	3-0-0	3
6		**Elective VI**	3-0-0	3
7	AI481	Cloud Computing lab	0-0-3	2
8	AI483	**Industrial Training Evaluation/ Robotics and Drones Lab**		2
9	GP	General Proficiency	Non Credit	
			Total Credits	**22**
			Total Contact Hours	**18-0-6=24**

ELECTIVE V

Sr. No	Course Code	Courses	L-T-P	Credits
1	AI409	Pattern Recognition	3-0-0	3
2	AI411	Automation and Robotics	3-0-0	3
3	AI413	Optimization Techniques	3-0-0	3
4	AI415	Simulation and Modelling	3-0-0	3

ELECTIVE VI

Sr. No	Course Code	Courses	L-T-P	Credits
1	AI417	CyberSecurity	3-0-0	3
2	AI419	Distributed Operating System	3-0-0	3
3	AI421	Data Analytics	3-0-0	3
4	AI423	Embedded System	3-0-0	3

SEMESTER VIII

Sr. No	Course Code	Courses	L-T-P	Credits
1	AI402	Speech Analysis and Systems	3-0-0	3
2	AI404	Robot Kinematics	3-0-0	3
3	AI406	Quantum Computing	3-0-0	3
4		**Elective VI**	3-0-0	3
5	AI484	Robot Kinematics Lab	0-0-3	2
6	AI492	Project	0-0-16	8
7	GP	General Proficiency	Non Credit	
			Total Credits	**22**
			Total Contact Hours	**12-0-19 = 31**

ELECTIVE VI

Sr. No	Course Code	Courses	L-T-P	Credits
1	AI408	Parallel Distributed System	3-0-0	3
2	AI410	Time Series Analysis and applications	3-0-0	3
3	AI412	Blockchain	3-0-0	3
4	AI414	Data Science	3-0-0	3

GRAND TOTAL CREDITS=199