

# **Course Structure & Evaluation Scheme**

**School of Engineering & Technology**  
**Department of Computer Science**  
**B.Tech CS (AI & ML)**  
[Academic Session 2020-21]



**UNITED UNIVERSITY,**  
**PRAYAGRAJ**

**School of Engineering & Technology 1 Year (1 & 2 Semester)**  
**Degree Programme United University, Prayagraj Course**  
**Structure & Evaluation Scheme 2020-2021 Session**

**Department of Computer Science**

<b>IOT</b>					
<b>Semester-1</b>					
<b>S.No</b>	<b>Papers-CS-AI_ML</b>	<b>Lecture (L)</b>	<b>Tutorial (T)</b>	<b>Practical (P)</b>	<b>Credit</b>
1	Mathematics – I	3	1	0	4
2	Introduction to Programming Language/Communication for professional	3	0	0	3
3	Engg. Physics/ Engg. Chemistry	3	0	0	3
4	Basic Electrical & Electronics Engineering/Basics of computer hardware	3	1	0	4
5	Physics Laboratory/Chemistry Laboratory	0	0	2	1
6	Electrical/Electronics Laboratory	0	0	2	1
7	Computer Programming/Communication Laboratory	0	0	2	1
8	Engineering Drawing and Graphics/ Engineering Workshop	0	0	3	1
9	Personality development I	2	0	0	1
		14	2	9	19
<b>Semester-2</b>					
<b>S.No</b>	<b>Papers-CS-AI_ML</b>	<b>Lecture (L)</b>	<b>Tutorial (T)</b>	<b>Practical (P)</b>	<b>Credit</b>
1	Mathematics – II	3	1	0	4
2	Introduction to Programming Language/Communication for professional	3	0	0	3
3	Engg. Physics/ Engg. Chemistry	3	0	0	3
4	Basic Electrical & Electronics Engineering/Basics of computer hardware	3	1	0	4
5	Physics Laboratory/Chemistry Laboratory	0	0	2	1
6	Electrical/Electronics Laboratory	0	0	2	1
7	Computer Programming/Communication Laboratory	0	0	2	1
8	Engineering Drawing and Graphics/ Engineering Workshop	0	0	3	1
9	Personality development II	2	0	0	1
		14	2	9	19

**School of Engineering & Technology 2 Year (3 & 4 Semester)  
Degree Programme United University, Prayagraj Course  
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**Department of Computer Science**

<b>Semester-3</b>					
<b>S.No</b>	<b>Papers-CS-AI_ML</b>	<b>Lecture (L)</b>	<b>Tutorial (T)</b>	<b>Practical (P)</b>	<b>Credit</b>
1	Mathematics – III	3	1	0	4
2	Digital Design and Computer Architecture	3	0	0	3
3	Data Structures using Python	3	0	0	3
4	Introduction to Object Oriented Techniques	3	1	0	4
5	Theory of Automata & Formal Languages	3	0	0	3
6	Digital Design and Comp Architecture Lab	0	0	2	1
7	Data Structure Lab	0	0	2	1
8	Automata Lab	0	0	2	1
9	OOT Lab	0	0	2	1
10	Quantitative Analysis/Verbal Ability	2	0	0	1
		17	2	8	22
<b>Semester-4</b>					
<b>S.No</b>	<b>Papers-CS-AI_ML</b>	<b>Lecture (L)</b>	<b>Tutorial (T)</b>	<b>Practical (P)</b>	<b>Credit</b>
1	Departmental Elective-1	3	0	0	3
2	Operating Systems	3	1	0	4
3	Data Base Management System	3	0	0	3
4	Computer Graphics	3	1	0	4
5	Data Communication and Networking	3	0	0	3
6	Operating Systems Lab	0	0	2	1
7	Data Base Management System Lab	0	0	2	1
8	Data Communication and Networking Lab	0	0	2	1
9	Computer Graphics Lab	0	0	2	1
10	Quantitative Analysis/Verbal Ability	2	0	0	1
		17	2	8	22

**School of Engineering & Technology 3 Year (5 & 6 Semester)  
Degree Programme United University, Prayagraj Course  
Structure & Evaluation Scheme 2020-2021 Session**

**Department of Computer Science**

<b>Semester-5</b>					
<b>S.No</b>	<b>Papers-CS-AI_ML</b>	<b>Lecture (L)</b>	<b>Tutorial (T)</b>	<b>Practical (P)</b>	<b>Credit</b>
1	Design & Analysis of Algorithms	3	0	0	3
2	Compiler Design	3	1	0	4
3	Software Engineering	3	0	0	3
4	Distributed Systems	3	1	0	4
5	Advanced Java Programming	3	0	0	3
6	Introduction to Artificial Intelligence	3	0	0	3
7	DAA Lab	0	0	2	1
8	Advanced Java Programming Lab	0	0	2	1
9	Compiler Design Lab	0	0	2	1
10	Software Engineering Lab	0	0	2	1
11	Quantitative Analysis/Verbal Ability	2	0	0	1
		20	2	8	25
<b>Semester-6</b>					
<b>S.No</b>	<b>Papers-CS-AI_ML</b>	<b>Lecture (L)</b>	<b>Tutorial (T)</b>	<b>Practical (P)</b>	<b>Credit</b>
1	Introduction to Machine Learning	3	1	0	4
2	Web Technologies	3	1	0	4
3	Expert Systems	3	0	0	3
4	Natural Language Processing(NLP)	3	0	0	3
5	Sentiment Analysis	3	0	0	3
6	Program Elective-2	3	0	0	3
7	Introduction to Machine Learning Lab using Python	0	0	2	1
8	Web Technologies Lab	0	0	2	1
9	Seminar Presentation-1	0	0	2	1
10	NLP Lab	0	0	2	1
11	Quantitative Analysis/Verbal Ability	2	0	0	1
		20	2	8	25

**School of Engineering & Technology 4 Year (7 & 8 Semester)  
Degree Programme United University, Prayagraj Course  
Structure & Evaluation Scheme 2020-2021 Session**

**Department of Computer Science**

<b>Semester-7</b>					
<b>S.No</b>	<b>Papers-CS-AI_ML</b>	<b>Lecture (L)</b>	<b>Tutorial(T)</b>	<b>Practical (P)</b>	<b>Credit</b>
1	Deep Learning	3	1	0	4
2	Genetic Algorithms	3	0	0	3
3	Introduction to BIG DATA	3	1	0	4
4	Departmental Elective-3	3	0	0	3
5	Genetic Algorithms using MATLAB	0	0	2	1
6	Summer Internship Program-SIP	0	0	2	1
7	Seminar Presentation-2	0	0	4	2
8	Minor Project	0	0	10	5
9	Deep Learning Lab	0	0	2	1
10	GD/Interview	2	0	0	1
		14	2	20	25
<b>Semester-8</b>					
<b>S.No</b>	<b>Papers-CS-AI_ML</b>	<b>Lecture (L)</b>	<b>Tutorial (T)</b>	<b>Practical (P)</b>	<b>Credit</b>
1	Introduction to Cloud Computing	3	1	0	4
2	Cyber Security	3	0	0	3
3	Multimedia & Animation	3	0	0	3
4	Major Project	0	0	20	10
5	Internship	0	0	8	4
6	Education Achievement Activity	0	0	2	1
		9	1	30	25

Elective Type					
	Departmental Elective-1				
	Computer Vision				
	Optimization Techniques				
	Business Intelligence				
	Application of Soft computing				
	Cognitive Computing				
	Program Elective-2				
	Applied Time-Series Analysis				
	Information Retrieval and Web Search				
	Numerical linear algebra for data analysis				
	Graph Analytics for Big Data				
	Bayesian Data Analysis				
	Departmental Elective-3				
	Distributed Systems				
	Pattern Recognition				
	Neural Network				
	Parallel Computing				
	Distributed Database Systems				