

Proposed Program Structure

for

B. E

(Artificial Intelligence and Data Science)

Scheme of Instruction and Examination

Scheme of Instruction & Examination
B. E. - Artificial Intelligence and Data Science

AI&DS Semester - I

S. No.	Course Code	Course Title	Scheme of Instruction				Duration in Hrs	Scheme of Examination		Credits
			Hours Per Week			Maximum Marks				
			L	T	P / D		CIE	SEE		
Theory Courses										
1	1BS101HS	Engineering Mathematics - 1	3	1	0	4	40	60	4	
2	1BS104HS	Applied Physics	3	1	0	4	40	60	4	
3	1ES101CS	Programming for Problem Solving	3	0	0	3	40	60	3	
4	1ES101EE	Elements of Electrical and Electronics Engineering	3	0	0	3	40	60	3	
5	1MC101CE	Environmental Science	2	0	0	2	40	60	0	
Practical / Laboratory Courses										
6	1BS151HS	Applied Physics Lab	0	0	3	3	40	60	1.5	
7	1ES151CS	Programming for Problem Solving Lab	0	0	2	2	40	60	1	
8	1ES151EE	Elements of Electrical and Electronics Engineering Lab	0	0	2	2	40	60	1	
9	1ES151CE	Engineering Graphics Lab	1	0	4	5	40	60	3	
Total Credits						28	360	540	20.5	

AI&DS Semester - II

S. No.	Course Code	Course Title	Scheme of Instruction				Duration in Hrs	Scheme of Examination		Credits
			Hours Per Week			Maximum Marks				
			L	T	P / D		CIE	SEE		
Theory Courses										
1	1BS202HS	Engineering Mathematics – II	3	1	0	4	40	60	4	
2	1BS206HS	Chemistry	3	1	0	3	40	60	4	
3	1HS201HS	English	2	0	0	4	40	60	2	
4	1ES202CS	Data Structures	3	0	0	3	40	60	3	
Practical / Laboratory Courses										
5	1BS253HS	Chemistry Lab	0	0	3	3	40	60	1.5	
6	1HS251HS	English Lab	0	0	2	2	40	60	1	
7	1ES252CS	Data Structures lab	0	0	2	2	40	60	1	
8	1ES252ME	Engineering Workshop Practice	0	0	4	5	40	60	2	
9	1MC251SP	Yoga / NSS / Sports	0	0	2	2	40	-	0	
Total Credits						28	360	480	18.5	

Scheme of Instruction & Examination
B. E. - Artificial Intelligence and Data Science

AI&DS Semester - III

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination		Credits
			L	T	P / D	Contact Hours / week	CIE	SEE	
Theory Courses									
1	1BS305HS	Probability and Statistics	3	1	0	4	40	60	4
2	1PC301AD	Discrete Mathematics	3	0	0	3	40	60	3
3	1PC302AD	Database Management Systems	3	0	0	3	40	60	3
4	1PC303AD	Computer Organization and Microprocessor	3	0	0	3	40	60	3
5	1ES303EC	Switching Theory and Logic Design	3	0	0	3	40	60	3
6	1MC302HS	Essence of Indian Traditional Knowledge	3	0	0	3	40	60	0
Practical / Laboratory Courses									
7	1PC351AD	Database Management Systems Lab	0	0	2	2	40	60	1
8	1PC352AD	Python Programming Lab	0	0	2 *2	4	40	60	2
9	1PC353AD	Computer Organization and Microprocessor Lab	0	0	2	2	40	60	1
10	1PW354AD	Skill Development Course- I	0	0	2	2	40	60	1
Total Credits						29	400	600	21

AI&DS Semester - IV

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination		Credits
			L	T	P / D	Contact Hours / week	CIE	SEE	
Theory -Courses									
1	1PC404AD	Operating Systems	3	0	0	3	40	60	3
2	1PC405AD	Statistical Analytics and Computing	3	0	0	3	40	60	3
3	1PC406AD	Foundations of Artificial Intelligence	3	1	0	4	40	60	4
4	1PC407AD	Software Engineering	3	0	0	3	40	60	3
5	1HS403HS	Human Values and Professional Ethics	3	0	0	3	40	60	2
Practical / Laboratory Courses									
6	1PC455AD	Operating Systems Lab	0	0	2	2	40	60	1
7	1PC456AD	Java Programming Lab	0	0	2*2	4	40	60	2
8	1PC457AD	Statistical Analytics and Computing using Python Lab	0	0	2	2	40	60	1
9	1PW458AD	Skill Development Course - II	0	0	2	2	40	60	1
Total Credits						26	360	540	20

Scheme of Instruction & Examination
B. E. - Artificial Intelligence and Data Science

AI&DS Semester - V

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination		Credits
			L	T	P / D	Contact Hours / week	CIE	SEE	
Theory Courses									
1	1PC508AD	Design Analysis and Algorithms	3	1	0	4	40	60	4
2	1PC509AD	Machine Learning	3	0	0	3	40	60	3
3	1ES504EC	Internet of Things	3	0	0	3	40	60	3
4	1PE5(01 to 05) AD	Professional Elective – I	3	0	0	3	40	60	3
5	OE	Open Elective – I	3	0	0	3	40	60	3
6	1MC503HS	Constitution of India	3	0	0	3	40	60	0
Practical / Laboratory Courses									
7	1PC559AD	Machine Learning Lab	0	0	2	2	40	60	1
8	1ES551EC	Internet of Things Lab	0	0	2	2	40	60	1
9	1HS553HS	Soft Skills Lab - I	0	0	2	2	40	60	1
10	1PW560AD	Summer Internship	-	-	-	-	40	60	2
Total Credits						25	400	600	21

AI&DS Semester - VI

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination		Credits
			L	T	P / D	Contact Hours / week	CIE	SEE	
Theory Courses									
1	1PC610AD	Computer Networks	3	0	0	3	40	60	3
2	1PC611AD	Data Science using Python	3	0	0	3	40	60	3
3	1PC612AD	Automata Languages and Compiler Design	3	1	0	4	40	60	4
4	1PE6(06 to 10) AD	Professional Elective – II	3	0	0	3	40	60	3
5	OE	Open Elective – II	3	0	0	3	40	60	3
Practical / Laboratory Courses									
6	1PC661AD	Data Science using Python Lab	0	0	2	2	40	60	1
7	1PC662AD	Web Programming Lab	0	0	2*2	4	40	60	2
8	1HS652HS	Effective Technical Communication Lab	0	0	2	2	40	60	1
9	1PW663AD	Mini Project	0	0	2	2	40	60	1
Total Credits						26	360	540	21

Professional Elective - I

1	1PE501AD	Mobile Computing
2	1PE502AD	Data Mining
3	1PE503AD	Software requirements and Estimation
4	1PE504AD	Principles of Programming Languages
5	1PE505AD	Advanced Databases

Professional Elective - II

1	1PE606AD	Cryptography
2	1PE607AD	Information Retrieval Systems
3	1PE608AD	Software Architecture
4	1PE609AD	Web Technology
5	1PE610AD	Distributed Databases

Scheme of Instruction & Examination
B. E. - Artificial Intelligence and Data Science

AI&DS Semester - VII

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination		Credits
			L	T	P / D	Contact Hours / week	CIE	SEE	
Theory Courses									
1	1PC713AD	Deep Learning	3	0	0	3	40	60	3
2	1PC714AD	Information Security	3	0	0	3	40	60	3
3	1HS702HS	Finance and Accounting	3	1	0	4	40	60	4
4	1PE7(11 to 15) AD	Professional Elective – III	3	0	0	3	40	60	3
5	OE	Open Elective - III	3	0	0	3	40	60	3
Practical / Laboratory Courses									
6	1PC764AD	Deep Learning Lab	0	0	2	2	40	60	1
7	1PC765AD	Information Security Lab	0	0	2	2	40	60	1
8	1PW766AD	Project Work – I	0	0	4	4	40	60	2
9	1PW767AD	Technical Seminar	0	0	2	2	40	60	1
Total Credits						26	360	540	21

AI&DS Semester - VIII

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination		Credits
			L	T	P / D	Contact Hours / week	CIE	SEE	
Theory Courses									
1	1PC81 AD	Data Visualization	3	0	0	3	40	60	3
2	1PE8(16 to 20) AD	Professional Elective – IV	3	0	0	3	40	60	3
3	1PE8(21 to 25) AD	Professional Elective – V	3	0	0	3	40	60	3
Practical / Laboratory Courses									
4	1PW868AD	Project Work – II				16	50	100	8
Total Credits						25	170	280	17

Professional Elective - III

1	1PE711AD	Digital Forensics
2	1PE712AD	Big Data Management
3	1PE713AD	Software Process Management
4	1PE714AD	Scripting Languages
5	1PE715AD	Natural Language Processing

Professional Elective - IV

1	1PE816AD	Cyber security
2	1PE817AD	Applied AI
3	1PE818AD	Agile Methodologies
4	1PE819AD	Full Stack Development
5	1PE820AD	Cloud Computing

Professional Elective - V

1	1PE821AD	Block Chain
2	1PE822AD	Web and Social Media Analytics
3	1PE823AD	Software Testing Methodologies
4	1PE824AD	Digital marketing and E Commerce
5	1PE825AD	Soft Computing