ANNEXURE – I

Credit Structure for Undergraduate programs

Sr. No.	Category Code	Category	Credits
1	HSSM	Ability Enhancement Course (AEC), Indian Knowledge System (IKS), Value Education Course (VEC),Entrepreneurship/Economics/Management courses	10
2	BSC	Basic Science courses	14
3	ESC	Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc.	16
4	PCC	Professional core courses	63
5	PEC	Professional Elective courses relevant to chosen specialization/branch	15
6	OE	Open subjects – Electives from other technical and /or emerging subjects	08
7	ELC	Project work, seminar and internship in industry or elsewhere, Industry Training and Skill Development, Capstone Course	22
8	VSEC	Vocations Skill Courses (VSC) , Skill Enhancement Courses(SEC)	10
9	CC	Co-curricular Courses (CC) such as Health and Wellness, Yoga education sports, and fitness, Cultural Activities, NSS/NCC and Fine/ Applied/ Visual/ Performing Arts	04
10	MDM	Compulsory Multidisciplinary Minor	14
		TOTAL	176

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GROUP 1: SEMESTER I / GROUP 2: SEMESTER II

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	BSC	AS101T	Engineering Physics & Material Sciences	2	0	-	2	15	35	50
2	BSC	AS101P	Engineering Physics & Material Sciences Lab	-	-	2	1	25	25	50
3	BSC	AS102T	Applied Mathematics – I	4	-	-	4	30	70	100
4	ESC	AS103T	Engineering Practices-I (Electrical & Electronics)	3	-	-	3	30	70	100
5	ESC	AS103P	Engineering Practices-I Lab(Electrical & Electronics)	-	-	2	1	25	25	50
6	ESC	AS104T	Logic building with C	2	-		2	15	35	50
7	ESC	AS104P	Logic building with C Lab	-	-	2	1	25	25	50
8	AEC	AS105P	Business Communication Skills I Lab	-	-	2	1	25	25	50
9	IKS	AS106T	Indian Knowledge Systems	2	-	-	2	15	35	50
10	SEC	AS107T	Career Development I	-	-	2	1	50	-	50
11	PCC	AI101T	Program Foundation I	2	-	-	2	15	35	50
12	CC	AS108T	Co-curricular Courses - I	-	-	-	2	50		50
Total				**15**	**0**	**10**	**22**	**320**	**380**	**700**

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GROUP 1: SEMESTER II / GROUP 2: SEMESTER I

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	BSC	AS201T	Engineering Chemistry & Environmental Science	2	-	--	2	15	35	50
2	BSC	AS201P	Engineering Chemistry & Environmental Science Lab	-	-	2	1	25	25	50
3	BSC	AS202T	Applied Mathematics–II	4	-	-	4	30	70	100
4	ESC	AS203T	Engineering Practices-II (Civil & Mechanical)	3	-	-	3	30	70	100
5	ESC	AS203P	Engineering Practices-II Lab (Civil & Mechanical)	-	-	2	1	25	25	50
6	ESC	AS204T	Problem Solving with Python	2	-	-	2	15	35	50
7	ESC	AS204P	Problem Solving with Python Lab	-	-	2	1	25	25	50
8	AEC	AS205P	Business Communication Skills II Lab	-	-	2	1	25	25	50
9	SEC	AS206T	Career Development II	-	-	2	1	50	-	50
10	PCC	AI201T	Program Foundation II	2	-	-	2	15	35	50
11	ESC	AS207T	Design Thinking	2	-	-	2	30	70	100
12	CC	AS108T	Co-curricular Courses - I	-	-	-	2	50		50
			Total	**15**	**0**	**10**	**22**	**335**	**415**	**750**

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SEMESTER III

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1		AS301T	Applied Mathematics – III	3		-	3	30	70	100
2	PCC	AI301T	Data Structures	2	-	-	2	30	70	100
3	PCC	AI301P	Data Structures Laboratory	-	-	4	2	25	25	50
4	PCC	AI302T	Fundamentals of Artificial Intelligence	3		-	3	30	70	100
5	PCC	AI302P	Fundamentals of Artificial Intelligence Laboratory	-	-	2	1	25	25	50
6	PCC	AI303T	Computer Networking	2		-	2	30	70	100
7	PCC	AI304T	Modern Computer Architecture	3		-	3	30	70	100
8	PCC	AI305P	Object Oriented Programming Laboratory	-	-	2	1	25	25	50
9	SEC	AI306P	Career Development III	-	-	2	1	50	-	50
10	VEC	AI307T	Value Education Course I	2	-	-	2	15	35	50
11	ELC	AI308P	Micro Project I*	-	-	2	1	50	-	50
			Total	**15**	**0**	**12**	**21**	**340**	**460**	**800**
12	MDM		Multidisciplinary Minor - I	2	-	-	2	15	35	50
			Total	**17**	**0**	**12**	**23**	**355**	**495**	**850**

* **Field Project or Community engagement project in the major discipline**

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SEMESTER IV

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1		AS401T	Discrete Mathematics	3	-	-	3	30	70	100
2	PCC	AI401T	AI Principles & Techniques	3		-	3	30	70	100
3	PCC	AI401P	AI Principles & Techniques Laboratory	-	-	2	1	25	25	50
4	PCC	AI402T	Database management Systems	3		-	3	30	70	100
5	PCC	AI402P	Database management Systems Laboratory	-	-	2	1	25	25	50
6	PCC	AI403T	Theory of Computation	3	-	-	3	30	70	100
7	OE	AI404T	Open Elective – I	2	-	-	2	15	35	50
8	VSC	AI405T	Technical Skill Development - I	2	-	-	2	50	-	50
9	VEC	AI406T	Value Education Course II	2	-	-	2	15	35	50
10	SEC	AI407T	Career Development - IV		-	2	1	50	-	50
11	ELC	AI408P	Micro Project II*			2	1	50	-	50
			Total	**18**	**0**	**8**	**22**	**350**	**400**	**750**
12	MDM		Multidisciplinary Minor - II	3	-	-	3	30	70	100
			Total	**21**	**-**	**8**	**25**	**380**	**470**	**950**

 * **Field Project or Community engagement project in the major discipline**

	Open Elective – I
AI404T1	Web Technologies
AI404T2	Mobile Application Development

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SEMESTER V

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	PCC	AI501T	Machine Learning	2		-	2	30	70	100
2	PCC	AI501P	Machine Learning Laboratory	-	-	4	2	25	25	50
3	PCC	AI502T	Design and Analysis of Algorithms	3	-	-	3	30	70	100
4	PCC	AI502P	Design and Analysis of Algorithms Laboratory	-	-	2	1	25	25	50
5	PCC	AI503T	Operating System	3		-	3	30	70	100
6	PCC	AI503P	Operating System Lab	-	-	2	1	25	25	50
7	PEC	AI504T	Professional Elective – I	3	-	-	3	30	70	100
8	OE	AI505T	Open Elective – II	3	-	-	3	30	70	100
9	VSC	AI506T	Technical Skill Development - II	2	-	-	2	50	-	50
10	SEC	AI507P	Career Development - V	-	-	2	1	50	-	50
			Total	**17**	**0**	**10**	**21**	**325**	**425**	**750**
11	MDM		Multidisciplinary Minor - III	3	-	-	3	30	70	100
			Total	**20**	**0**	**10**	**24**	**355**	**495**	**850**

	Open Elective – II
AI505T(i)	Blockchain Technologies
AI505T(ii)	Fundamentals of AI for Robotics

	Professional Elective – I
AI504T(i)	Human Computer Interaction
AI504T(ii)	Edge AI
AI504T(iii)	IoT & Edge Computing

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SEMESTER VI

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	PCC	AI601T	Artificial Neural Networks & Deep learning	3	-	-	3	30	70	100
2	PCC	AI601P	Artificial Neural Networks & Deep learning Laboratory	-	-	2	1	25	25	50
3	PCC	AI602T	Software Engineering & Project Management	3	-	-	3	30	70	100
4	PCC	AI602P	Software Engineering & Project Management Laboratory	-	-	2	1	25	25	50
5	PEC	AI603T	Professional Elective – II	3	-	-	3	30	70	100
6	PEC	AI604T	Professional Elective – III	3	-	-	3	30	70	100
7	AEC	AS601T	Economics. & Management	2			2	15	35	50
8	OE	AI605T	Open Elective – III	3	-	-	3	30	70	100
9	ELC	AI606P	Project - I	-	-	4	2	50	50	100
10	SEC	AI607T	Career Development - VI	-	-	2	1	50	-	50
			Total	17	0	10	22	315	485	800
11	MDM		Multidisciplinary Minor - IV	3	-	-	3	30	70	100
			Total	20	0	10	25	345	555	900

	Open Elective - III
AI605T1	Google Cloud Machine Learning Engine
AI605T2	Ethical Hacking

	Professional Elective – II
AI603T(i)	Augmented Reality & Virtual Reality
AI603T(ii)	Information Retrieval
AI603T(iii)	Computer Vision

	Professional Elective – III
AI603T(i)	Big Data Analytics
AI603T(ii)	Optimization Techniques in ML
AI603T(iii)	Reinforcement Learning

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SEMESTER VII

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	PCC	AI701T	Natural Language Processing	3	-	-	3	30	70	100
2	PCC	AI701P	Natural Language Processing Laboratory	-	-	2	1	25	25	50
3	PCC	AI702T	Cloud Computing	3	-	-	3	30	70	100
4	PCC	AI702P	Cloud Computing Laboratory	-	-	2	1	25	25	50
5	PEC	AI703T	Professional Elective- IV	3	-	-	3	30	70	100
6	PEC	AI704T	Professional Elective - V	3	-	-	3	30	70	100
7	ELC	AI705P	Project - II	-	-	8	4	50	50	100
8	ELC	AI706P	Summer / Winter Internship*	-	-	-	2	50	--	50
			Total	**12**	**0**	**12**	**20**	**270**	**380**	**650**
9	MDM		Multidisciplinary Minor - V	3	-	-	3	30	70	100
			Total	**15**	**0**	**12**	**23**	**300**	**450**	**750**

* Summer / Winter Internship (Evaluation of Four weeks Internship Completion till 6th Semester)

	Professional Elective – IV
AI703T(i)	Soft Computing
AI703T(ii)	Business Intelligence & Analytics
AI703T(iii)	ML for Cyber Security

	Professional Elective – V
AI704T(i)	Solve Business Problems with AI
AI704T(ii)	Patern Recognition & Visual Recognition
AI704T(iii)	Autonomus Systems

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SEMESTER VIII

Option A

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	ELC	AI801P*	Project based on one semester internship in Industry/Research Institute/ National Laboratories/ Incubation Center	-	-	-	12	300	100	400
			Total	**0**	**0**	**0**	**12**	**300**	**100**	**400**

*End semester examination will consist of evaluation of seminar & project report.

Option B

Sr No	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
				L	T	P		Continual Assessment	End Sem Examination	Total
1	ELC	AI801P#	Institutional Internship	-	-	12	6	100	100	200
2	ELC	AI802P	Project – III	-	-	12	6	100	100	200
			Total	**0**	**0**	**0**	**12**	**300**	**100**	**400**

Option B is available to students only after recommendation of the concerned Head of the department. The project and internship should contribute towards career development plan of the students.

* Minimum 90 days internship in any industry and project is to be carried out during internship.

Two NPTEL courses (as per choice of student) or Institutional Internship by IEDC, SVPCET.

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EXIT OPTIONS

Award of UG Certificate in Major with 44 credits and an additional 8 credits (After First Year)

S.N.	EXIT COURSES		
	Course name	Mode of conduction	Credits
1	Mastering Office	Online	4
2	Programming in C++	Online	4
3	Professionalism in the Tech Industry	Online	4
4	Web Development	Online	4

Award of UG Diploma in Major with 87 credits and an additional 8 credits (After Second Year)

S.N.	EXIT COURSES		
	Course name	Mode of conduction	Credits
1	Machine Learning with Python	Online	4
2	Deep Learning	Online	4
3	Software Testing	Online	4

Award of UG Degree in Major with 130 credits and an additional 8 credits (After Third Year)

S.N.	EXIT COURSES		
	Course name	Mode of conduction	Credits
1	Cyber Security	Online	4
2	Agile Software Development	Online	4
3	Cloud Computing	Online	4

Note:- Any 2 courses with 4 credits each during exit from the program.

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Multidisciplinary Minor

Minor 1 :- Management

Sr No	Sem	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
					L	T	P		Continual Assessment	End Sem Examination	Total
1		MDM									
2		MDM									
3		MDM									
4		MDM									
				Total				14			

Multidisciplinary Minor

Minor 2 :- Emerging Trends

Sr No	Sem	Course Category	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
					L	T	P		Continual Assessment	End Sem Examination	Total
1		MDM									
2		MDM									
3		MDM									
4		MDM									
				Total				14			

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