

SAMRAT ASHOK TECHNOLOGICAL INSTITUTE VIDISHA (M.P.)

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV Bhopal)

Department Of Information Technology

Programme -AIADS

Scheme-2020-21 & 2021-22

DEPARTMENT OF INFORMATION TECHNOLOGY

Structure of Undergraduate Engineering Program

S.No.	Category	Subject Category	Suggested Breakup of Credits (Total 160)	Possible list of subjects	Approx. Credits (Total 160)
1	Humanities and Social Sciences including Management courses	HSMC	12*	English, Environmental Science, Management Concepts and Principles, Organisation behaviors, Project Management, Ethics, Stress Management, Human resource Management, Financial Management, Marketing Management, Project Management, IPR.	10-12
2	Basic Science courses	BSC	25*	Applied Physics, Applied Chemistry, Engineering Mathematics (M-1, M-2, M-3)	20-22
3	Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc.	ESC	24*	Basic Electrical Engineering, Engineering Graphics & Design, Engineering materials, Manufacturing Practices, Strength of Materials / Mechanics of Materials. Introduction to Computer Science, Basic of Information Technology. Engineering Electronics, Digital Design, Programming for Problem Solving,	20-24
4	Professional core courses	PCC	48*	Specific to Departments	48-50
5	Professional Elective courses relevant to chosen specialization/branch	PEC	18*	Specific to Departments	18-20
6	Open subjects – Electives from other technical and /or emerging subjects	OEC	18*	Specific to Departments	18-20
7	Project work, seminar and internship in industry or elsewhere	PROJ	15*	Specific to Departments	15-20
8	Mandatory Courses [Environmental Sciences, Induction training, Indian Constitution, Essence of Indian Traditional Knowledge]	MC	[Non-Credit]		
Total Credits			160*		
NPTEL/SWAYAM Courses Certification			20* (Max.)		
Mandatory Induction Program for first year students (Three Weeks duration)				<ul style="list-style-type: none"> • Physical activity • Creative Arts • Universal Human Values • Literary • Proficiency Modules • Lectures by Eminent People • Visits to local Areas • Familiarization to Dept./Branch & Innovations 	

*Minor variation is allowed as per need of the respective disciplines.

DEPARTMENT OF INFORMATION TECHNOLOGY
Samrat Ashok Technological Institute (Engineering. College) VIDISHA (M.P.)
(An Autonomous Institute Affiliated to RGPV, Bhopal)
Scheme of Examination (2020-21 & 2021-22)
Bachelor of Technology (B.Tech.) in Artificial Intelligence and Data Science (AIADS)

Semester-I

S. No. Subject Code Category Subject Name / Title				Maximum Marks Allotted						Contact Hrs.			Total Credits
				Theory Slot			Practical Slot						
				End Sem.	Mid Sem. Exam	Quiz, Assignment	End Sem .	Lab Work & Sessional	Total Marks	L	T	P	
Mandatory Induction Program (First Three weeks)				Physical activity, Creative Arts, Universal Human Values, Literary, Proficiency Modules, Lectures by Eminent People, Visits to local Areas, Familiarization to Dept./Branch & Innovations									
Fourth week onwards				The classes will start									
1	BT-1811	BSC	Engineering Chemistry	70	20	10	30	20	150	3	-	2	4
2	BT-1812	ESC	Basic Electrical & Electronics Engineering	70	20	10	30	20	150	3	-	2	4
3	BT-1813	ESC	Engineering Graphics	70	20	10	30	20	150	3	-	2	4
4	BT-1814	HSMC	Communication Skills	70	20	10	-	-	100	3	-	-	3
5	BT-1815	BSC	Engineering Mathematics-I	70	20	10	-	-	100	3	1	-	4
6	BT-1816	ESC	Manufacturing Practices	-	-	-	60	40	100	-	-	2	1
7		DLC	Internship – I (60 Hrs Duration at the Institute level)	To be completed during first/second semester. Its evaluation/credit to be added in third semester.									
			Total	350	100	50	150	100	750	15	1	8	20

MST: Minimum two mid semester tests to be conducted during Semester

L: Lecture

T: Tutorial

P: Practical

DEPARTMENT OF INFORMATION TECHNOLOGY

Samrat Ashok Technological Institute (Engineering. College) VIDISHA (M.P.)

(An Autonomous Institute Affiliated to RGPV, Bhopal)

Scheme of Examination (2020-21 & 2021-22)

Bachelor of Technology (B.Tech.) in Artificial Intelligence and Data Science (AIADS)

Semester-II

Semester II													
S. No.	Subject Code	Category	Subject Name / Title	Maximum Marks Allotted						Contact Hrs.			Total Credits
				Theory Slot			Practical Slot						
				End Sem.	Mid Sem. Exam	Quiz, Assignm ent	End Sem .	Lab Work & Sessional	Total Marks	L	T	P	
1	BT-1821	BSC	Semiconductor (Engineering Physics)	70	20	10	30	20	150	3	-	2	4
2	BT-1822	ESC	Basic Civil Engineering & Mechanics	70	20	10	30	20	150	3	-	2	4
3	BT-1823	ESC	Basic Mechanical Engineering	70	20	10	30	20	150	3	-	2	4
4	BT-1824	HSMC	Energy, Environment Ecology & Society	70	20	10	-	-	100	3	-	-	3
5	BT-1825	BSC	Probability and Statistics (Engineering Mathematics-II)	70	20	10	-	-	100	3	1	-	4
6	BT-1826	ESC	Programming for Problem Solving (Computer Programming)	-	-	-	60	40	100	-	-	2	1
7		DLC	Swachh Bharat Summer Internship Unnanat Bharat Abhiyaan (100Hrs)/ Rural out reach	To be completed during first/second semester. Its evaluation/credit to be added in third semester.									
			Total	350	100	50	150	100	750	15	1	8	20

MST: Minimum two mid semester tests to be conducted during Semester

L: Lecture

T: Tutorial

P: Practical

DEPARTMENT OF INFORMATION TECHNOLOGY
Samrat Ashok Technological Institute (Engineering. College) VIDISHA (M.P.)
(An Autonomous Institute Affiliated to RGPV, Bhopal)
Scheme of Examination (2020-21 & 2021-22)
Bachelor of Technology (B.Tech.) in Artificial Intelligence and Data Science (AIADS)

Semester-III

Semester III													
S. No.	Subject Code	Category	Subject Name / Title	Maximum Marks Allotted						Contact Hrs.			Total Credits
				Theory Slot			Practical Slot						
				End Sem.	Mid Sem. Exam	Quiz, Assignment	End Sem .	Term work Lab Work & Sessional	Total Marks	L	T	P	
1	AI-2031	HSMC	Management (Organizational Behavior/Managerial Economics)	70	20	10	-	-	100	3	1	-	4
5	AI -2032	DC	Introduction to Data Science	70	20	10	30	20	150	3	-	2	4
3	AI -2033	DC	Data Structure and Algorithm	70	20	10	30	20	150	3	-	2	4
4	AI -2034	DC	Computer Organization and Architecture	70	20	10	30	20	150	3	-	2	4
2	AI -2035	DC	Discrete Mathematics	70	20	10	-	-	100	3	-	-	3
6	AI -2036	HSMC	Language Lab	-	-	-	30	20	50	-	-	2	1
7	AI -2037	DLC	Evaluation of Internship – I completed at I year level & Seminar (personality development)	-	-	-	50	-	50	-	-	4	2
8		DLC	90 hrs Internship based on using various software's Internship – II	To be completed anytime during Third/Fourth semester. Its evaluation/ credit to be added in fifth semester.									
			Total	350	100	50	170	80	750	15	1	12	22
9		MC	Constitution of India (Ethics)	Non Credit	-	-	-	-	-	-	-	-	-
10		SL	MOOCs	-	-	-	-	-	-	-	-	-	-
11		NLC	Participation & Winning in National level competition	-	-	-	-	-					
12			NSS/NCC	Qualifier									

MST: Minimum two mid semester tests to be conducted during Semester

L: Lecture

T: Tutorial

P: Practical

DEPARTMENT OF INFORMATION TECHNOLOGY

Samrat Ashok Technological Institute (Engineering. College) VIDISHA (M.P.)

(An Autonomous Institute Affiliated to RGPV, Bhopal)

Scheme of Examination (2020-21 & 2021-22)

Bachelor of Technology (B.Tech.) in Artificial Intelligence and Data Science (AIADS)

Semester-IV

S. No.	Subject Code	Category	Subject Name / Title	Maximum Marks Allotted						Contact Hrs.			Total Credits
				Theory Slot			Practical Slot						
				End Sem.	Mid Sem. Exam	Quiz, Assignment	End Sem .	Term work Lab Work & Sessional	Total Marks	L	T	P	
1	AI-2041	DC	Operating System	70	20	10	-	-	100	3	1	-	4
2	AI -2042	DC	Data Base Management System	70	20	10	30	20	150	3	-	2	4
3	AI -2043	DC	Introduction to Machine Learning	70	20	10	30	20	150	3	-	2	4
4	AI -2044	DC	Analysis and Design of Algorithm	70	20	10	30	20	150	3	-	2	4
5	AI -2045	BSC	Engineering Mathematics-III	70	20	10	-	-	100	3	-	-	3
6	AI -2046	DLC	Python	-	-	-	60	40	100	-	-	2	1
7	AI -2047	DLC	90 hrs Internship based on using various software's - Internship – II	To be completed anytime during Fourth semester. Its evaluation/ credit to be added in fifth semester.						-	-	-	-
			Total	350	100	50	150	100	750	15	1	8	20
8		MC	Indian Traditional Knowledge	-	-	-	-	-	-	-	-	-	-
9		SL	MOOCs	-	-	-	-	-	-	-	-	-	-
10		NLC	Participation & Winning in National level competition	-	-	-	-	-					

MST: Minimum two mid semester tests to be conducted during Semester

L: Lecture

T: Tutorial

P: Practical

DEPARTMENT OF INFORMATION TECHNOLOGY


SAMRAT ASHOK TECHNOLOGICAL INSTITUTE VIDISHA (M.P.)

(An autonomous institute affiliated to RGPV Bhopal)

Scheme of Examination (2020-21 & 2021-22)

(Semester - V)

Bachelor of Technology (B. Tech.) – ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

		<div>SAMRAT ASHOK TECHNOLOGICAL INSTITUTE VIDISHA (M.P.)</div> <div>(An autonomous institute affiliated to RGPV Bhopal)</div> <div>Scheme of Examination (2020-21 & 2021-22)</div> <div>(Semester - V)</div> <div>Bachelor of Technology (B. Tech.) – ARTIFICIAL INTELLIGENCE AND DATA SCIENCE</div>										
Subject Code	Subject Category	Subject Name	Maximum Marks Allotted						Contact Hrs.			Total Credits
			Theory			Practical						
			ES	MS	QA	ES	LW	Total Marks	L	T	P	
AI -2051	PCC	Computer Network	70	20	10	30	20	150	3		2	4
AI-2052	PCC	Artificial Intelligence	70	20	10	30	20	150	3		2	4
AI-2053	PCC	Cloud Computing	70	20	10	30	20	150	3		2	4
AI-2054	PEC	Department Elective-1	70	20	10			100	3	1		4
AI-2055	OEC	Open Elective-1	70	20	10			100	3			3
AI-2056	DLC	Advanced Data Science Lab				30	20	50			4	2
AI-2057	DLC	Internship				30	20	50			2	1
Total			350	100	50	150	100	750	15	1	12	22

MST: Minimum two mid semester tests to be conducted during Semester

	Departmental Elective Course-1	Open Elective (the course must be enrolled in inter department)-2
PEC-1(A)	Introduction to Logic	IoT Architecture (OE-1(A))
PEC-1(B)	Image Processing	CGMM(OE-1(B))
PEC-1(C)	Data Mining and Warehousing	Web Technology (OE-1(C))

DEPARTMENT OF INFORMATION TECHNOLOGY



SAMRAT ASHOK TECHNOLOGICAL INSTITUTE VIDISHA (M.P.)

(An autonomous institute affiliated to RGPV Bhopal)

Scheme of Examination (2020-21 & 2021-22)

(Semester - VI)

Bachelor of Technology (B. Tech.) – ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

Subject Code	Subject Category	Subject Name	Maximum Marks Allotted						Contact Hrs.			Total Credits
			Theory			Practical						
			ES	MS	QA	ES	LW	Total Marks	L	T	P	
AI -2061	PCC	Data Handling and Visualization	70	20	10	30	20	150	3		2	4
AI-2062	PCC	Business Intelligence	70	20	10	30	20	150	3		2	4
AI-2063	PCC	Natural Language Processing	70	20	10	30	20	150	3		2	4
AI-2064	PEC	PEC-2	70	20	10			100	3			3
AI-2065	OEC	OE-2	70	20	10			100	3			3
AI-2066	PROJ	Minor Project-1				50	50	100			4	2
Total			350	100	50	140	110	750	15		10	20

MST: Minimum two mid semester tests to be conducted during Semester

PEC (Department Elective-2)		Open Elective (the course must be enrolled in inter department)-2	
PEC-2(A)	Robotics Process Automation	Soft Computing OE-2(A)	
PEC-2(B)	Computer Vision	Information Retrieval OE-2(B)	
PEC-2(C)	Data compression	Advanced Web Technology OE-2(C)	

DEPARTMENT OF INFORMATION TECHNOLOGY


SAMRAT ASHOK TECHNOLOGICAL INSTITUTE VIDISHA (M.P.)

(An autonomous institute affiliated to RGPV Bhopal)

Scheme of Examination (2020-21 & 2021-22)

(Semester - VII)

Bachelor of Technology (B. Tech.) – ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

		<div>SAMRAT ASHOK TECHNOLOGICAL INSTITUTE VIDISHA (M.P.)</div> <div>(An autonomous institute affiliated to RGPV Bhopal)</div> <div>Scheme of Examination (2020-21 & 2021-22)</div> <div>(Semester - VII)</div> <div>Bachelor of Technology (B. Tech.) – ARTIFICIAL INTELLIGENCE AND DATA SCIENCE</div>										
Subject Code	Subject Category	Subject Name	Maximum Marks Allotted						Contact Hrs.			Total Credits
			Theory			Practical						
			ES	MS	QA	ES	LW	Total Marks	L	T	P	
AI-2071	PCC	Big Data Analytics	70	20	10	30	20	150	3	0	2	4
AI-2072	PCC	Probabilistic Graphical Methods	70	20	10			100	3	1	0	4
AI-2073	PCC	Deep Learning	70	20	10			100	3	1	0	4
AI-2074	PEC	PEC-3	70	20	10			100	3	0	0	3
AI-2075	OEC	OE-3	70	20	10			100	3	0	0	3
AI-2076	PROJ	Major Project Prelim				100	50	150			4	2
AI-2077	DLC	Internship				50		50			4	2
Total			350	100	50	180	70	750	15	2	10	22

MST: Minimum two mid semester tests to be conducted during Semester

List of Elective and Open Courses

PEC (Department Elective-3)		Open Elective (the course must be enrolled in inter department)-3	
PEC-3(A)	Modern Tools for Data Science	Automata and Compiler Design OE-3(A)	
PEC-3(B)	Pattern Recognition	Recommendation System OE-3(B)	
PEC-3(C)	Distributed Systems	Application Development OE-3(C)	

DEPARTMENT OF INFORMATION TECHNOLOGY



SAMRAT ASHOK TECHNOLOGICAL INSTITUTE VIDISHA (M.P.)

(An autonomous institute affiliated to RGPV Bhopal)

Scheme of Examination (2020-21 & 2021-22)

(Semester -VIII)

Bachelor of Technology (B. Tech.) – Artificial Intelligence and Data Science

Subject Code	Subject Category	Subject Name	Maximum Marks Allotted						Contact Hrs.			Total Credits
			Theory			Practical			L	T	P	
			ES	MS	QA	ES	LW	Total Marks				
AI-2081	OEC	MOOCs Courses/ Open Elective -4*	70	20	10	-	-	100	3			3
AI-2082	OEC	MOOCs Courses /Open Elective -5*	70	20	10	-	-	100	3			3
AI-2083	PROJ	Major Project final	-	-	-	400	150	550	-	-	16	8
Total			140	40	20	400	150	750	-	-	16	14

MST: Minimum two mid semester tests to be conducted during Semester

Open Elective-4	Open Elective -5
A) AI: Constraint Satisfaction	A) Optimization for Machine learning, Theory & Implementation.
B) Artificial Intelligence: Knowledge representation & Reasoning	B) Fuzzy sets, Logic and Systems & Applications

Note*:- Pool of subjects for OE-4&5 is subjected to change as floated by NPTEL/MOOC's/SWAYAM.