

DEPARTMENT OF INFORMATION TECHNOLOGY

Department of information technology [BOS-(IoT)-15-12-2023]

SAMRAT ASHOK TECHNOLOGICAL INSTITUTE VIDISHA (M.P.)

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

Department Of Information Technology

Programme -IoT

Scheme-2021-2022

Samrat Ashok Technological Institute (Engineering College) VIDISHA (M.P.)
(An Autonomous Institute Affiliated to RGPV, Bhopal)
Proposed Scheme of Examination
Bachelor of Technology (B.Tech.) in Internet of Things (IoT)

Semester-III

Semester-III				Maximum Marks Allotted						Contact Hrs.			Total Credits
S. No.	Subject Code	Category	Subject Name / Title	Theory Slot			Practical Slot			L	T	P	
				End Sem.	Mid Sem. Exam	Quiz, Assignment	End Sem.	Term work Lab Work & Sessional	Total Marks				
1	IoT-2031	DC	Signals & Systems	70	20	10	-	-	100	3	1	-	4
2	IoT-2032	DC	Electronic Devices & Circuits	70	20	10	30	20	150	3	-	2	4
3	IoT-2033	DC	Analog Electronics	70	20	10	30	20	150	3	-	2	4
4	IoT -2034	DC	Digital Electronics	70	20	10	30	20	150	3	-	2	4
5	IoT -2035	BSC	Engineering Mathematics-III	70	20	10	-	-	100	3	-	-	3
6	IoT -2036	HSMC	Language Lab	-	-	-	30	20	50	-	-	2	1
7	IoT -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

Mr. Sudesh Morey

Mr. Satish Asnani

Dr. Dhananjay V. Gadre

Dr. N. P. Patidar

Prof. Vipin Patait

Dr. Divya Rishi Sahu

Prof. Shaila Chugh

Prof. C. S. Sharma

Dr. Jyotsna V Ogale

Dr. J. S. Chauhan



SAMRAT ASHOK TECHNOLOGICAL INSTITUTE VIDISHA (M.P.)
(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV Bhopal)

Scheme of Examination (Semester-IV)

for Batch Admitted in session - 2021-22

Bachelor of Technology (B. Tech.) – Internet of Things

Subject Code	Subject Category	Subject Name	Maximum Marks Allotted						Contact Hrs.			Total Credits
			Theory			Practical		Total Marks				
			ES	MS	Assignment/ Quiz	ES	Term Work, Lab Work or Sessional					
IoT 2041	DC	Data Structure and Algorithm	70	20	10	30	20	150	3	0	2	4
IoT 2042	DC	Operating System	70	20	10	30	20	150	3	0	2	4
IoT 2043	DC	Python Programming	70	20	10	30	20	150	3	0	2	4
IoT 2044	DC	Fundamentals of IoT	70	20	10	--		100	3	0	0	3
IoT 2045	DC	Sensors and Actuators	70	20	10	--		100	3	1	0	4
IoT 2046	DLC	Linux and Shell Programming	--	--	--	60	40	100	0	0	2	1
	DLC	Internship II (90 hrs.)	To be completed by the student during IV semester and will be evaluated in the V semester									
Total			350	100	50	150	100	750	15	1	8	20
MST: Minimum two mid semester tests to be conducted during Semester,												

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

ES: End Semester MS: Mid Semester L: Lecture T: Tutorial P: Practical

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]

[Signature]



SAMRAT ASHOK TECHNOLOGICAL INSTITUTE VIDISHA (M.P.)
(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV Bhopal)

Scheme of Examination (Semester-V)

for Batch Admitted in session - 2021-22

Bachelor of Technology (B. Tech.) – Internet of Things

Subject Code	Subject Category	Subject Name	Maximum Marks Allotted						Contact Hrs.			Total Credits
			Theory			Practical		Total Marks	L	T	P	
			ES	MS	Assignment/ Quiz	ES	Term Work, Lab Work or Sessional					
IoT 2051	DC	Microprocessors and Microcontrollers	70	20	10	30	20	150	3	0	2	4
IoT 2052	DC	Foundation of Data Science	70	20	10	30	20	150	3	0	2	4
IoT 2053	DC	Database Management System	70	20	10	30	20	150	3	0	2	4
IoT 2054	DC	Object Oriented Programming	70	20	10	-	-	100	3	1	0	4
IoT 2055	OC	OC -I	70	20	10	--	-	100	3	0	0	3
IoT 2056	DLC	Android Programming	--	--	--	50		50	0	0	2	1
IoT 2057	DLC	Internship II (90 hrs.)					50	50			4	2
Total			350	100	50	140	110	750	15	1	12	22
MST: Minimum two mid semester tests to be conducted during Semester.												

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

	OC -I
A	Computer Networks
B	Communication System



SAMRAT ASHOK TECHNOLOGICAL INSTITUTE VIDISHA (M.P.)
(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV Bhopal)

Scheme of Examination (Semester-VI)

for Batch Admitted in session - 2021-22

Bachelor of Technology (B. Tech.) – Internet of Things

Subject Code	Subject Category	Subject Name	Maximum Marks Allotted						Contact Hrs.			Total Credits
			Theory			Practical		Total Marks				
			ES	MS	Assignment/Quiz	ES	Term Work, Lab Work or Sessional		L	T	P	
IoT 2061	DC	Automata and compiler design	70	20	10	-	-	100	3	0	0	3
IoT 2062	DE	DE -1	70	20	10	30	20	150	3	0	2	4
IoT 2063	DE	DE -2	70	20	10	30	20	150	3	0	2	4
IoT 2064	DE	DE -3	70	20	10	30	20	150	3	0	2	4
IoT 2065	OC	OC-2	70	20	10	--	-	100	3	0	0	3
IoT 2066	DLC	Minor Project I	--	--	--	50	50	100	0	0	4	2
Total			350	100	50	140	110	750	15	0	10	20

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

ES: End Semester MS: Mid Semester L: Lecture T: Tutorial P: Practical

	DE – 1	DE -2	DE -3	OC
A	Introduction to IoT Development Boards	Web Engineering	Cloud Computing for IoT	Artificial Intelligence for IoT
B	Soft Computing	Computer Graphics	Digital Signal Processing	Advanced Computer Architecture



SAMRAT ASHOK TECHNOLOGICAL INSTITUTE VIDISHA (M.P.)

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

Scheme of Examination (Semester-VII)

for Batch Admitted in session - 2020-21

Bachelor of Technology (B. Tech.) – Internet of Things

Subject Code	Subject Category	Subject Name	Maximum Marks Allotted						Contact Hrs.			Total Credits
			Theory			Practical		Total Marks				
			ES	MS	Assignment/ Quiz	ES	Term Work, Lab Work or Sessional					
IoT 2071	DE	DE – 4	70	20	10	-	-	100	3	1	-	4
IoT 2072	DE	DE – 5	70	20	10	-	-	100	3	1	-	4
IoT 2073	DE	DE – 6	70	20	10	-	-	100	3	0	-	3
IoT 2074	OC	OC – 3	70	20	10	-	-	100	3	0	-	3
IoT 2075	OC	OC - 4	70	20	10	--	-	100	3	0	-	3
IoT 2076	DLC	Digital Sensors Lab	--	--	--	30	20	50	0	0	2	1
IoT 2077	DLC	Internship III (Evaluation Personality Development)	-	-	-	50	-	50	-	-	4	2
IoT 2078	DLC	Major Project prelim	-	-	-	100	50	150	-	-	4	2
Total			350	100	50	180	70	750	15	2	10	22

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

ES: End Semester MS: Mid Semester L: Lecture T: Tutorial P: Practical

	DE – 4	DE -5	DE -6	OC – 3	OC -4
A	Big Data Analytics	Real Time Operating System	Mobile Application Development	Digital Image Processing	AI for IoT
B	Industrial IoT 4.0	Wireless Networks	UI/UX	Embedded System Design	Cyber Security



SAMRAT ASHOK TECHNOLOGICAL INSTITUTE VIDISHA (M.P.)

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

Scheme of Examination (Semester-VIII)

for Batch Admitted in session - 2021-22

Bachelor of Technology (B. Tech.) – Internet of Things

Subject Code	Subject Category	Subject Name	Bachelior of Technology (B. Tech.) – Internet of Things						Contact Hrs.			Total Credits
			Maximum Marks Allotted									
			Theory			Practical			Total Marks	L	T	
ES	MS	Assignment/ Quiz	ES	Term Work, Lab Work or Sessional								
IoT 2081	DE	Mooc Course -1/OC - 4	70	20	10			100	3	0	0	3
IoT 2082	OC	Mooc Course -2/OC -5	70	20	10			100	3	0	0	3
IoT 2083	PROJ	Major Project Final				400	150	550	0	0	16	8
Total			140	40	20	400	150	750	6	0	16	14
	NLC	Participation and winning in national level competition										
	SL	MOOCs										

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

ES: End Semester MS: Mid Semester L: Lecture T: Tutorial P: Practical

Mooc Course -1	Mooc Course -2
SWAYAM/NPTEL – COURSE Suggested by Department.	

	Mooc Course -1/OC - 4	Mooc Course -2/OC -5
A	Foundation of Cloud IoT Edge ML	Digital Design with Verilog
B	Foundations of Cyber Physical Systems	Cloud Computing and Distributed Systems

SWAYAM/NPTEL MOOC's Course *

For batch admitted 2021-22

OC - 4	OC -5
A. Foundation of Cloud IoT Edge ML	A. Digital Design with Verilog
B. Foundations of Cyber Physical Systems	B. Cloud Computing and Distributed Systems

Sr. No	Credit Points	Course/subject Name	Equivalent Course in NPTEL	Course Duration (Week)	Link
1.	03	Foundation of Cloud IoT Edge ML	https://onlinecourses.nptel.ac.in/noc23_cs65/preview	08	https://archive.nptel.ac.in/courses/106/104/106104242/
2.	03	Foundations of Cyber Physical Systems	https://onlinecourses.nptel.ac.in/noc23_cs62/preview	12	https://nptel.ac.in/courses/106105241
3.	03	Digital Design with Verilog	https://onlinecourses.nptel.ac.in/noc24_cs61/preview	12	https://nptel.ac.in/courses/108103179
4.	03	Cloud Computing and Distributed Systems	https://onlinecourses.nptel.ac.in/noc21_cs15/preview	08	https://nptel.ac.in/courses/106104182

Tentative Pool of subjects for Honours and Minor Degree

SWAYAM/NPTEL/MOOC's Courses

S. No.	Honours Degree for students of parent department	Minor Degree for students of other department	Remark
1.	Cloud Computing and Distributed Systems	Analog and Digital Electronics	8-12 Weeks
2.	Switching Circuits and Logic Design	Computer Networks And Internet Protocol	8-12 Weeks
3.	Advanced Computer Networks	Microprocessor and Microcontroller	8-12 Weeks
4.	Embedded System Design with ARM	Foundation of Cloud IoT Edge ML	8-12 Weeks
5.	Embedded Sensing, Actuation and Interfacing Systems	Foundations of Cyber Physical Systems	8-12 Weeks
6.	Digital System Design	Introduction to Embedded System Design	8-12 Weeks
7.	An Introduction to Information Theory	Introduction To Industry 4.0 And Industrial Internet Of Things	8-12 Weeks
8.	Industrial Automation And Control	Introduction To Internet Of Things	8-12 Weeks

*Note: Those subjects which are already studied in the core scheme from I to VIII semester cannot be opted.

20 additionally to be earned between V to VIII semester Maximum 6 credits per semester from V semester onwards will be permitted.

Tentative pool of subjects for Honours & Minor Degree

SWAYAM/NPTEL/ MOOC's Course *

Annexure-I

**NPTEL Courses Equivalence for Departmental and Open Electives
For
(Honour's Degree)**

ExistingElectives			SimilarNPTELCourse		
<i>Sr. No</i>	<i>Credit Points</i>	<i>Course/subjectName</i>	<i>Equivalent Course inNPTEL</i>	<i>CourseDuration(Week)</i>	<i>Link</i>
1.	2	Cloud Computing and Distributed Systems	https://onlinecourses.nptel.ac.in/noc21_cs15/preview	08	https://nptel.ac.in/courses/106104182
2.	3	Switching Circuits and Logic Design	https://onlinecourses.nptel.ac.in/noc20_cs67/preview	12	https://nptel.ac.in/courses/106105185
3.	3	Advanced Computer Networks	https://onlinecourses.nptel.ac.in/noc23_cs35/preview	12	https://nptel.ac.in/courses/106106243
4.	2	Embedded System Design with ARM	https://onlinecourses.nptel.ac.in/noc22_cs93/preview	08	https://nptel.ac.in/courses/106105193
5.	3	Embedded Sensing, Actuation and Interfacing Systems	https://onlinecourses.nptel.ac.in/noc24_e68/preview	12	https://nptel.ac.in/courses/108105376
6.	3	Digital System Design	https://onlinecourses.nptel.ac.in/noc21_e39/preview	12	https://nptel.ac.in/courses/108106177
7.	2	An Introduction to Information Theory	https://onlinecourses.nptel.ac.in/noc22_e49/preview	08	https://nptel.ac.in/courses/117104129
8.	3	Industrial Automation And Control	https://onlinecourses.nptel.ac.in/noc21_me67/preview	12	https://nptel.ac.in/courses/108105088

Tentative pool of subjects for Honours & Minor Degree

SWAYAM/NPTEL/ MOOC's Course *

Annexure-II

**NPTEL Courses Equivalence for Departmental and Open Electives
For
(Minor Degree)**

ExistingElectives			SimilarNPTELCourse		
Sr.No.	Credit Points	Course/subjectName	Equivalent Course inNPTEL	CourseDuration(Week)	Link
1.		Analog and Digital Electronics	https://nptel.ac.in/courses/108105158		https://nptel.ac.in/courses/108102112
2.	3	Computer Networks And Internet Protocol	https://onlinecourses.nptel.ac.in/noc22_cs19/preview	12	https://nptel.ac.in/courses/106105183
3.	3	Microprocessor and Microcontroller	https://onlinecourses.nptel.ac.in/noc22_e12/preview	12	https://nptel.ac.in/courses/108105102
4.	2	Foundation of Cloud IoT Edge ML	https://onlinecourses.nptel.ac.in/noc23_cs65/preview	08	https://nptel.ac.in/courses/106104242
5.	3	Foundations of Cyber Physical Systems	https://onlinecourses.nptel.ac.in/noc23_cs62/preview	12	https://nptel.ac.in/courses/106105241
6.	3	Introduction to Embedded System Design	https://onlinecourses.nptel.ac.in/noc20_e98/preview	12	https://nptel.ac.in/courses/108102169
7.	3	Introduction To Industry 4.0 And Industrial Internet Of Things	https://onlinecourses.nptel.ac.in/noc20_cs69/preview	12	https://nptel.ac.in/courses/106105195
8.	3	Introduction To Internet Of Things	https://onlinecourses.nptel.ac.in/noc22_cs53/preview	12	https://nptel.ac.in/courses/106105166