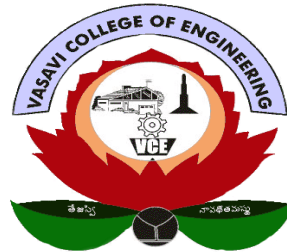


**Scheme of Instruction & Scheme of Examination
Bachelor of Engineering (IT)**

**Applicable for the students to be admitted in
A.Y. 2020-21 (R-20)**



**VASAVI COLLEGE OF ENGINEERING (A)
HYDERABAD**

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
SCHEME OF INSTRUCTION AND EXAMINATION (R20)
B.E. – IT : FIRST SEMESTER (2020 - 2021)

SEMESTER – I									
S No.	Course Code	Course Name	Scheme of Instruction			Scheme of Examination			
			Hours per week			Duration in Hrs	Maximum Marks		Credits
			L	T	P/D		SEE	CIE	
THEORY									
1	U20HS110EH	English Language and Communication – I	2	-	-	3	60	40	2
2	U20BS110MA	Engineering Mathematics – I	3	-	-	3	60	40	3
3	U20BS110PH	Semiconductor Physics and Optoelectronic Devices	3	1	-	3	60	40	4
4	U20ES120CS	Programming for Problem Solving	3	-	-	3	60	40	3
5	U20ES010EE	Basic Electrical Engineering	2	-	-	3	60	40	2
6	U20ES030CE	Engineering Drawing	1	-	2	3	60	40	2
PRACTICALS									
7	U20HS111EH	English Language and Communication Skills Lab-I	-	-	2	3	50	30	1
8	U20BS011PH	Applied Physics Lab	-	-	2	3	50	30	1
9	U20ES121CS	Programming for Problem Solving Lab	-	-	2	3	50	30	1
10	U20ES011EE	Basic Electrical Engineering Lab	-	-	2	3	50	30	1
Total			14	1	10	--	560	360	20
Grand Total			25			--	920		
<i>Note:</i>									
1. One hour is allotted to Library / Sports / Personality Development Programme / Mentor Interaction.									
2. The left over hours are to be allotted to CC / RC / TC based on the requirement.									

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
SCHEME OF INSTRUCTION AND EXAMINATION (R20)
B.E. – IT : SECOND SEMESTER (2020 - 2021)

SEMESTER - II									
S No.	Course Code	Course Name	Scheme of Instruction			Scheme of Examination			
			Hours per week			Duration in Hrs	Maximum Marks		Credits
			L	T	P/D		SEE	CIE	
THEORY									
1	U20HS210EH	English Language and Communication – II	2	-	-	3	60	40	2
2	U20BS210MA	Engineering Mathematics – II	3	-	-	3	60	40	3
3	U20BS220CH	Material Chemistry	3	-	-	3	60	40	3
4	U20ES010CE	Basic Engineering Mechanics	3	-	-	3	60	40	3
5	U20ES210IT	Basic Electronics	3	-	-	3	60	40	3
6	U20PC210IT	Python Programming	3	-	-	3	60	40	3
PRACTICALS									
7	U20HS211EH	English Language and Communication Skills Lab – II	-	-	2	3	50	30	1
8	U20BS011CH	Chemistry Lab	-	-	2	3	50	30	1
9	U20PC211IT	Python Programming Lab	-	-	2	3	50	30	1
10	U20ES211IT	Basic Electronics Lab	-	-	2	3	50	30	1
Total			17	-	8	--	560	360	21
Grand Total			25			--	920		
<i>Note:</i>									
1. One hour is allotted to Library / Sports / Personality Development Programme / Mentor Interaction.									
2. The left over hours are to be allotted to CC / RC / TC based on the requirement.									

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
SCHEME OF INSTRUCTION AND EXAMINATION (R20)
B.E. – IT : THIRD SEMESTER (2021 - 2022)

SEMESTER - III									
S No.	Course Code	Course Name	Scheme of Instruction			Scheme of Examination			
			Hours per week			Duration in Hrs	Maximum Marks		Credits
			L	T	P/D		SEE	CIE	
THEORY									
1	U20HS330EH	Skill Development-I (Communication Skills –I)	1	-	-	2	40	30	1
2	U20BS330MA	Skill Development – II (Aptitude – I)	1	-	-	2	40	30	1
3	U20BS340MA	Discrete Mathematics	3	-	-	3	60	40	3
4	U20ES310IT	Digital Electronics & Logic Design	3	-	-	3	60	40	3
5	U20PC310IT	Data Structures	3	-	-	3	60	40	3
6	U20PC320IT	Object Oriented Programming	3	-	-	3	60	40	3
7	U20OE3XXXX	Open Elective – I	2	-	-	3	60	40	2
8	U20MC010CE	Environmental Science	2	-	-	3	60	40	-
9	U20MC310ME	Introduction to Entrepreneurship	1	-	-	2	40	30	-
PRACTICALS									
10	U20PC311IT	Data Structures Lab	-	-	2	3	50	30	1
11	U20PC321IT	Object Oriented Programming Lab	-	-	2	3	50	30	1
12	U20PW319IT	Mini Project – I	-	-	2	-	-	30	1
Student should acquire one online certification course equivalent to 2 credits during III to VII Semesters.									
Total			19	-	6	-	580	420	19
Grand Total			25			-	1000		
Note: 1. One hour is allotted to Library / Sports / Mentor Interaction. 2. The left over hours are to be allotted to ECA-I / CCA-I / RC / CC / TC based on the requirement .									

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
SCHEME OF INSTRUCTION AND EXAMINATION (R20)
B.E. – IT : FOURTH SEMESTER (2021 - 2022)

SEMESTER - IV									
S No.	Course Code	Course Name	Scheme of Instruction			Scheme of Examination			
			Hours per week			Duration in Hrs	Maximum Marks		Credits
			L	T	P/D		SEE	CIE	
THEORY									
1	U20HS010EH	Human Values and Professional Ethics – I	1	-	-	2	40	30	1
2	U20BS430MA	Skill Development – III (Aptitude – II)	1	-	-	2	40	30	1
3	U20XX430XX	Skill Development - IV (Technical Skills- I)	1	-	-	2	40	30	1
4	U20BS420MA	Probability and Statistics	3	-	-	3	60	40	3
5	U20PC410IT	Computer Organization	3	-	-	3	60	40	3
6	U20PC420IT	Database Management Systems	3	-	-	3	60	40	3
7	U20PC430IT	Design & Analysis of Algorithms	3	-	-	3	60	40	3
8	U20PC440IT	Software Engineering	3	-	-	3	60	40	3
9	U20OE4XXXX	Open Elective – II	3	-	-	3	60	40	3
PRACTICALS									
10	U20PC411IT	Database Management Systems Lab	-	-	2	3	50	30	1
11	U20PC421IT	Design and Analysis of Algorithms Lab	-	-	2	3	50	30	1
12	U20PC431IT	Software Engineering Lab	-	-	2	3	50	30	1
Student should acquire one online certification course equivalent to 2 credits during III to VII Semesters.									
Total			21	-	6	-	630	420	24
Grand Total			27			-	1050		

Note:

1. One hour is allotted to Library / Sports / Mentor Interaction.
2. The left over hours are to be allotted to CCA-II / RC / CC / TC based on the requirement.

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
SCHEME OF INSTRUCTION AND EXAMINATION (R20)
B.E. – IT : FIFTH SEMESTER (2022 - 2023)

SEMESTER - V									
S No.	Course Code	Course Name	Scheme of Instruction			Scheme of Examination			
			Hours per week			Duration in Hrs	Maximum Marks		Credits
			L	T	P/D		SEE	CIE	
THEORY									
1	U20HS510EH	Skill Development – V (Communication Skills – II)	1	-	-	2	40	30	1
2	U20XX510XX	Skill Development – VI (Technical Skills – II)	1	-	-	2	40	30	1
3	U20PC510IT	Data Communications and Computer Networks	3	1	-	3	60	40	4
4	U20PC520IT	Microprocessors & Interfacing	3	-	-	3	60	40	3
5	U20PC530IT	Operating Systems	3	-	-	3	60	40	3
6	U20PC540IT	Theory of Automata	3	-	-	3	60	40	3
7	U20OE5XXXX	Open Elective - III	3	-	-	3	60	40	3
PRACTICALS									
8	U20PC511IT	Computer Networks lab	-	-	2	3	50	30	1
9	U20PC521IT	Microprocessors & Interfacing Lab	-	-	2	3	50	30	1
10	U20PC531IT	Operating Systems Lab	-	-	2	3	50	30	1
11	U20PW519IT	Mini Project – II	-	-	2	-	-	30	1
Student should acquire one online certification course equivalent to 2 credits during III to VII Semesters.									
Total			17	1	8	-	530	380	22
Grand Total			26			-	910		
<i>Note:</i> 1. One hour is allotted to Library / Sports / Mentor Interaction. 2. The left over hours are to be allotted to ECA-II / CCA-III / RC / CC / TC based on the requirement .									

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
SCHEME OF INSTRUCTION AND EXAMINATION (R20)
B.E. – IT : SIXTH SEMESTER (2022 - 2023)

SEMESTER - VI									
S No.	Course Code	Course Name	Scheme of Instruction			Scheme of Examination			
			Hours per week			Duration in Hrs	Maximum Marks		Credits
			L	T	P/D		SEE	CIE	
THEORY									
1	U20HS020EH	Human Values & Professional Ethics – II	1	-	-	2	40	30	1
2	U20HS040EH	Economics and Finance for Engineers	2	-	-	3	60	40	2
3	U20BS610MA	Skill Development – VII (Aptitude – III)	1	-	-	2	40	30	1
4	U20XX610XX	Skill Development – VIII (Technical Skills – III)	1	-	-	2	40	30	1
5	U20PC610IT	Artificial Intelligence and Machine Learning	3	-	-	3	60	40	3
6	U20PC620IT	Embedded Systems and IoT	3	-	-	3	60	40	3
7	U20PC630IT	Web Technologies	3	-	-	3	60	40	3
8	U20OE6XXXX	Open Elective - IV	3	-	-	3	60	40	3
PRACTICALS									
9	U20PC611IT	Artificial Intelligence and Machine Learning Lab	-	-	2	3	50	30	1
10	U20PC621IT	Embedded Systems and IoT Lab	-	-	2	3	50	30	1
11	U20PC631IT	Web Technologies Lab	-	-	2	3	50	30	1
12	U20PW619IT	Theme Based Project	-	-	2	-	-	30	1
Student should acquire one online certification course equivalent to 2 credits during III to VII Semesters.									
Total			17	-	8	-	570	410	21
Grand Total			25			-	980		

Note:

1. One hour is allotted to Library / Sports / Mentor Interaction.
2. The left over hours are to be allotted to CCA-IV/ RC / CC / TC based on the requirement .

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
SCHEME OF INSTRUCTION AND EXAMINATION (R20)
B.E. – IT : SEVENTH SEMESTER (2023 - 2024)

SEMESTER - VII									
S No.	Course Code	Course Name	Scheme of Instruction			Scheme of Examination			
			Hours per week			Duration in Hrs	Maximum Marks		Credits
			L	T	P/D		SEE	CIE	
THEORY									
1	U20PC710IT	Compiler Construction	3	-	-	3	60	40	3
2	U20PC720IT	Distributed Systems & Cloud Computing	3	-	-	3	60	40	3
3	U20PE7XXIT	Professional Elective - I	3	-	-	3	60	40	3
4	U20PE7XXIT	Professional Elective – II	3	-	-	3	60	40	3
5	U20PE7XXIT	Professional Elective – III	3	-	-	3	60	40	3
6	U20PE7XXIT	Professional Elective – IV	3	-	-	3	60	40	3
PRACTICALS									
7	U20PC711IT	Compiler Construction Lab	-	-	2	3	50	30	1
8	U20PC721IT	Distributed Systems & Cloud Computing Lab	-	-	2	3	50	30	1
9	U20PW719IT	Project Seminar	-	-	2	-	-	30	1
Student should acquire one online certification course equivalent to 2 credits during III to VII Semesters.									
Total			18	-	6	-	460	330	21
Grand Total			24			-	790		

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
SCHEME OF INSTRUCTION AND EXAMINATION (R20)
B.E. – IT : EIGHTH SEMESTER (2023 - 2024)

SEMESTER - VIII									
S No.	Course Code	Course Name	Scheme of Instruction			Scheme of Examination			
			Hours per week			Duration in Hrs	Maximum Marks		Credits
			L	T	P/D		SEE	CIE	
THEORY									
1	U20PE8XXIT	Professional Elective - V	3	-	-	3	60	40	3
2	U20PE8XXIT	Professional Elective -VI	3	-	-	3	60	40	3
PRACTICALS									
3	U20PW819IT	Project / Internship	-	-	12	Viva-Voce	50	50	6
Total			6	-	12		170	130	12
Grand Total			18			-	300		

Open Electives Offered By IT Department

Sl.No	Semester / Credit	Track 1	Track 2
1	III/2	Fundamentals of Data Structures (U20OE310IT)	Introduction to Linux (U20OE320IT)
2	IV/3	Introduction to Object Oriented Programming (U20OE410IT)	Introduction to Scripting Languages (U20OE420IT)
3	V/3	Introduction to Database Management Systems (U20OE510IT)	Introduction to Statistical Programming (U20OE520IT)
4	VI/3	Introduction to Web Application Development (U20OE610IT)	Introduction to Machine Learning (U20OE620IT)

Open Electives Offered To IT Department

Sem/ Credits	MECH	ECE	EEE	CIVIL	BS & HSS
III / 2	Geometric Modelling (U200E310ME)	Introduction to Signals & Systems (U200E310EC)	Non Conventional Energy Sources (U200E310EE)	Green Buildings (U200E310CE)	<ol style="list-style-type: none"> Basics of Cryptology (U200E310MA) Smart Materials and Applications (U200E310PH)
IV / 3	Optimization Methods for Engineers (U200E410ME)	<ol style="list-style-type: none"> Mathematical Programming for Engineers (U200E410EC) Introduction to Communication Systems (U200E420EC) 	Solar Power and Applications (U200E410EE)	Disaster Management (U200E410CE)	<ol style="list-style-type: none"> Linear Algebra & Its Applications (U200E410MA) Thin Film Technology and Applications (U200E420PH) Basics of Entrepreneurship (U200E410EH)
V / 3	Introduction to Robotics (U200E510ME)	Sensors for Engineering Applications (U200E510EC)	Basics of Electrical Power Generation (U200E510EE)	Spatial Information Technology (U200E510CE)	<ol style="list-style-type: none"> Advances in Entrepreneurship (U200E510EH) Numerical Methods (U200E510MA)
VI / 3	Additive Manufacturing and its Applications (U200E610ME)	Internet of Things (U200E610EC)	Electrical Installation and Safety (U200E610EE)	Project Management (U200E610CE)	<ol style="list-style-type: none"> Technical Writing & Professional Presentation (U200E010EH) Advances in Entrepreneurship (U200E510EH) English for Competitive Exams (U200E610EH) Fundamentals of Nano Materials and their Applications (U200E610PH) Technical Writing & Professional Presentation (U200E010EH)

Professional Electives

Sem/ PE	Data Science & AI	Software Engineering	Theory & Algorithms	Data Protection & Security
VII/ PE-I	Data Mining (U20PE710IT)	Object Oriented Analysis & Design (U20PE720IT)	Graph Theory (U20PE730IT)	Cryptography & Network Security (U20PE740IT)
VII/ PE-II	Data Analytics (U20PE750IT)	Software Testing (U20PE760IT)	Advanced Algorithms (U20PE770IT)	Information Security (U20PE780IT)
VII/ PE-III	Artificial Intelligence (U20PE790IT)	Software Reuse Techniques (U20PE712IT)	Parallel & Distributed Algorithms (U20PE722IT)	Information Storage Management (U20PE732IT)
VII/ PE-IV	Digital Image Processing (U20PE742IT)	Software Quality & Assurance (U20PE752IT)	Queuing Theory and Modeling (U20PE762IT)	Information Retrieval Systems (U20PE772IT)
VIII/ PE-V	Natural Language Processing (U20PE810IT)	Software Project Management (U20PE820IT)	Computational Number Theory (U20PE830IT)	Cloud Security (U20PE840IT)
VIII/ PE-VI	Neural Networks & Deep Learning (U20PE850IT)	Agile Software Development (U20PE860IT)	Information Theory and Coding (U20PE870IT)	Block Chain (U20PE880IT)

Semester Wise Credit Distribution	
Semester	Joining Academic Year
	2020-21
1	20
2	21
3	19
4	24
5	22
6	21
7	21
8	12
Online Certification Course	2
Total Credits	162