

B.E-CSE
SCHEME OF INSTRUCTION AND EXAMINATION (R-20)
OF I TO VIII SEMESTERS
FOR THE STUDENTS ADMITTED IN THE
ACADEMIC YEAR 2020-21

**SCHEME OF INSTRUCTION AND EXAMINATION (R-20)
FOR B.E 2020-21 ADMITTED BATCH I SEMESTER (A.Y 2020-21)**

B.E (CSE) I Semester								
Course Code	Name of the Course	Scheme of Instruction			Scheme of Examination			
		Hours per Week			Duration in Hrs	Maximum Marks		Credits
		L	T	P/D		SEE	CIE	
THEORY								
UI20HS110EH	English Language and Communication – I	2	-	-	3	60	40	2
UI20BS110MA	Engineering Mathematics – I	3	-	-	3	60	40	3
UI20BS010PH	Semiconductor Physics and Optoelectronic devices	3	1	-	3	60	40	4
UI20ES120CS	Programming for Problem Solving	3	-	-	3	60	40	3
UI20ES110EC	Introduction to Electronics Engineering	3	-	-	3	60	40	3
UI20ES030CE	Engineering Drawing	1	-	2	3	60	40	2
PRACTICALS								
UI20HS111EH	English Language and Communication Skills Lab – I	-	-	2	3	50	30	1
UI20BS011PH	Semiconductor and Optoelectronic Lab	-	-	2	3	50	30	1
UI20ES121CS	Programming for Problem Solving Lab	-	-	2	3	50	30	1
UI20ES111EC	Introduction to Electronics Engineering Lab	-	-	2	3	50	30	1
TOTAL		15	1	10		560	360	21
GRAND TOTAL					26		920	
Left over hours are allocated for Sports / Library / PDC / Mentor Interaction / CC / RC / TC								

**SCHEME OF INSTRUCTION AND EXAMINATION (R-20)
FOR B.E 2020-21 ADMITTED BATCH II SEMESTER (A.Y 2020-21)**

B.E (CSE) II Semester								
Course Code	Name of the Course	Scheme of Instruction			Scheme of Examination			Credits
		Hours per Week			Duration in Hrs	Maximum Marks		
		L	T	P/D		SEE	CIE	
THEORY								
UI20HS210EH	English Language and Communication – II	2	-	-	3	60	40	2
UI20BS210MA	Engineering Mathematics – II	3	-	-	3	60	40	3
UI20BS010CH	Material Chemistry	3	-	-	3	60	40	3
UI20ES010EE	Basic Electrical Engineering	2	-	-	3	60	40	2
UI20ES010CE	Basic Engineering Mechanics	3	-	-	3	60	40	3
UI20BS230CS	Discrete Structures	3	-	-	3	60	40	3
UI20ES240CS	Python Programming	2	-	-	3	60	40	2
PRACTICALS								
UI20HS211EH	English Language and Communication Skills Lab – II	-	-	2	3	50	30	1
UI20BS011CH	Chemistry Lab	-	-	2	3	50	30	1
UI20ES011EE	Basic Electrical Engineering Lab	-	-	2	3	50	30	1
UI20ES241ME	Python Programming Lab	-	-	2	3	50	30	1
TOTAL		18	-	8		620	400	22
GRAND TOTAL		26				1020		
Left over hours are allocated for Sports / Library / PDC / Mentor Interaction / CC / RC / TC								

**SCHEME OF INSTRUCTION AND EXAMINATION (R-20)
FOR B.E 2020-21 ADMITTED BATCH III SEMESTER (A.Y 2021-22)**

B.E (CSE) III Semester								
Course Code	Name of the Course	Scheme of Instruction			Scheme of Examination			
		Hours per Week			Duration in Hrs	Maximum Marks		Credits
		L	T	P/D		SEE	CIE	
THEORY								
UI20HS330EH	Skill Development - I : Communication Skills in English	2	-	-	3	60	40	2
UI20HS010EH	Human Values and Professional Ethics-I	1	-	-	2	40	30	1
UI20BS320MA	Transform Calculus, Probability and Statistics	3	-	-	3	60	40	3
UI20PC310CS	Logic and Switching Theory	3	-	-	3	60	40	3
UI20PC320CS	Data Structures	3	-	-	3	60	40	3
UI20PC330CS	Object Oriented Programming	3	-	-	3	60	40	3
UI20PC340CS	Computer Architecture	3	-	-	3	60	40	3
UI20OE3XXXX	Open Elective-I	2	-	-	3	60	40	2
UI20MC310ME	Introduction to Entrepreneurship	1	-	-	2	40	30	0
PRACTICALS								
UI20PC321CS	Data Structures Lab	-	-	2	3	50	30	1
UI20PC331CS	Object Oriented Programming Lab	-	-	2	3	50	30	1
TOTAL		21	0	4		600	400	22
GRAND TOTAL		25				1000		
Student should acquire one online certification course during III Semester to VII Semester								
Left over hours are allocated for Extra Curricular Activities, Co-Curricular Activities, Sports / Library / Mentor Interaction / CC / RC / TC								

**SCHEME OF INSTRUCTION AND EXAMINATION (R-20)
FOR B.E 2020-21 ADMITTED BATCH IV SEMESTER (A.Y 2021-22)**

B.E (CSE) IV Semester								
Course Code	Name of the Course	Scheme of Instruction			Scheme of Examination			
		Hours per Week			Duration in Hrs	Maximum Marks		Credits
		L	T	P/D		SEE	CIE	
THEORY								
UI20HS430EH	Skill Development - II : Communication Skills in English	2	-	-	3	60	40	2
UI20PC410CS	Database Management Systems	3	-	-	3	60	40	3
UI20PC420CS	Operating Systems	3	-	-	3	60	40	3
UI20PC430CS	Design & Analysis of Algorithms	3	-	-	3	60	40	3
UI20PC440CS	Automata, Languages and Computation	3	-	-	3	60	40	3
UI20OE4XXXX	Open Elective-II	3	-	-	3	60	40	3
UI20MC010CE	Environmental Science	2	-	-	3	60	40	0
PRACTICALS								
UI20PC411CS	Database Management Systems Lab	-	-	2	3	50	30	1
UI20PC421CS	Operating Systems Lab	-	-	2	3	50	30	1
UI20PC431CS	Design & Analysis of Algorithms Lab	-	-	2	3	50	30	1
UI20PW419CS	Mini Project-I	-	-	2	-	-	30	1
TOTAL		19	-	8		570	400	21
GRAND TOTAL		27				970		
Student should acquire one online certification course during III Semester to VII Semester								
Left over hours are allocated for Co-Curricular Activities / Sports / Library / Mentor Interaction / CC / RC / TC								

**SCHEME OF INSTRUCTION AND EXAMINATION (R-20)
FOR B.E 2020-21 ADMITTED BATCH V SEMESTER (A.Y 2022-23)**

B.E (CSE) V Semester								
Course Code	Name of the Course	Scheme of Instruction			Scheme of Examination			
		Hours per Week			Duration in Hrs	Maximum Marks		Credits
		L	T	P/D		SEE	CIE	
THEORY								
UI20HS510EH	Skill Development – III : Soft Skills	1	-	-	2	40	30	1
UI20HS020EH	Human Values and Professional Ethics-II	1	-	-	2	40	30	1
UI20HS040EH	Economics and Finance for Engineers	2	-	-	3	60	40	2
UI20PC510CS	Microprocessors, Microcontroller & Interfacing	3	-	-	3	60	40	3
UI20PC520CS	Computer Networks	3	-	-	3	60	40	3
UI20PC530CS	Web Programming and Services	3	-	-	3	60	40	3
UI20PC540CS	Machine Learning	3	-	-	3	60	40	3
UI20PE510CS	Skill Development - III : Technical Skills	1	-	-	2	40	30	1
UI20OE5XXXX	Open Elective-III	3	-	-	3	60	40	3
PRACTICALS								
UI20PC511CS	Microprocessors, Microcontroller & Interfacing Lab	-	-	2	3	50	30	1
UI20PC521CS	Computer Networks Lab	-	-	2	3	50	30	1
UI20PC531CS	Web Programming and Services Lab	-	-	2	3	50	30	1
TOTAL		20	0	6		630	420	23
GRAND TOTAL		26				1050		
Student should acquire one online certification course during III Semester to VII Semester								
Left over hours are allocated for Extra Curricular Activities / Co-Curricular Activities / Sports / Library / Mentor Interaction / CC /RC / TC								

**SCHEME OF INSTRUCTION AND EXAMINATION (R-20)
FOR B.E 2020-21 ADMITTED BATCH VI SEMESTER (A.Y 2022-23)**

B.E (CSE) VI Semester								
Course Code	Name of the Course	Scheme of Instruction			Scheme of Examination			Credits
		Hours per Week			Duration in Hrs	Maximum Marks		
		L	T	P/D		SEE	CIE	
THEORY								
UI20HS610EH	Skill Development-IV : Soft Skills	1	-	-	2	40	30	1
UI20PC610CS	Internet of Things	2	-	-	3	60	40	2
UI20PC620CS	Software Engineering	2	-	-	3	60	40	2
UI20PC630CS	Artificial Intelligence	3	-	-	3	60	40	3
UI20PE6XXCS	Professional Elective-I	3	-	-	3	60	40	3
UI20PE610CS	Skill Development-IV : Technical Skills	1	-	-	2	40	30	1
UI20OE6XXXX	Open Elective-IV	3	-	-	3	60	40	3
PRACTICALS								
UI20PC611CS	Internet of Things Lab	-	-	2	3	50	30	1
UI20PC621CS	Software Engineering Lab	-	-	2	3	50	30	1
UI20PC631CS	Artificial Intelligence and Machine Learning Lab	-	-	2	3	50	30	1
UI20PW619CS	Theme Based Project	-	-	2	-	-	30	1
TOTAL		15	0	8		530	380	19
GRAND TOTAL		23				910		
Student should acquire one online certification course during III Semester to VII Semester								
Left over hours are allocated for Co-Curricular Activities / Sports / Library / Mentor Interaction / CC / RC / TC								

**SCHEME OF INSTRUCTION AND EXAMINATION (R-20)
FOR B.E 2019-20 ADMITTED BATCH VII SEMESTER (A.Y. 2023-24)**

B.E (CSE) VII Semester								
Course Code	Name of the Course	Scheme of Instruction			Scheme of Examination			
		Hours per Week			Duration in Hrs	Maximum Marks		Credits
		L	T	P/D		SEE	CIE	
THEORY								
UI20PC710CS	Distributed Systems and Cloud Computing	3	-	-	3	60	40	3
UI20PC720CS	Compiler Construction	3	-	-	3	60	40	3
UI20PE7XXCS	Professional Elective-II	3	-	-	3	60	40	3
UI20PE7XXCS	Professional Elective-III	3	-	-	3	60	40	3
UI20PE7XXCS	Professional Elective-IV	3	-	-	3	60	40	3
PRACTICALS								
UI20PC711CS	Distributed Systems and Cloud Computing Lab	-	-	2	3	50	30	1
UI20PC721CS	Compiler Construction Lab	-	-	2	3	50	30	1
UI20PW719CS	Mini Project-II	-	-	2	-	-	30	1
UI20PW729CS	Project Seminar	-	-	2	-	-	30	1
TOTAL		15	0	8	-	400	320	19
GRAND TOTAL		23				720		
Student should acquire one online certification course during III Semester to VII Semester								
Left over hours are allocated for CC								

**SCHEME OF INSTRUCTION AND EXAMINATION (R-20)
FOR B.E 2019-20 ADMITTED BATCH VIII SEMESTER (A.Y 2023-24)**

B.E (CSE) VIII Semester								
Course Code	Name of the Course	Scheme of Instruction			Scheme of Examination			Credits
		Hours per Week			Duration in Hrs	Maximum Marks		
		L	T	P/D		SEE	CIE	
THEORY								
UI20PE8XXCS	Professional Elective – V	3	-	-	3	60	40	3
UI20PE8XXCS	Professional Elective – VI	3	-	-	3	60	40	3
PRACTICALS								
UI20PW819CS	Project / Internship	-	-	16	Viva-Voce	50	50	8
TOTAL		6	-	16		170	130	14
GRAND TOTAL		22				300		

B. E. List of Professional Electives - Stream wise									
	Artificial Intelligence & Data Engineering			Systems & Networks		Software Engineering		Applications	
	Course Code	Title	Course Code	Title	Course Code	Title	Course Code	Title	
Sem -VI	PE -I	UI20PE610CS	Neural Networks	UI20PE 620CS	Advanced Computer Architecture	UI20PE 630CS	Software Project Management	UI20PE640CS	Image Processing
Sem -VII	PE-II	UI20PE710CS	Data Mining	UI20PE 720CS	Multi-core and GPU Computing	UI20PE 730CS	Software Design tools and methodologies	UI20PE 740CS	Computer vision
	PE-III	UI20PE750CS	Deep Learning	UI20PE 760CS	Mobile Communications	UI20PE 770CS	Software Testing Methodologies	UI20PE 780CS	Information Security
	PE -IV	UI20PE714CS	Natural Language Processing	UI20PE 724CS	Ad hoc and Sensor Networks	UI20PE 734CS	Software Processes and Agile Practices	UI20PE 744CS	Pattern Recognition
Sem -VIII	PE-V	UI20PE810CS	Robotic Process Automation	UI20PE 820CS	Information Storage Management	UI20PE 830CS	Software Quality Management	UI20PE 840CS	Human Computer Interaction
	PE -VI	UI20PE850CS	Data Science	UI20PE 860CS	Advanced Databases	UI20PE 870CS	Secure Software Design	UI20PE 880CS	Block chain Architecture

OPEN ELECTIVES OFFERED BY CSE DEPARTMENT

B.E. III SEMESTER				
S.No.	Elective	Code	Title	credits
1	OE – I	UI20OE310CS	Introduction to Python Programming (Civil, EEE, ECE, MECH)	2
		UI20OE320CS	Cyber Security (Civil, EEE, ECE, MECH)	2
B.E. IV SEMESTER				
2	OE – II	UI20OE410CS	Introduction to Data Structures (Civil, EEE, ECE, MECH)	3
		UI20OE420CS	Introduction to Software Engineering (Civil, EEE, ECE, MECH)	3
B.E. V SEMESTER				
3	OE – III	UI20OE510CS	Fundamentals of Object Oriented Programming (Civil, EEE, ECE, MECH)	3
		UI20OE520CS	Web Design (Civil, EEE, ECE, MECH)	3
B.E. VI SEMESTER				
4	OE – IV	UI20OE610CS	Introduction to Databases (Civil, EEE, ECE, MECH)	3
		UI20OE620CS	Introduction to Operating Systems (Civil, EEE, ECE, MECH)	3

CREDIT DISTRIBUTION

Category	Sem 1	Sem 2	Sem 3	Sem 4	Sem 5	Sem 6	Sem 7	Sem 8	Category wise - Total credits	As per AICTE Actual Credits
HS	3	3	3	2	4	1	0	0	16	12
BS	8	10	3	0	0	0	0	0	21	24
ES	10	9	0	0	0	0	0	0	19	29
PC	0	0	14	15	15	10	8	0	62	49
PE	0	0	0	0	1	4	9	6	20	18
OE	0	0	2	3	3	3	0	0	11	12
MC	-	-	✓	✓	-	-	0	0	-	0
PRJ	0	0	0	1	-	1	2	8	12	15
-	21	22	22	21	23	19	19	14	161	159