


**KIT-Kalaignarkarunanidhi Institute of Technology**

(An Autonomous Institution)

Coimbatore – 641 402.

**Department of Computer Science and Engineering**  
**UG – Computer Science and Engineering Conceptual**  
**Frame work**

(For Students admitted from the Academic Year 2019-20 and onwards)

Semester	Level of Course	Hours / Week	No of Courses	Range of Credits/ Courses	Total Credits
<b>PART I</b>					
<b>A - Foundation Courses</b>					
I to II	Humanities and Social Sciences (HS)	3	2	3	6
I to IV	Basic Sciences (BS)	3-4	8	2 - 4	26
I to III	Engineering Sciences (ES)	3-4	7	1-2	14
<b>B - Professional Core Courses</b>					
II to VII	Professional Core(PC)	3-4	29	1-4	79
<b>C - Elective Courses</b>					
V to VIII	Professional Elective(PE)	3	6	3	18
V to VIII	Open Elective (OE)	3	4	3	12
<b>D – Project Work</b>					
V, VII & VIII	Project Work (PW)	4 -16	3	2 - 8	12
<b>E - Mandatory Courses Prescribed by AICTE/UGC (Not to be Included for CGPA)</b>					
II, III & IV	Mandatory Course(MC)	3	3	NC	NC
<b>Total Credit</b>					<b>167</b>
<b>PART II - Career Enhancement Courses (CEC)</b>					
II	Soft Skills – I	2	1	1	1
III	Soft Skills - II	2	1	1	1
	Professional Certificate Course- I	2	1	1	1
	In-plant Training	-	-	-	NC
III or IV	NPTEL like Online Certificate Courses	-	-	-	NC
IV	Career Ability Course- I	2	1	1	NC
V	Career Ability Course - II	2	1	1	NC
	Professional Certificate Course - II	2	1	1	1
	Summer Internship	-	1	1	1
V or VI	NPTEL like Online Certificate Courses	-	-	-	NC
VI	Career Ability Course - III	2	1	1	NC
<b>Total Credit</b>					<b>05</b>
Total Credit to be Earned					<b>172</b>
<b>PART III (Additional Credit Course - Not to be Included for CGPA)</b>					
Semester	Level of Course	Hours / Week	No of Courses	Range of Credits/ Courses	Total Credits
III	Hands on Training	20-30	1	-	1
IV	Hands on Training	20-30	1	-	1
V	Emerging Technology - Certificate Course - I	40-60	1	-	1
VI	Emerging Technology - Certificate Course – II	40-60	1	-	1
VII	Emerging Technology - Certificate Course – III	30-40	1	-	1

### Scheme of Instructions and Examinations

(For Students admitted from the Academic Year 2019-20 and onwards)

Semester I												
Course Code	Course Name	Category	Instructional Hours				Assessment				Credit	
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total		
Induction Programme												
B19ENT101	Functional English	HS	3	3	0	0	3	40	60	100	3	
B19MAT101	Matrices and Differential Calculus	BS	4	3	0	1	3	40	60	100	4	
B19PHT101	Engineering Physics	BS	3	3	0	0	3	40	60	100	3	
B19CST101	Problem Solving and Python Programming	ES	3	3	0	0	3	40	60	100	3	
B19MET101	Engineering Graphics	ES	6	2	4	0	3	40	60	100	4	
B19PHP101	Physics Laboratory	BS	4	0	4	0	3	40	60	100	2	
B19CSP101	Problem Solving and Python Programming Laboratory	ES	4	0	4	0	3	40	60	100	2	
B19MCP101	Life Skills	MC	2	0	2	0	-	100	-	100	NC	
<b>Total Contact Hours/ Week</b>			<b>29</b>	<b>14</b>	<b>14</b>	<b>1</b>	<b>Total Credits</b>				<b>21</b>	

Semester II												
Course Code	Course Name	Category	Instructional Hours				Assessment				Credit	
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total		
B19ENT201	Professional English	HS	3	3	0	0	3	40	60	100	3	
B19MAT201	Integral Calculus and Complex Analysis	BS	4	3	0	1	3	40	60	100	4	
B19CHT101	Engineering Chemistry	BS	3	3	0	0	3	40	60	100	3	
B19CST201	Programming in C	PC	3	3	0	0	3	40	60	100	3	
B19ECT203	Digital Logic and System Design	ES	3	3	0	0	3	40	60	100	3	
B19CHP101	Chemistry Laboratory	BS	4	0	4	0	3	40	60	100	2	
B19CSP201	C Programming Laboratory	PC	4	0	2	0	3	40	60	100	2	
B19MEP201	Basic Workshop Practices Laboratory	ES	4	0	4	0	3	40	60	100	2	
B19CEP201	Soft Skills - I	CEC	2	0	2	0	-	100	-	100	1	
<b>Total Contact Hours/ Week</b>			<b>30</b>	<b>15</b>	<b>12</b>	<b>1</b>	<b>Total Credits</b>				<b>23</b>	

Semester III											
Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19MAT301	Discrete Mathematics	BS	4	3	0	1	3	40	60	100	4
B19CST301	Computer Architecture	PC	3	3	0	0	3	40	60	100	3
B19CST302	Data Structures	PC	4	3	0	1	3	40	60	100	4
B19CST303	Operating Systems	PC	3	3	0	0	3	40	60	100	3
B19CST304	Object Oriented Programming	PC	3	3	0	0	3	40	60	100	3
B19MCT301	Environmental Sciences	MC	3	3	0	0	3	-	-	-	NC
B19CSP301	Data Structures Laboratory	PC	2	0	2	0	3	40	60	100	1
B19CSP302	Operating Systems Laboratory	PC	2	0	2	0	3	40	60	100	1
B19CEP301	Soft Skills- II	CEC	2	0	2	0	-	100	-	100	1
B19CEP302	Professional Certificate Course-I	CEC	2	0	2	0	-	100	-	100	1
B19CEP303	Online Certificate Course	CEC	-	-	-	-	-	-	-	-	NC
<b>Total Contact Hours/ Week</b>			<b>28</b>	<b>18</b>	<b>8</b>	<b>2</b>	<b>Total Credits</b>				<b>21</b>
<b>In-plant Training: Minimum ONE week</b> duration has to be completed ( Review will be conducted in first week of Sem IV and its credit will be included in Sem IV)											

Semester IV											
Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19MAT401	Probability and Queuing Theory	BS	4	3	0	1	3	40	60	100	4
B19CST401	Computer Networks	PC	3	3	0	0	3	40	60	100	3
B19CST402	Database Management Systems	PC	3	3	0	0	3	40	60	100	3
B19CST403	Design and Analysis of Algorithms	PC	4	3	0	1	3	40	60	100	4
B19CST404	Programming in Java	PC	3	3	0	0	3	40	60	100	3
B19MCT302	Indian Constitution	MC	3	3	0	0	3	-	-	-	NC
B19CSP401	Database Management and Systems Laboratory	PC	4	0	4	0	3	40	60	100	2
B19CSP402	Java Programming Laboratory	PC	4	0	4	0	3	40	60	100	2
B19CEP401	Career Ability Course - I	CEC	2	0	2	0	-	100	-	100	NC
B19CEP402	In-plant Training	CEC	-	-	-	-	-	-	-	-	-
<b>Total Contact Hours/ Week</b>			<b>30</b>	<b>18</b>	<b>10</b>	<b>2</b>	<b>Total Credits</b>				<b>21</b>
<b>Summer Internship - Duration 15 days</b> ( Review will be conducted in first week of Sem v and its credit will be included in Sem V)											
<b>Online Certificate Course (like NPTEL, Course era, Udemy etc)</b> has to be completed within second year (NC)											

Semester V											
Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19CST501	Software Engineering	PC	3	3	0	0	3	40	60	100	3
B19ECT601	Microprocessors and Microcontrollers	PC	3	3	0	0	3	40	60	100	3
B19CST503	Theory of Computation	PC	4	3	0	1	3	40	60	100	4
B19CST504	Web Technology	PC	3	3	0	0	3	40	60	100	3
	Professional Elective- I	PE	3	3	0	0	3	40	60	100	3
	Open Elective-I	OE	3	3	0	0	3	40	60	100	3
B19CSP501	Internet Programming Laboratory	PC	4	0	2	0	3	40	60	100	2
B19ECP602	Microprocessors and Microcontrollers Laboratory	PC	4	0	2	0	3	40	60	100	2
B19CEP501	Mini Project	PW	4	0	4	0	3	100		100	2
B19CEP501	Career Ability Course - II	CEC	2	0	2	0	-	100	-	100	NC
B19CEP502	Professional Certificate Course-II	CEC	2	0	2	0	-	100	-	100	1
B19CEP503	Summer Internship	CEC	-	-	-	-	-	-	-	-	1
<b>Total Contact Hours/ Week</b>			<b>35</b>	<b>18</b>	<b>12</b>	<b>1</b>	<b>Total Credits</b>				<b>27</b>

Semester VI											
Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19CST601	Data Analytics	PC	3	3	0	0	3	40	60	100	3
B19CST602	Compiler Design	PC	3	3	0	0	3	40	60	100	3
B19CST603	Cloud Computing	PC	3	3	0	0	3	40	60	100	3
	Professional Elective-II	PE	3	3	0	0	3	40	60	100	3
	Professional Elective-III	PE	3	3	0	0	3	40	60	100	3
	Open Elective-II	OE	3	3	0	0	40	60	100	100	3
B19CSP601	Compiler Laboratory	PC	4	0	4	0	3	40	60	100	2
B19CSP602	Cloud Computing Laboratory	PC	4	0	4	0	3	40	60	100	2
B19CEP601	Career Ability Course - III	CEC	2	0	2	0	-	100	-	100	NC
<b>Total Contact Hours/ Week</b>			<b>28</b>	<b>18</b>	<b>10</b>	<b>0</b>	<b>Total Credits</b>				<b>22</b>
<b>Online Certificate Course (like NPTEL, Course era, Udemy etc) has to be completed within third year (NC)</b>											



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Semester VII											
Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19CST701	Cryptography and Network Security	PC	3	3	0	0	3	40	60	100	3
B19CST702	Internet of Things	PC	3	3	0	0	3	40	60	100	3
	Professional Elective-IV	PE	3	3	0	0	3	40	60	100	3
	Professional Elective-V	PE	3	3	0	0	3	40	60	100	3
	Open Elective-III	OE	3	3	0	0	3	40	60	100	3
B19CSP701	Network Security Laboratory	PC	4	0	2	0	3	40	60	100	2
B19CSP702	Advanced Data Analytics Laboratory	PC	4	0	2	0	3	40	60	100	2
B19CSP703	Project work Phase-I	PW	4	0	4	0	-	-	-	-	2
<b>Total Contact Hours/Week</b>			<b>27</b>	<b>15</b>	<b>14</b>	<b>0</b>	<b>Total Credits</b>				<b>21</b>

Semester VIII											
Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
	Professional Elective-VI	PE	3	3	0	0	3	40	60	100	3
	Open Elective- IV	OE	3	3	0	0	3	40	60	100	3
B19CSP801	Project Work Phase-II	PW	16	0	16	0	3	40	60	100	8
<b>Total Contact Hours/Week</b>			<b>22</b>	<b>6</b>	<b>16</b>	<b>0</b>	<b>Total Credits</b>				<b>14</b>



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**HUMANITIES AND SOCIALSCIENCES (HS)**

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19ENT101	Functional English	HS	3	3	0	0	3	40	60	100	3
B19ENT201	Professional English	HS	3	3	0	0	3	40	60	100	3

**BASIC SCIENCES (BS)**

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19MAT101	Matrix Algebra and Differential Calculus	BS	4	3	0	1	3	40	60	100	4
B19PHT101	Engineering Physics	BS	3	3	0	0	3	40	60	100	3
B19PHP101	Physics Laboratory	BS	4	0	4	0	3	40	60	100	2
B19MAT201	Integral Calculus and Complex Analysis	BS	4	3	0	1	3	40	60	100	4
B19CHT101	Engineering Chemistry	BS	3	3	0	0	3	40	60	100	3
B19CHP101	Chemistry Laboratory	BS	4	0	4	0	3	40	60	100	2
B19MAT301	Discrete Mathematics	BS	4	3	0	1	3	40	60	100	4
B19MAT401	Probability and Queuing Theory	BS	4	3	0	1	3	40	60	100	4



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## ENGINEERING SCIENCES (ES)

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19CST101	Problem Solving and Python Programming	ES	3	3	0	0	3	40	60	100	3
B19MET101	Engineering Graphics	ES	6	2	4	0	3	40	60	100	4
B19CSP101	Problem Solving and Python Programming Laboratory	ES	4	0	4	0	3	40	60	100	2
B19ECT203	Digital Logic and System Design	ES	3	3	0	0	3	40	60	100	3
B19MEP201	Basic Workshop Practices Laboratory	ES	4	0	4	0	3	40	60	100	2

## PROFESSIONAL CORE (PC)

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19CST201	Programming in C	PC	3	3	0	0	3	40	60	100	3
B19CSP201	C Programming Laboratory	PC	4	0	2	0	3	40	60	100	2
B19CST301	Computer Architecture	PC	3	3	0	0	3	40	60	100	3
B19CST302	Data Structures	PC	4	3	0	1	3	40	60	100	4
B19CST303	Operating Systems	PC	3	3	0	0	3	40	60	100	3
B19CST304	Object oriented Programming in C++	PC	3	3	0	0	3	40	60	100	3
B19CSP301	Data Structures Laboratory	PC	2	0	2	0	3	40	60	100	1
B19CSP302	Operating Systems Laboratory	PC	2	0	2	0	3	40	60	100	1
B19CST401	Computer Networks	PC	3	3	0	0	3	40	60	100	3
B19CST402	Database Management Systems	PC	3	3	0	0	3	40	60	100	3
B19CST403	Design and Analysis of Algorithms	PC	4	3	0	1	3	40	60	100	4
B19CST404	Programming in Java	PC	3	3	0	0	3	40	60	100	3
B19CSP401	Database Management and Systems Laboratory	PC	4	0	4	0	3	40	60	100	2
B19CSP402	Java Programming Laboratory	PC	4	0	4	0	3	40	60	100	2



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B19CST501	Software Engineering	PC	3	3	0	0	3	40	60	100	3
B19CST502	Microprocessors and Microcontrollers	PC	3	3	0	0	3	40	60	100	3
B19CST503	Theory of Computation	PC	4	3	0	1	3	40	60	100	4
B19CST504	Web Technology	PC	3	3	0	0	3	40	60	100	3
B19CSP501	Internet Programming Laboratory	PC	2	0	2	0	3	40	60	100	1
B19CSP502	Microprocessors and Microcontrollers Laboratory	PC	2	0	2	0	3	40	60	100	1
B19CST601	Cloud Computing	PC	3	3	0	0	3	40	60	100	3
B19CST602	Internet of Things	PC	3	3	0	0	3	40	60	100	3
B19CST603	Compiler Design	PC	3	3	0	0	3	40	60	100	3
B19CSP601	Cloud Computing Laboratory	PC	4	0	4	0	3	40	60	100	2
B19CSP602	Compiler Laboratory	PC	4	0	4	0	3	40	60	100	2
B19CST701	Cryptography and Network Security	PC	3	3	0	0	3	40	60	100	3
B19CST702	Data Analytics	PC	3	3	0	0	3	40	60	100	3
B19CSP701	Network Security Laboratory	PC	2	0	2	0	3	40	60	100	1
B19CSP702	Data Analytics Laboratory	PC	2	0	2	0	3	40	60	100	1

**PROFESSIONAL ELECTIVES (PE)**

**Semester – V**

**Elective – I**

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19CSE501	Data Warehousing and Data Mining	PE	3	3	0	0	3	40	60	100	3
B19CSE502	TCP/IP socket Programming	PE	3	3	0	0	3	40	60	100	3
B19CSE503	Distributed Systems	PE	3	3	0	0	3	40	60	100	3
B19CSE504	Object Oriented Modeling and Design	PE	3	3	0	0	3	40	60	100	3
B19CSE505	Natural Language Processing (NLP)	PE	3	3	0	0	3	40	60	100	3
B19CSE506	Computer Graphics	PE	3	3	0	0	3	40	60	100	3



## Semester - VI

## Elective – II

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19CSE601	Software Testing	PE	3	3	0	0	3	40	60	100	3
B19CSE602	Multimedia Systems	PE	3	3	0	0	3	40	60	100	3
B19CSE603	Mobile Computing	PE	3	3	0	0	3	40	60	100	3
B19CSE604	Web Service and Service Oriented Architecture	PE	3	3	0	0	3	40	60	100	3
B19CSE605	Artificial Intelligence	PE	3	3	0	0	3	40	60	100	3
B19CSE606	Speech Processing	PE	3	3	0	0	3	40	60	100	3

## Semester – VI

## Electives – III

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19CSE607	Agile and Xtreme Programming	PE	3	3	0	0	3	40	60	100	3
B19CSE608	Wireless and Sensor Networks	PE	3	3	0	0	3	40	60	100	3
B19CSE609	Biometrics Systems	PE	3	3	0	0	3	40	60	100	3
B19CSE610	E-Commerce	PE	3	3	0	0	3	40	60	100	3
B19CSE611	Machine Learning Techniques	PE	3	3	0	0	3	40	60	100	3
B19CSE612	Social Network Analysis	PE	3	3	0	0	3	40	60	100	3



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## Semester - VII

## Electives - IV

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19CSE701	Software Quality Assurance	PE	3	3	0	0	3	40	60	100	3
B19CSE702	Multi-core Architectures and Programming	PE	3	3	0	0	3	40	60	100	3
B19CSE703	High performance Computing	PE	3	3	0	0	3	40	60	100	3
B19CSE704	Soft Computing	PE	3	3	0	0	3	40	60	100	3
B19CSE705	Deep Learning	PE	3	3	0	0	3	40	60	100	3
B19ECE705	Digital Image Processing	PE	3	3	0	0	3	40	60	100	3

## Semester - VII

## Electives - V

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19MGT101	Total Quality Management	PE	3	3	0	0	3	40	60	100	3
B19CSE708	Enterprise Computing	PE	3	3	0	0	3	40	60	100	3
B19CSE708	Information Retrieval Techniques	PE	3	3	0	0	3	40	60	100	3
B19CSE710	Real Time Systems	PE	3	3	0	0	3	40	60	100	3
B19CSE711	Agent based Intelligent Systems	PE	3	3	0	0	3	40	60	100	3
B19CSE712	Intellectual Property Rights	PE	3	3	0	0	3	40	60	100	3

## Semester - VIII

## Electives - VI

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19CSE801	Software Project Management	PE	3	3	0	0	3	40	60	100	3
B19CSE802	Network and Routing Protocols	PE	3	3	0	0	3	40	60	100	3
B19CSE803	Professional Ethics	PE	3	3	0	0	3	40	60	100	3
B19CSE804	Green Computing	PE	3	3	0	0	3	40	60	100	3
B19CSE805	Digital Forensics	PE	3	3	0	0	3	40	60	100	3
B19CSE806	Fundamentals of Nano Science	PE	3	3	0	0	3	40	60	100	3

## OPEN ELECTIVES (OE)

## Semester – V

## Elective – I

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19AEO501	Basics of Flight Mechanics	OE	3	3	0	0	3	40	60	100	3
B19AGO501	Environment and Agriculture	OE	3	3	0	0	3	40	60	100	3
B19BMO501	Medical Physics	OE	3	0	3	0	3	40	60	100	3
B19BTO501	Food Processing and Preservation	OE	3	3	0	0	3	40	60	100	3
B19ECO501	Logic and Distributed Control Systems	OE	3	3	0	0	3	40	60	100	3
B19EEO501	Hybrid Electric Vehicles	OE	3	3	0	0	3	40	60	100	3
B19MEO501	Robotics	OE	3	3	0	0	3	40	60	100	3

## Semester – VI

## Elective – II

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (SEE)	CIA	SEE	Total	
B19AEO601	Aircraft Electrical and Electronic Systems	OE	3	3	0	0	3	40	60	100	3
B19AGO601	Participatory water resources Management	OE	3	3	0	0	3	40	60	100	3
B19BMO601	Biocontrol Systems	OE	3	0	3	0	3	40	60	100	3
B19BTO601	Basic Bioinformatics	OE	3	3	0	0	3	40	60	100	3
B19ECO601	Geographic Information System	OE	3	3	0	0	3	40	60	100	3
B19EEO601	Power Electronics	OE	3	3	0	0	3	40	60	100	3
B19MEO601	Entrepreneurship Development	OE	3	3	0	0	3	40	60	100	3

## Semester – VII

## Elective – III

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (SEE)	CIA	SEE	Total	
B19AEO701	Basics of Rocket and Missiles	OE	3	3	0	0	3	40	60	100	3
B19AGO701	Production Technology in Agricultural Machinery	OE	3	3	0	0	3	40	60	100	3
B19BMO701	Biomedical Instrumentation	OE	3	0	3	0	3	40	60	100	3
B19BTO701	Fundamentals of Nano biotechnology	OE	3	0	3	0	3	40	60	100	3
B19ECO701	Telecommunication Network Management	OE	3	3	0	0	3	40	60	100	3
B19EEO701	Utilization and Conservation of Electrical Energy	OE	3	3	0	0	3	40	60	100	3
B19MEO701	3D Printing and Design	OE	3	3	0	0	3	40	60	100	3

## Semester – VIII

## Elective – IV

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact Periods	T	P	TU	Hours of Exam. (SEE)	CIA	SEE	Total	
B19AEO801	UAV System Design	OE	3	3	0	0	3	40	60	100	3
B19AGO801	Agricultural finance, Banking and Co-operation	OE	3	3	0	0	3	40	60	100	3
B19BMO801	Biomechanics	OE	3	0	3	0	3	40	60	100	3
B19BTO801	Bioreactor Design	OE	3	0	3	0	3	40	60	100	3
B19ECO801	Fundamentals of Planetary Remote Sensing	OE	3	3	0	0	3	40	60	100	3
B19EEO801	PLC and SCADA	OE	3	3	0	0	3	40	60	100	3
B19MEO801	Lean Six Sigma	OE	3	3	0	0	3	40	60	100	3



BoS CHAIRMAN

**PROJECT  
WORK (PW)**

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19CSP503	Mini Project	PW	4	0	4	0	3	100	-	100	2
B19CSP703	Project work Phase – I	PW	6	0	6	0	3	40	60	100	2
B19CSP801	Project Work Phase - II	PW	16	0	16	0	3	40	60	100	8

**CAREER ENHANCEMENT COURSE (CEC)**

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19CEP201	Soft Skills -I	CEC	2	0	2	0	-	100	-	100	1
B19CEP301	Soft Skills - II	CEC	2	0	2	0	-	100	-	100	1
B19CEP302	Professional Certificate Course-I	CEC	2	0	2	0	-	100	-	100	1
	In plant Training	CEC	-	-	-	-	-	-	-	-	NC
B19CEP401	Career Ability Course - I	CEC	2	0	2	0	-	100	-	100	NC
	NPTEL Online Certificate Courses	CEC	-	-	-	-	-	-	-	-	NC
B19CEP501	Career Ability Course - II	CEC	2	0	2	0	-	100	-	100	NC
B19CEP502	Professional Certificate Course-II	CEC	2	0	2	0	-	100	-	100	1
B19CEP503	Summer Internship	CEC	-	-	-	-	-	-	-	-	1
B19CEP601	Career Ability Course - III	CEC	2	0	2	0	-	100	-	100	NC
	NPTEL Online Certificate Courses	CEC	-	-	-	-	-	-	-	-	NC

**MANDATORY  
COURSE (MC)**

Course Code	Course Name	Category	Instructional Hours				Assessment				Credit
			Contact	T	P	TU	Hours of Exam. (ESE)	CIA	ESE	Total	
B19MCP101	Life Skills	MC	2	0	2	0	-	100	-	100	NC
B19MCT301	Environmental Sciences	MC	3	3	0	0	-	100	-	100	NC
B19MCT302	Indian Constitution	MC	3	3	0	0	-	100	-	100	NC