

# GUJARAT TECHNOLOGICAL UNIVERSITY

## Aeronautical Engineering (01)

### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2150101</a>	Flight Mechanics	4	1	0	5	70	30	30	20	150	1
<a href="#">2150102</a>	Fundamentals of Turbo Machines	4	1	0	5	70	30	30	20	150	1
<a href="#">2150103</a>	Aircraft Structures II	3	0	2	5	70	30	30	20	150	1
<a href="#">2150104</a>	Computational Fluid Dynamics II	3	0	2	5	70	30	30	20	150	1
<a href="#">2150107</a>	Aerodynamics I	4	1	0	5	70	30	30	20	150	1
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	1
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	1
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	1
	<b>Total</b>				31						

## Automobile Engineering (02)

### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2150202</a>	Automobile Systems	4	0	2	6	70	30	30	20	150	2
<a href="#">2151909</a>	Heat and Mass Transfer	3	0	2	5	70	30	30	20	150	2
<a href="#">2150206</a>	Automotive manufacturing	4	0	2	6	70	30	30	20	150	2
<a href="#">2150207</a>	Automobile Transmission	3	0	0	3	70	30	0	0	100	2
<a href="#">2150208</a>	Dynamics of Machines	3	0	2	5	70	30	30	20	150	2
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	2
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	2
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	2
	<b>Total</b>				31						

**Bio-Medical(03)**

**Semester V**

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2150301</a>	Biomaterials & Implants	4	0	2	6	70	30	30	20	150	3
<a href="#">2150305</a>	Modelling & Simulation of Physiological systems	3	0	2	5	70	30	30	20	150	3
<a href="#">2150306</a>	Microcontroller & Interfacing (Biomedical)	4	0	2	6	70	30	30	20	150	3
<a href="#">2150307</a>	Digital Signal Processing	4	0	2	6	70	30	30	20	150	3
<a href="#">2150308</a>	Mini Project 2/Internship/TA/RA	0	0	2	2	0	0	80	20	100	3
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	3
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	3
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	3
	<b>Total</b>				31						

**Bio-Technology(04)**

**Semester V**

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2150401</a>	Advanced Molecular Biology - I	3	0	3	6	70	30	30	20	150	4
<a href="#">2150402</a>	Immunology	3	0	2	5	70	30	30	20	150	4
<a href="#">2150403</a>	Basics of Reaction Engineering	4	0	3	7	70	30	30	20	150	4
<a href="#">2150404</a>	Principles of Process Engineering-II	3	0	3	6	70	30	30	20	150	4
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	4
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	4
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	4
	<b>Total</b>				30						

### Chemical Engineering (05)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2150501</a>	Mass Transfer Operation - I	3	0	3	6	70	30	30	20	150	5
<a href="#">2150502</a>	Mechanical Operation	4	0	3	7	70	30	30	20	150	5
<a href="#">2150503</a>	Chemical Engineering Thermodynamics - II	3	2	0	5	70	30	30	20	150	5
<a href="#">2150504</a>	Insrummentation & Process Control	4	0	3	7	70	30	30	20	150	5
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	5
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	5
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	5
	<b>Total</b>				31						

### Civil Engineering (06)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2150601</a>	Highway Engineering	3	0	2	5	70	30	30	20	150	6
<a href="#">2150602</a>	Hydrology & Water Resources Engineering	3	1	0	4	70	30	30	20	150	6
<a href="#">2150603</a>	Environmental Engineering	3	0	2	5	70	30	30	20	150	6
<a href="#">2150608</a>	Structural Analysis-II	4	2	0	6	70	30	30	20	150	6
<a href="#">2150609</a>	Soil Mechanics	3	0	2	5	70	30	30	20	150	6
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	6
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	6
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	6
	<b>Total</b>				31						

**Computer Engineering (07), Computer Sceince & Engineering (31)**

**Semester V**

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2150703</a>	Analysis and Design of Algorithms	4	0	2	6	70	30	30	20	150	7
<a href="#">2150704</a>	Object Oriented Programming using JAVA	4	0	2	6	70	30	30	20	150	7
<a href="#">2150707</a>	Microprocessor and Interfacing	4	0	2	6	70	30	30	20	150	7
<a href="#">2150708</a>	System Programming	4	0	2	6	70	30	30	20	150	7
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	7
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	7
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	7
	<b>Total</b>				30						

**Electrical & Electronics Engineering (08)**

**Semester V**

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2150903</a>	Power Electronics – I	3	0	2	5	70	30	30	20	150	8
<a href="#">2150907</a>	Microprocessor and Microcontroller Architechture & Interfacing	4	0	2	6	70	30	30	20	150	8
<a href="#">2150908</a>	Electrical Power System – I	3	0	0	3	70	30	0	0	100	8
<a href="#">2150909</a>	Control System Engineering	4	0	2	6	70	30	30	20	150	8
<a href="#">2150904</a>	Elements of Electrical Design	2	0	2	4	70	30	30	20	150	8
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	8
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	8
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	8
	<b>Total</b>				30						

### Electrical Engineering (09)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2150903</a>	Power Electronics – I	3	0	2	5	70	30	30	20	150	9
<a href="#">2150907</a>	Microprocessor and Microcontroller Architechture & Interfacing	4	0	2	6	70	30	30	20	150	9
<a href="#">2150908</a>	Electrical Power System – I	3	0	0	3	70	30	0	0	100	9
<a href="#">2150909</a>	Control System Engineering	4	0	2	6	70	30	30	20	150	9
<a href="#">2150904</a>	Elements of Electrical Design	2	0	2	4	70	30	30	20	150	9
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	9
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	9
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	9
	<b>Total</b>				30						

### Electronics Engineering (10)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2151001</a>	Microcontroller and Interfacing (EC)	4	0	2	6	70	30	30	20	150	10
<a href="#">2151002</a>	Engineering Electromagnetics	4	0	2	6	70	30	30	20	150	10
<a href="#">2151004</a>	Electronic and Communication	4	0	2	6	70	30	30	20	150	10
<a href="#">2151007</a>	Digital Design	4	0	2	6	70	30	30	20	150	10
<a href="#">2151102</a>	Mini Project	0	0	2	2	0	0	80	20	100	10
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	10
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	10
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	10
	<b>Total</b>				32						

**Electronics & Communication Engineering (11), Electronics & Telecommunication Engineering (12)**

**Semester V**

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2151001</a>	Microcontroller and Interfacing (EC)	4	0	2	6	70	30	30	20	150	11
<a href="#">2151002</a>	Engineering Electromagnetics	4	0	2	6	70	30	30	20	150	11
<a href="#">2151004</a>	Electronics & Communication	4	0	2	6	70	30	30	20	150	11
<a href="#">2151102</a>	Mini project	0	0	2	2	0	0	100	50	150	11
<a href="#">2151101</a>	Audio Video Systems	3	0	2	5	70	30	30	20	150	11
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	11
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	11
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	11
	<b>Total</b>				31						

**Environmental Engineering (13), Environmental Science & Engineering(37)**

**Semester V**

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2151302</a>	Advanced Environmental Instrumentation	3	0	4	7	70	30	30	20	150	13
<a href="#">2151303</a>	Physico - Chemical Treatment Technologies	4	0	2	6	70	30	30	20	150	13
<a href="#">2151306</a>	Municipal Engineering	4	2	0	6	70	30	30	20	150	13
<a href="#">2151307</a>	Municipal and industial solid waste management	3	2	0	5	70	30	30	20	150	13
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	13
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	13
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	13
	<b>Total</b>				30						

### Food Processing & Technology (14)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2151401</a>	Design & Formulation of Foods	3	0	2	5	70	30	30	20	150	14
<a href="#">2151402</a>	Food Process Instrumentation & Control	3	0	2	5	70	30	30	20	150	14
<a href="#">2151404</a>	Food Engineering Operations - I	4	0	2	6	70	30	30	20	150	14
<a href="#">2151406</a>	Technology of Grains	4	0	2	6	70	30	30	20	150	14
<a href="#">2151407</a>	Entrepreneurship and Food Plant Management	2	0	0	2	70	30	0	0	100	14
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	14
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	14
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	14
	<b>Total</b>				30						

### Industrial Engineering (15)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2151501</a>	Entrepreneurship Development & Productivity Engineering	4	0	2	6	70	30	30	20	150	15
<a href="#">2151502</a>	Advertising, Sales and Distribution Management	4	2	0	6	70	30	30	20	150	15
<a href="#">2151505</a>	Material Handling Systems	4	0	2	6	70	30	30	20	150	15
<a href="#">2151506</a>	Design of Facilities Layout	4	0	2	6	70	30	30	20	150	15
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	15
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	15
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	15
	<b>Total</b>				30						

### Information Technology (16)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2150703</a>	Analysis and Design of Algorithms	4	0	2	6	70	30	30	20	150	16
<a href="#">2150704</a>	Object Oriented Programming using JAVA	4	0	2	6	70	30	30	20	150	16
<a href="#">2150708</a>	System Programming	4	0	2	6	70	30	30	20	150	16
<a href="#">2151603</a>	Computer Graphics	4	0	2	6	70	30	30	20	150	16
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	16
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	16
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	16
	<b>Total</b>	16	0	11	30						

### Instrumentation & Control Engineering (17)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2151001</a>	Microcontroller & Interfacing (IC)	4	0	2	6	70	30	30	20	150	17
<a href="#">2151704</a>	Control System Components	4	0	2	6	70	30	30	20	150	17
<a href="#">2151705</a>	Process Control Systems	4	0	2	6	0	0	80	20	150	17
<a href="#">2151706</a>	Industrial Measurement II	4	0	2	6	70	30	30	20	150	17
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	17
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	17
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	17
	<b>Total</b>				30						

### Mechanical Engineering (19)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2151902</a>	Theory of Machines	3	0	2	5	70	30	30	20	150	19
<a href="#">2151903</a>	Fluid Power Engineering	3	0	2	5	70	30	30	20	150	19
<a href="#">2151907</a>	Design of Machine Elements	3	0	2	5	70	30	30	20	150	19
<a href="#">2151908</a>	Control Engineering	3	0	2	5	70	30	30	20	150	19
<a href="#">2151909</a>	Heat Transfer	3	0	2	5	70	30	30	20	150	19
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	19
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	19
<a href="#">2150003</a>	Institute Elective - Disaster Management	3	0	0	3	70	30	0	0	100	19
	<b>Total</b>				31						

### Mechatronics Engineering (20)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2152001</a>	Electro Mechanical Energy Conversion	4	0	2	6	70	30	30	20	150	20
<a href="#">2152003</a>	Fluid Mechanics & Machines	4	0	2	6	70	30	30	20	150	20
<a href="#">2152006</a>	Basics of Micro Computer Systems	4	0	2	6	70	30	30	20	150	20
<a href="#">2152007</a>	Manufacturing Technology - I	4	0	2	6	70	30	30	20	150	20
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	20
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	20
<a href="#">2150003</a>	Institute Elective - Disaster Management	3	0	0	3	70	30	0	0	100	20
	<b>Total</b>				30						

### Metallurgy Engineering (21)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2152106</a>	Physical Metallurgy	4	0	2	6	70	30	30	20	150	21
<a href="#">2152104</a>	Fuels, Furnaces, Refractories and Pyrometry	4	0	2	6	70	30	30	20	150	21
<a href="#">2152107</a>	Extraction of Non Ferrous Metals	4	0	0	4	70	30	0	0	100	21
<a href="#">2152108</a>	Steel Making	4	1	0	5	70	30	30	20	150	21
<a href="#">2152109</a>	Advanced Materials	4	0	0	4	70	30	0	0	100	21
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	21
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	21
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	21
	<b>Total</b>				31						

### Mining Engineering (22)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2152201</a>	Mining Machinery - II	4	0	2	6	70	30	30	20	150	22
<a href="#">2152204</a>	Rock Mechanics	4	0	2	6	70	30	30	20	150	22
<a href="#">2152205</a>	Advance Mine Surveying	4	0	4	8	70	30	30	20	150	22
<a href="#">2152206</a>	Underground coal Mining	4	0	2	6	70	30	0	0	100	22
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	22
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	22
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	22
	<b>Total</b>				32						

### Plastic Technology (23)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2152301</a>	Injection Molding Technologies	3	0	3	6	70	30	30	20	150	23
<a href="#">2152303</a>	Plastics Recycling & Waste Treatment	3	0	2	5	70	30	30	20	150	23
<a href="#">2152305</a>	Seminar-1	0	0	4	4	0	0	100	50	150	23
<a href="#">2152306</a>	Chemistry of Plastic Materials	3	0	2	5	70	30	30	20	150	23
<a href="#">2152307</a>	Plastic Extrusion Technology	3	0	2	5	70	30	30	20	150	23
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	23
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	23
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	23
	<b>Total</b>				31						

### Power Electronics (24)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2150909</a>	Control System Engineering	4	0	2	6	70	30	30	20	150	24
<a href="#">2152409</a>	Microcontroller for Power Electronics	4	0	2	6	70	30	30	20	150	24
<a href="#">2152406</a>	Power Electronics Practice-I	0	0	2	2	70	30	30	20	150	24
<a href="#">2152407</a>	Power Electronic Circuits-I	4	0	2	6	70	30	30	20	150	24
<a href="#">2152408</a>	Industrial Instrumentation	3	0	2	5	70	30	30	20	150	24
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	24
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	24
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	24
	<b>Total</b>				31						

**Production (25)**

**Semester V**

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2152506</a>	Foundry Technology	4	0	2	6	70	30	30	20	150	25
<a href="#">2152507</a>	Tool Engineering	4	0	2	6	70	30	30	20	150	25
<a href="#">2152508</a>	Design of Machine Elements	4	2	0	6	70	30	30	20	150	25
<a href="#">2152509</a>	Machine Dynamics	4	2	0	6	70	30	30	20	150	25
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	25
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	25
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	25
	<b>Total</b>				30						

**Rubber technology (26)**

**Semester V**

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Tutorial/ Practical Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2152601</a>	Vulcanisation	3	0	3	6	70	30	30	20	150	26
<a href="#">2152603</a>	Textile & Metal Reinforcement of Elastomers	3	0	3	6	70	30	30	20	150	26
<a href="#">2152604</a>	Rheology of Rubber	3	0	3	6	70	30	30	20	150	26
<a href="#">2152606</a>	Latex Processing & its application	3	0	4	7	70	30	30	20	150	26
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	26
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	26
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	26
	<b>Total</b>				31						

### Textile Processing (28)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2152802</a>	Technology of Dyeing -I	3	0	3	6	70	30	30	20	150	28
<a href="#">2152803</a>	Analytical Textile Chemistry -I	3	0	3	6	70	30	30	20	150	28
<a href="#">2152806</a>	Chemistry & Applications of Textile Auxiliaries	4	0	0	4	70	30	0	0	100	28
<a href="#">2152807</a>	Processing & Applications of Non conventional Fibres	3	0	0	3	70	30	0	0	100	28
<a href="#">2152808</a>	Scouring & Bleaching - II	3	0	3	6	70	30	30	20	150	28
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	28
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	28
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	28
	<b>Total</b>				31						

### Textile Technology (29)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2152901</a>	Yarn Manufacturing-III	3	0	2	5	70	30	30	20	150	29
<a href="#">2152908</a>	Weaving Technology-II	4	0	2	6	70	30	30	20	150	29
<a href="#">2152903</a>	Fabric Structure-I	4	0	2	6	70	30	30	20	150	29
<a href="#">2152906</a>	Physical Testing-I	3	0	2	5	70	30	30	20	150	29
<a href="#">2152907</a>	Man Made Fibre Technology	3	0	0	3	70	30	0	0	100	29
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	29
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	29
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	29
	<b>Total</b>				31						

### Information & Communication Technology (32)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2150708</a>	System Programming	4	0	2	6	70	30	30	20	150	32
<a href="#">2150703</a>	Analysis and Design of Algorithms	4	0	2	6	70	30	30	20	150	32
<a href="#">2150704</a>	Object Oriented Programming using JAVA	4	0	2	6	70	30	30	20	150	32
<a href="#">2153202</a>	Software Engineering	4	0	2	6	70	30	30	20	150	32
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	32
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	32
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	32
	<b>Total</b>				30						

### Manufacturing Engineering(34)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2152506</a>	Foundry Technology	4	0	2	6	70	30	30	20	150	34
<a href="#">2152507</a>	Tool Engineering	4	0	2	6	70	30	30	20	150	34
<a href="#">2152508</a>	Design of Machine Elements	4	2	0	6	70	30	30	20	150	34
<a href="#">2153406</a>	Mechatronics	4	0	2	6	70	30	30	20	150	34
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	34
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	34
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	34
	<b>Total</b>				30						

### Environmental Science and Technology (35)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2153504</a>	Air Pollution Control	3	0	2	5	70	30	30	20	150	35
<a href="#">2153507</a>	Elements of Fluid Flow	3	1	2	6	70	30	30	20	150	35
<a href="#">2153502</a>	Introduction to Heat Transfer	3	1	2	6	70	30	30	20	150	35
<a href="#">2153508</a>	Environmental Management-I	3	0	2	5	70	30	30	20	150	35
<a href="#">2153509</a>	Liquid Effluent Treatment-I	3	0	2	5	70	30	30	20	150	35
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	35
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	35
<a href="#">2150003</a>	Institute Elective - Disaster Management	3	0	0	3	70	30	0	0	100	35
	<b>Total</b>				33						

### Chemical Technology (36)

#### Semester V

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2153611</a>	Green Chemistry for Technologists	3	0	0	3	70	30	30	20	150	36
<a href="#">2153612</a>	Basics of Fluid Flow	3	0	2	5	70	30	30	20	150	36
<a href="#">2153613</a>	Basics of Heat Transfer	3	0	2	5	70	30	30	20	150	36
	Department Elective-III	3	0	3	6	70	30	30	20	150	36
	Department Elective-IV	3	0	3	6	70	30	30	20	150	36
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	36
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	36
<a href="#">2150003</a>	Institute Elective - Disaster Management	3	0	0	3	70	30	0	0	100	36
	<b>Total</b>				31						

#### Department Elective- III

Code	Name of the subject
<a href="#">2153601</a>	Pharmaceutical Chemistry

<a href="#">2153602</a>	Polymer & Rubber materials - I
<a href="#">2153614</a>	Glass science & Technology
<a href="#">2153604</a>	Technology of Intermediate & Colorants

Department Elective- IV	
Code	Name of the subject
<a href="#">2153605</a>	Microbiology & Formulation Technology of Liquids & Topicals
<a href="#">2153606</a>	Polymer & Rubber Material-II
<a href="#">2153615</a>	Processing of Glass & Ceramics
<a href="#">2153608</a>	Chemistry of Intermediates & Colorants-III

<b>Nano Technology (39)</b>
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**Semester V**

Subject code	Subject name	Teaching Scheme (Hours)			Credits	Theory Marks		Marks		Total Marks	Branch Code
		Theory	Tutorial	Practical		ESE(E)	PA (M)	Viva (V)	PA(I)		
<a href="#">2153901</a>	Fabrication of Nano- devices	3	0	2	5	70	30	30	20	150	39
<a href="#">2153902</a>	Nano Ceramic and Applications	4	0	0	4	70	30	0	0	100	39
<a href="#">2153903</a>	Application of Nanotechnology	4	0	0	4	70	30	0	0	100	39
<a href="#">2153904</a>	Elements of Nanoscience and Technology-II	4	0	2	6	70	30	30	20	150	39
<a href="#">2153905</a>	Nanotechnology and Environment	3	0	2	5	70	30	30	20	150	39
<a href="#">2150001</a>	Design Engineering - II A	0	0	3	3	0	0	80	20	100	39
<a href="#">2150002</a>	Institute Elective - Cyber Security	0	1	2	3	0	0	80	20	100	39
<a href="#">2150003</a>	Institute Elective - Diaster Management	3	0	0	3	70	30	0	0	100	39
	<b>Total</b>				30						