

**JAGAN NATH UNIVERSITY**  
**BACHELOR OF TECHNOLOGY**  
**COMPUTER SCIENCE AND ENGINEERING**  
**COURSE STRUCTURE**  
**FIRST SEMESTER**

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
PH 101	Engineering Physics I	3	1	-	30	70	100	4
CS101	Introduction to Computers Fundamental and IT*	3	-	-	30	70	100	3
MA101	Applied Mathematics I	3	1	-	30	70	100	4
EE101	Introduction to Electrical & Electronic Engineering	3	-	-	30	70	100	3
CT101	English & Communication Skills	3	-	-	30	70	100	3
CH101	Engineering Chemistry	3	-	-	30	70	100	3

PRACTICALS/VIVA-VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
EE110	Electronics Lab I	-	-	2	30	20	50	1
PH110	Engineering Physics Lab I	-	-	2	30	20	50	1
CS110	IT Fundamental Lab*	-	-	2	30	20	50	1
CH110	Chemistry Lab	-	-	2	30	20	50	1
ME111	Engineering Work shop	-	-	2	30	20	50	1
<b>TOTAL</b>		<b>18</b>	<b>2</b>	<b>10</b>	<b>330</b>	<b>520</b>	<b>850</b>	<b>25</b>

**BACHELOR OF TECHNOLOGY**  
**COMPUTER SCIENCE AND ENGINEERING**  
**COMMON TO ALL BRANCHES**  
**SECOND SEMESTER**

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
PH201	Engineering Physics II	3	1	-	30	70	100	4
CS 201	Introduction to computer Programming *	3	-	-	30	70	100	3
ME 201	Engineering Mechanics*	3	1	-	30	70	100	4
DE201	Digital electronics	3	-	-	30	70	100	3
MA201	Applied Mathematics II	3	-	-	30	70	100	3
EV201	Environmental Sciences	3	-	-	30	70	100	3
PRACTICALS/VIVA-VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
EE210	Electronic Lab II	-	-	2	30	20	50	1
PH210	Engineering Physics Lab II	-	-	2	30	20	50	1
CS210	Computer Programming Lab*	-	-	2	30	20	50	1
ME210	Engineering Drawing	-	-	2	30	20	50	1
CT210	Communication skill Lab*	-	-	2	30	20	50	1
<b>TOTAL</b>		<b>18</b>	<b>2</b>	<b>10</b>	<b>330</b>	<b>520</b>	<b>850</b>	<b>25</b>

**BACHELOR OF TECHNOLOGY  
COMPUTER SCIENCE AND ENGINEERING**

**THIRD SEMESTER**

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
CS301	Applied Mathematics – III	3		-	30	70	100	3
CS302	Foundation of Computer Science	3	1	-	30	70	100	4
CS303	Electronic Devices and Circuits	3		-	30	70	100	3
CS304	Object Oriented Programming	3		-	30	70	100	3
CS305	Data Structure	3	1	-	30	70	100	4
CS306	Computer Graphics and Multimedia	3		-	30	70	100	3
<b>PRACTICALS/VIVA-VOCE</b>		<b>No. of Teaching Hours</b>			<b>Sessional</b>	<b>Practical</b>	<b>Total</b>	<b>Credits</b>
CS307	Electronic Devices and Circuits Lab		-	2	30	20	50	1
CS308	Data Structure Lab		-	2	30	20	50	1
CS309	Object Oriented Programming Lab		-	2	30	20	50	1
CS310	Computer Graphics and Multimedia Lab		-	2	30	20	50	1
CS311	GD and Soft Skills		-	2	30	20	50	1
<b>TOTAL</b>		<b>18</b>	<b>2</b>	<b>10</b>	<b>330</b>	<b>520</b>	<b>850</b>	<b>25</b>

**BACHELOR OF TECHNOLOGY  
COMPUTER SCIENCE AND ENGINEERING**

**FOURTH SEMESTER**

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
CS401	Micro Processors And Microcontrollers	3	1	-	30	70	100	4
CS402	Computer Organization and Architecture	3		-	30	70	100	3
CS403	Theory of Computation	3	1	-	30	70	100	4
CS404	Database Management Systems	3		-	30	70	100	3
CS405	Core PHP	3		-	30	70	100	3
CS406	Java Programming	3		-	30	70	100	3
<b>PRACTICALS/VIVA-VOCE</b>		<b>No. of Teaching Hours</b>			<b>Sessional</b>	<b>Practical</b>	<b>Total</b>	<b>Credits</b>
CS407	Micro Processor Lab	-	-	2	30	20	50	1
CS408	Computer Organisation and Architecture Lab	-	-	2	30	20	50	1
CS409	Database Management Systems Lab	-	-	2	30	20	50	1
CS410	PHP Lab	-	-	2	30	20	50	1
CS411	Java Programming Lab	-	-	2	30	20	50	1
<b>TOTAL</b>		<b>18</b>	<b>2</b>	<b>10</b>	<b>330</b>	<b>520</b>	<b>850</b>	<b>25</b>
	4-6 weeks training will be held after fourth semester,viva will be conducted in fifth sem.							

**BACHELOR OF TECHNOLOGY  
COMPUTER SCIENCE AND ENGINEERING**

**FIFTH SEMESTER**

**THEORY PAPERS**

Code	Subject/Paper	No. of Teaching Hours			Marks Allocation			Credits
		L	T	P	IA	EA	Total	
CS501	Algorithms Design and Analysis	3	1	-	30	70	100	4
CS502	Software Engineering	3		-	30	70	100	3
CS503	Java 2 Enterprise Edition	3	1	-	30	70	100	4
CS504	Random Variable and Stochastic Processes	3		-	30	70	100	3
CS505	System Software	3		-	30	70	100	3
	<b>Elective (any one)</b>							
CS506A	Principles of Communication	3	-	-	30	70	100	3
CS506B	Information Theory and Coding	3	-	-	30	70	100	3
CS506C	Telecommunication Networks	3	-	-	30	70	100	3
CS506D	Simulation and Modelling	3	-	-	30	70	100	3
CS506E	Analog and Digital Communication	3	-	-	30	70	100	3

<b>PRACTICALS/VIVA-VOCE</b>		No. of Teaching Hours			Sessional	Practical	Total	Credits
CS507	Algorithms Design and Analysis Lab	-	-	2	30	20	50	1
CS508	Software Engineering Lab	-	-	2	30	20	50	1
CS509	J2EE Lab	-	-	2	30	20	50	1
CS510	System Software Lab	-	-	2	30	20	50	1
CS511	Communication Lab	-	-	2	30	20	50	1
CS 512	Viva Industrial Training / In-house Workshop	-	-	0	30	20	50	2
<b>TOTAL</b>		<b>18</b>	<b>2</b>	<b>10</b>	<b>360</b>	<b>540</b>	<b>900</b>	<b>27</b>

**BACHELOR OF TECHNOLOGY  
COMPUTER SCIENCE AND ENGINEERING  
SIXTH SEMESTER**

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
CS601	Operations Research	3	1	-	30	70	100	4
CS602	Operating Systems	3		-	30	70	100	3
CS603	Computer Networks	3	1	-	30	70	100	4
CS604	Advanced Data structure	3	1	-	30	70	100	4
CS605	Advanced Computer Architecture	3		-	30	70	100	3
	<b>Elective (any one)</b>							
CS606A	Artificial Intelligence	3	-	-	30	70	100	3
CS606B	Advanced DBMS	3	-	-	30	70	100	3
CS606C	Advanced PHP	3	-	-	30	70	100	3
CS606D	Principles of Programming Languages	3	-	-	30	70	100	3
CS606E	E-Commerece	3	-	-	30	70	100	3
PRACTICALS/VIVA-VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
CS607	Operating Systems (Linux Programming and Administration) Lab	-	-	2	30	20	50	1
CS608	Computer Networks Lab	-	-	2	30	20	50	1
CS609	Advanced Data Structure Lab	-	-	2	30	20	50	1
CS610	Advanced Computer Architecture Lab	-	-	2	30	20	50	1
CS611	Industrial tour/ In house workshop	-	-	0	30	20	50	2
CS612	Communication for professional lab	-	-	1	30	20	50	1
<b>TOTAL</b>		<b>18</b>	<b>3</b>	<b>9</b>	<b>360</b>	<b>540</b>	<b>900</b>	<b>28</b>
	<b>4 -6 weekS training will be held after sixth semester,viva will be conducted in seventh sem.</b>							

**BACHELOR OF TECHNOLOGY  
COMPUTER SCIENCE AND ENGINEERING  
SEVENTH SEMESTER**

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
CS701	C# and .NET Programming	3	1	-	30	70	100	4
CS702	Software Testing and Quality Assurance	3		-	30	70	100	3
CS703	Compiler Design	3	1	-	30	70	100	4
CS 704	Web Intelligence and Big Data	3		-	30	70	100	3
	<b>ELECTIVE(any one)</b>							
CS705A	Embedded Systems	3	-	-	30	70	100	3
CS705B	Data Mining and Business Intelligence	3	-	-	30	70	100	3
CS705C	Natural Language Processing	3	-	-	30	70	100	3
CS705D	Bio Informatics	3	-	-	30	70	100	3
CS705E	Wireless Communication & Networks	3	-	-	30	70	100	3
	<b>ELECTIVE(any one)</b>							
CS706A	Parallel Computing	3	-	-	30	70	100	3
CS706B	Advanced Computer Networks	3	-	-	30	70	100	3
CS706C	Distributed Systems	3	-	-	30	70	100	3
CS706D	Computer Vision	3	-	-	30	70	100	3
CS706E	Data Compression Techniques	3	-	-	30	70	100	3
<b>PRACTICALS/VIVA-VOCE</b>		<b>No. of Teaching Hours</b>			<b>Sessional</b>	<b>Practical</b>	<b>Total</b>	<b>Credits</b>
CS707	C# and .NET Programming Lab			2	30	20	50	1
CS708	Compiler Design Lab			2	30	20	50	1
CS709	Web Intelligence and Big Data Lab			2	30	20	50	1
CS710	Summer Training / Industrial Workshop/ Certification			0	30	20	50	2
CS711	Minor Project			4	60	40	100	2
<b>TOTAL</b>		<b>18</b>	<b>2</b>	<b>10</b>	<b>360</b>	<b>540</b>	<b>900</b>	<b>27</b>

**BACHELOR OF TECHNOLOGY  
COMPUTER SCIENCE AND ENGINEERING  
EIGHTH SEMESTER**

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
CS 801	Information Security System	3	1	-	30	70	100	4
CS 802	Soft Computing	3	1	-	30	70	100	4
	<b>Elective (any one )</b>							
CS 803A	Ad Hoc and Sensor Networks	3	-	-	30	70	100	3
CS 803B	Machine Learning	3	-	-	30	70	100	3
CS 803C	VLSI Design	3	-	-	30	70	100	3
CS 803D	Object Oriented Software Engineering	3	-	-	30	70	100	3
CS 803E	Planning for sustainable development	3	-	-	30	70	100	3
CS 803F	Cyber Crime	3	-	-	30	70	100	3
CS 803G	IPR	3	-	-	30	70	100	3
CS 803H	Entrepreneurship	3	-	-	30	70	100	3
	<b>Elective(open) (any one)</b>							
CS 804A	Human Computer Interaction	3	-	-	30	70	100	3
CS 804B	Software Project Management	3	-	-	30	70	100	3
CS 804C	Service Oriented Architecture	3	-	-	30	70	100	3
CS 804D	Multiagent Systems	3	-	-	30	70	100	3
CS 804E	Disaster Management	3	-	-	30	70	100	3
CS 804F	Sociology and elements of Indian history for engineers	3	-	-	30	70	100	3
CS 804G	Value Education And Human Rights	3	-	-	30	70	100	3
CS 804H	Community development	3	-	-	30	70	100	3
<b>PRACTICALS/VIVA-VOCE</b>		<b>No. of Teaching Hours</b>			<b>Sessional</b>	<b>Practical</b>	<b>Total</b>	<b>Credits</b>
CS805	ISS Lab	-	-	2	30	20	50	1
CS806	Soft Computing Lab	-	-	2	30	20	50	1
CS 807	Major Project	-	-	-	240	160	400	12
<b>TOTAL</b>		<b>12</b>	<b>2</b>	<b>4</b>	<b>420</b>	<b>480</b>	<b>900</b>	<b>28</b>
<b>Grand Total of Credits</b>		<b>138</b>	<b>17</b>	<b>73</b>	<b>2820</b>	<b>4180</b>	<b>7000</b>	<b>210</b>

**L=LECTURER, T= TUTORIAL, P=PRACTICAL, IA=INTERNAL ASSESSMENT, EA=EXTERNAL ASSESSMENT**

The student will submit a synopsis at the beginning of the semester for approval from the departmental committee in a specified format ,thereafter he/she will have to present the progress of the work through seminars and progress reports. Seminar related to the project should be delivered one after starting of semester .The progress will be monitored through seminars and progress reports.

**Note;--**

1. The total number of the credits of (Mechanical)Programme are = 210.
2. Each student shall be required to appear for examinations in all courses. However, for the award of the degree a student shall be required to earn minimum of 200 credits .

**For lateral entry students in Third SEMESTER ::--**

- 1.The total number of credits of the B. Tech (Mechanical)Programme = 160
- 2.Each student shall be required to appear for examination for all courses third semester onwards .However, for the award of the degree a student shall be required to earn the minimum of 150 credits .

JAGANNATH UNIVERSITY JAIPUR  
BACHELOR OF TECHNOLOGY  
CIVIL ENGINEERING  
COURSE STRUCTURE  
FIRST SEMESTER

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
PH 101	Engineering Physics I	3	1	-	30	70	100	4
CS101	Introduction to Computers Fundamental and IT*	3		-	30	70	100	3
MA101	Mathematics I	3	1	-	30	70	100	4
EE101	Introduction to Electrical & Electronic Engineering I	3		-	30	70	100	3
CT101	English & Communication Skills	3		-	30	70	100	3
CH101	Engineering Chemistry	3		-	30	70	100	3
<i>PRACTICALS/VIVA VOCE</i>		No. of Teaching Hours			Sessional	Practical	Total	Credits
EE110	Electronics Lab I	-	-	2	30	20	50	1
PH110	Engineering Physics Lab I	-	-	2	30	20	50	1
CS110	IT Fundamental Lab	-	-	2	30	20	50	1
CH110	Chemistry Lab	-	-	2	30	20	50	1
ME111	Engineering Work shop	-	-	2	30	20	50	1
	<b>TOTAL</b>	<b>18</b>	<b>2</b>	<b>10</b>	<b>330</b>	<b>520</b>	<b>850</b>	<b>25</b>
<b>BACHELOR OF TECHNOLOGY</b>								
<b>(COMMON TO ALL BRANCH)</b>								
<b>SECOND SEMESTER</b>								
THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
PH201	Engineering Physics II	3	1	-	30	70	100	4
CS 201	Introduction to computer Programming *	3	-	-	30	70	100	3
ME 201	Engineering Mechanics *	3	1	-	30	70	100	4
EE201	Electronic Devices/ Digital electronics	3	-	-	30	70	100	3
MA201	Mathematics-II	3	-	-	30	70	100	3
EV201	Environmental Science	3	-	-	30	70	100	3
<i>PRACTICALS/VIVA VOCE</i>		No. of Teaching Hours			Sessional	Practical	Total	Credits
EE210	Electronic Lab II	-	-	2	30	20	50	1
PH210	Engineering Physics Lab II	-	-	2	30	20	50	1
CS210	Computer Programming Lab*	-	-	2	30	20	50	1
ME210	Engineering Drawing	-	-	2	30	20	50	1
CT210	Communication skill Lab*	-	-	2	30	20	50	1
	<b>TOTAL</b>	<b>18</b>	<b>2</b>	<b>10</b>	<b>330</b>	<b>520</b>	<b>850</b>	<b>25</b>

BACHELOR OF TECHNOLOGY								
THIRD SEMESTER								
THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
CE 301	Numerical Analysis and Statistical Techniques**	3	-	-	30	70	100	3
CE 302	Strength of material and mechanics of solids	3	1	-	30	70	100	4
CE 303	Civil Engineering Building Materials **	3	-	-	30	70	100	3
CE 304	Engineering Geology	3	-	-	30	70	100	3
CE 305	Soil Mechanics	3	-	-	30	70	100	3
CE 306	Fluid Mechanics	3	1	-	30	70	100	4
PRACTICALS/VIVA VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
CE 307	Building Drawing Lab	-	-	2	30	20	50	1
CE 308	Fluid Mechanics Lab	-	-	2	30	20	50	1
CE 309	Engineering Geology Lab	-	-	2	30	20	50	1
CE 310	Building Material Testing Lab	-	-	2	30	20	50	1
CT310	GD&soft skill	-	-	2	30	20	50	1
	<b>TOTAL</b>	<b>18</b>	<b>2</b>	<b>10</b>	<b>330</b>	<b>520</b>	<b>850</b>	<b>25</b>
BACHELOR OF TECHNOLOGY								
FOURTH SEMESTER								
THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
CE 401	Advanced civil engineering Construction Technology**	3		-	30	70	100	3
CE 402	Structural Analysis	3	1	-	30	70	100	4
CE 403	Hydraulics & Hydraulic Machines	3		-	30	70	100	3
CE 404	Modern Concrete Technology	3		-	30	70	100	3
CE 405	Surveying-I	3	1	-	30	70	100	4
CE 406	Geo-Technical Engineering	3		-	30	70	100	3
PRACTICALS/VIVA VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
CE 407	Concrete Lab	-	-	2	30	20	50	1
CE 408	Hydraulic Lab	-	-	2	30	20	50	1
CE 409	Surveying Lab	-	-	2	30	20	50	1
CE 410	Geo-Technical Engineering Lab	-	-	2	30	20	50	1
CE 411	Project Cum Seminar	-	-	2	30	20	50	1
	<b>TOTAL</b>	<b>18</b>	<b>2</b>	<b>10</b>	<b>330</b>	<b>520</b>	<b>850</b>	<b>25</b>
4 -6 weeks training will be held after fourth semester,viva will be conducted in fifth sem.								

BACHELOR OF TECHNOLOGY								
FIFTH SEMESTER								
THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
CE 501	Transportation Engineering I	3		-	30	70	100	3
CE 502	Water Resources Engineering*	3		-	30	70	100	3
CE 503	Steel Structure-I	3	1	-	30	70	100	4
CE 504	Theory Of Structures	3		-	30	70	100	3
CE 505	Surveying II	3	1	-	30	70	100	4
<b>GENERAL ELECTIVE –I(Choose any one)</b>								
CE 506A	Foundation Engineering	3	-	-	30	70	100	3
CE 506B	Object Oriented Programming in C++	3	-	-	30	70	100	3
CE 506C	Ground Improvement Techniques	3	-	-	30	70	100	3
CE 506D	Advanced Construction Materials	3	-	-	30	70	100	3
<b>PRACTICALS/VIVA VOCE</b>								
		No. of Teaching Hours			Sessional	Practical	Total	Credits
CE 507	Road Material Testing Lab	-	-	2	30	20	50	1
CE 508	Design Steel Structure Lab	-	-	2	30	20	50	1
CE 509	Foundation Engineering Lab	-	-	2	30	20	50	1
CE 510	Surveying Lab	-	-	2	30	20	50	1
CE 511	Technical Seminar I	-	-	2	30	20	50	1
CE512	Training viva voce	-	-	0	30	20	50	2
	<b>TOTAL</b>	18		10	360	540	900	27
BACHELOR OF TECHNOLOGY								
SIXTH SEMESTER								
THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
CE 601	Transportation Engineering II	3	1	-	30	70	100	4
CE 602	Concrete Structures-I	3	1	-	30	70	100	4
CE 603	Steel Structures II	3	1	-	30	70	100	4
CE 604	Water supply Engineering	3	-	-	30	70	100	3
CE 605	Building Technology & Planning	3	-	-	30	70	100	3
<b>GENERAL ELECTIVE –I(Choose any one)</b>								
CE 606A	Repair and rehabilitation of structures	3	-	-	30	70	100	3
CE 606B	Advanced Geotechnical Engineering	3	-	-	30	70	100	3
CE 606C	Water Engineering	3	-	-	30	70	100	3
CE 606D	Planning and Design of Green Buildings	3	-	-	30	70	100	3
<b>PRACTICALS/VIVA VOCE</b>								
		No. of Teaching Hours			Sessional	Practical	Total	Credits
CE 607	Concrete Design Lab	-	-	2	30	20	50	1
CE 608	Transportation Lab	-	-	2	30	20	50	1
CE 609	Building Technology Lab	-	-	2	30	20	50	1
CE 610	Water Supply Engineering Lab	-	-	2	30	20	50	1
CE611	Technical Seminar II	-	-	2	30	20	50	1
CE612	Surveying Camp	-	-	0	30	20	50	2
	<b>TOTAL</b>	18	3	10	360	540	900	28
4 -6 weekS training will be held after sixth semester,viva will be conducted in seventh sem.								

BACHELOR OF TECHNOLOGY								
SEVENTH SEMESTER								
THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
CE 701	Estimation & Construction Management	3	1	-	30	70	100	4
CE 702	Advanced Structural Analysis	3	-	-	30	70	100	3
CE 703	Sanitation Engineering	3	-	-	30	70	100	3
CE 704	Concrete Structures -II	3	1	-	30	70	100	4
<b>ELECTIVE(any one)</b>								
CE 705A	Solid Waste management	3	-	-	30	70	100	3
CE 705B	Water Resource System Planning	3	-	-	30	70	100	3
CE 705C	Project Planning & Construction Management	3	-	-	30	70	100	3
CE 705D	construction management	3	-	-	30	70	100	3
CE 705E	Advance Transportation Engineering	3	-	-	30	70	100	3
<b>ELECTIVE(any one)</b>								
CE 706A	Analysis and Design of Bridges	3	-	-	30	70	100	3
CE 706B	Rural Water Supply & Sanitation	3	-	-	30	70	100	3
CE 706C	Prestressed concrete	3	-	-	30	70	100	3
CE 706D	Non Destructive Testing Techniques	3	-	-	30	70	100	3
CE 706E	Engineering	3	-	-	30	70	100	3
<b>PRACTICALS/VIVA VOCE</b>								
		No. of Teaching Hours			Sessional	Practical	Total	Credits
CE 707	Advanced Structural Engineering Lab	-	-	2	30	20	50	1
CE 708	Computer Aided Building Design Lab	-	-	2	30	20	50	1
CE 709	Sanitary Engg. Lab	-	-	2	30	20	50	1
CE 710	Training viva voce	-	-	0	30	20	50	2
CE 711	minor project	-	-	4	60	40	100	2
	<b>TOTAL</b>	<b>18</b>	<b>2</b>	<b>10</b>	<b>360</b>	<b>540</b>	<b>900</b>	<b>27</b>

BACHELOR OF TECHNOLOGY								
EIGHTH SEMESTER								
THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
CE 801	Hydraulic Structures	3	1	-	30	70	100	4
CE 802	Earth Quake Resistant Design & Construction	3	1	-	30	70	100	4
<b>Core Elective (any one)</b>								
CE 803A	Ground Water Contamination and Mitigation measures	3		-	30	70	100	3
CE 803B	Geo-synthetics and Reinforced Soil	3		-	30	70	100	3
CE 803C	Offshore structural Engineering	3		-	30	70	100	3
CE 803D	Transportation, Planning and Management	3		-	30	70	100	3
CE 803E	Renewable energy resources	3		-	30	70	100	3
CE 803F	sociology and elements of Indian history for engineers	3		-	30	70	100	3
CE 803G	Professional Ethics and Disaster management	3		-	30	70	100	3
CE 803H	Sociology and Economics for Engineers	3		-	30	70	100	3
CE 803I	Economics for Engineers	3		-	30	70	100	3
<b>Open Elective (any one)</b>								
CE 804A	Rock Mechanics	3		-	30	70	100	3
CE 804B	Management	3		-	30	70	100	3
CE 804C	Environment System Optimization	3		-	30	70	100	3
CE 804D	Advanced Construction methods	3		-	30	70	100	3
CE 804E	Advanced Foundation Engineering	3		-	30	70	100	3
CE 804F	Social Aspect Of Engineering	3		-	30	70	100	3
CE 804G	Planning for sustainable development	3		-	30	70	100	3
CE 804H	Value Education and Human Rights	3		-	30	70	100	3
CE 804I	Cyber Crime	3		-	30	70	100	3
CE 804J	Entrepreneurship Development	3		-	30	70	100	3
CE 804K	Intellectual Property Rights	3		-	30	70	100	3
CE 804L	Community Development	3		-	30	70	100	3
<b>PRACTICALS/VIVA VOCE</b>								
		<b>No. of Teaching Hours</b>			<b>Sessional</b>	<b>Practical</b>	<b>Total</b>	<b>Credits</b>
CE 807	Advanced Material Testing Lab	-	-	2	30	20	50	1
CE 808	Project Plannig and Estimation Lab	-	-	2	30	20	50	1
CE 809	Major Project	-	-		240	160	400	12
<b>TOTAL</b>		<b>12</b>	<b>2</b>	<b>4</b>	<b>420</b>	<b>480</b>	<b>900</b>	<b>28</b>
<b>Grand Total of Credits</b>		<b>138</b>	<b>17</b>	<b>73</b>	<b>2820</b>	<b>4180</b>	<b>7000</b>	<b>210</b>

The student will submit a synopsis at the beginning of the semester for approval from the departmental committee in a specified format ,thereafter he/she will have to present the progress of the work through seminars and progress reports. Seminar related to the project should be delivered one after starting of semester .The progress will be monitored through seminars and progress reports.

Note:--

1. The total number of the credits of (Civil Engineering)Programme are = 210.
2. Each student shall be required to appear for examinations in all courses. However, for the award of the degree a student shall be required to earn minimum of 200 credits .

For lateral entry students in Third SEMESTER ::--

- 1.The total number of credits of the B. Tech (Civil Engineering)Programme = 160
- 2.Each student shall be required to appear for examination for all courses third semester onwards .However, for the award of the degree a student shall be required to earn the minimum of 150 credits .

Jagannath University  
**BACHLOR OF TECHNOLOGY**  
 Electronics and communication Engineering  
**COURSE STRUCTURE**  
**FIRST SEMESTER**

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
PH 101	Engineering Physics I	3	1		30	70	100	4
CS101	Introduction to Computers Fundamental and IT*	3			30	70	100	3
MA101	Applied Mathematics I	3	1		30	70	100	4
EE101	Introduction to Electrical & Electronic Engineering I	3			30	70	100	3
CT101	English & Communication Skills	3			30	70	100	3
CH101	Engineering Chemistry	3			30	70	100	3
PRACTICALS/VIVA VOCE		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	Sessional	Practical	Total	Credits
EE110	Electronics Lab I			2	30	20	50	1
PH110	Physics Lab I			2	30	20	50	1
CS110	IT Fundamental Lab			2	30	20	50	1
CH110	Chemistry Lab			2	30	20	50	1
ME111	Engineering Work shop			2	30	20	50	1
		18	2	10	330	520	850	25

**BACHLOR OF TECHNOLOGY**  
 Electronics and communication Engineering  
 Common to All Branches

**SECOND SEMESTER**

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
PH201	Engineering Physics II	3	1		30	70	100	3
CS 201	Introduction to computer Programming	3			30	70	100	4
ME 201	Engineering Mechanics	3	1		30	70	100	3
EE201	Digital Electronics	3			30	70	100	3
MA201	Applied Mathematics-II	3			30	70	100	3
EV201	Environmental Sciences	3			30	70	100	3
PRACTICALS/VIVA VOCE		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	Sessional	Practical	Total	Credits
EE210	Electronic Lab II			2	30	20	50	1
PH210	Engineering Physics Lab II			2	30	20	50	1
CS210	Computer Programming Lab			2	30	20	50	1
ME210	Engineering Drawing			2	30	20	50	1
CT210	Communication Skill lab			2	30	20	50	1
		18	2	10	330	520	850	25

**BACHELOR OF TECHNOLOGY  
THIRD SEMESTER**

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
EC 301	Applied Mathematics III	3			30	70	100	3
EC 302	Circuit Analysis & Synthesis	3	1		30	70	100	4
EC 303	Electronic Devices & Circuits	3			30	70	100	3
EC 304	Data Structures and Algorithms	3			30	70	100	3
EC 305	Electronic Measurements and Instrumentation	3			30	70	100	3
EC 306	Linear Integrated Circuits	3	1		30	70	100	4
PRACTICALS/VIVA VOCE		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	Sessional	Practical	Total	Credits
EC 307	Circuit Analysis and Synthesis Lab*			2	30	20	50	1
EC 308	Data Structures and Algorithms Lab			2	30	20	50	1
EC 309	Electronic Measurements and Instrumentation Lab			2	30	20	50	1
EC 310	Electronic Devices & Circuits Lab			2	30	20	50	1
EC 311	Electronic Engineering Design Lab			2	30	20	50	1
		18	2	10	330	520	850	<b>25</b>

**BACHLOR OF TECHNOLOGY  
FOURTH SEMESTER SEMESTER**

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
EC 401	Telecommunication Engineering	3			30	70	100	3
EC 402	Analog Communication	3			30	70	100	3
EC 403	Signals and Systems	3	1		30	70	100	4
EC 404	Industrial Electronics	3			30	70	100	3
EC 405	Electromagnetic Field and Theory	3	1		30	70	100	3
EC 406	Analog Electronics	3			30	70	100	4
PRACTICALS/VIVA VOCE		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	Sessional	Practical	Total	Credits
EC 407	Analog Communication Lab			2	30	20	50	1
EC 408	Signal processing Lab			2	30	20	50	1
EC 409	Industrial Electronics Lab			2	30	20	50	1
EC 410	Analog Electronics Lab			2	30	20	50	1
EC 411	Technical Seminar			2	30	20	50	1
				10	330	520	850	25
<b>4 -6 weekS training will be held after fourth</b>								

## BACHELOR OF TECHNOLOGY

### FIFTH SEMESTER

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
EC 501	Microwave Engineering I	3			30	70	100	3
EC 502	Microprocessors and Interfacing	3			30	70	100	3
EC 503	Digital Communication	3			30	70	100	3
EC 504	Control Systems	3	1		30	70	100	4
EC 505	Digital Signal Processing	3	1		30	70	100	4
	<b>Elective Subject</b>							
EC 506A	Computer Organization and Architecture	3			30	70	100	3
EC 506B	Electronic Material and Process	3			30	70	100	3
EC 506C	Biomedical Instrumentation	3			30	70	100	3
EC 506D	Grid Computing	3			30	70	100	3
EC 506E	Object Oriented Programming Structure	3			30	70	100	3
PRACTICALS/VIVA VOCE		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	Sessional	Practical	Total	Credits
EC 507	Digital Signal Processing Lab			2	30	20	50	1
EC 508	Microprocessor and Interfacing Lab			2	30	20	50	1
EC 509	Digital Communication Lab			2	30	20	50	1
EC 510	Microwave Lab			2	30	20	50	1
EC 511	Control Systems Lab			2	30	20	50	1
EC 512	Training viva voce			0	30	20	50	2
		18	2	10	360	540	900	<b>27</b>

## BACHELOR OF TECHNOLOGY

### SIXTH SEMESTER

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
EC 601	Microwave Engineering II	3	1		30	70	100	4
EC 602	Antenna and Wave Propagation	3	1		30	70	100	4
EC 603	Wireless Communication	3	1		30	70	100	4
EC 604	IC Technology	3			30	70	100	3
EC 605	Digital System Design**	3			30	70	100	3
	<b>Elective Subject(Any One)</b>							
EC 606A	Synthesis & Optimization of Logic Circuits	3			30	70	100	3
EC 606B	Database Management System	3			30	70	100	3
EC 606C	Parallel Computing	3			30	70	100	3
EC 606D	Adaptive Signal Processing	3			30	70	100	3
EC 606E	Software Engineering	3			30	70	100	3
PRACTICALS/VIVA VOCE		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	Sessional	Practical	Total	Credits
EC 607	Antenna Lab			2	30	20	50	1
EC 608	Wireless Communication Lab			2	30	20	50	1
EC 609	PCB and Circuit designing Lab			2	30	20	50	1
EC 610	Digital System Design Lab			2	30	20	50	1
EC 611	Industrial Tour/Inhouse Workshop			0	30	20	50	2
EC 612	Communication for professional lab			1	30	20	50	1
		18	3	9	360	540	900	<b>28</b>
<b>4 -6 weeks training will be held after sixth</b>								



**BACHELOR OF TECHNOLOGY  
EIGHTH SEMESTER**

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
EC 801	SATELLITE COMMUNICATION	3	1		30	70	100	4
EC 802	DIGITAL SPEECH & IMAGE PROCESSING	3	1		30	70	100	4
	<b>Elective (any one )</b>							
EC 803A	Mobile Computing	3			30	70	100	3
EC 803B	ASIC Design	3			30	70	100	3
EC 803C	GPS and GIS	3			30	70	100	3
EC 803D	Introduction to Nanotechnology	3			30	70	100	3
EC 803E	Consumer Electronics	3			30	70	100	3
EC803F	Cyber Crime	3			30	70	100	3
EC803G	Enterpreneurship	3			30	70	100	3
	<b>Elective (open)(any one )</b>							
EC 804A	Mechatronics	3			30	70	100	3
EC 804B	Computer Graphics and Multimedia	3			30	70	100	3
EC 804C	Human Values and Professional Ethics-II	3			30	70	100	3
EC 804D	Advanced Software Engineering	3			30	70	100	3
EC 804E	Next Generation Networks	3			30	70	100	3
PRACTICALS/VIVA VOCE		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	Sessional	Practical	Total	Credits
EC 805	Satellite Communication LAB			2	30	20	50	1
EC 806	SPEECH AND IMAGE PROCESSING LAB			2	30	20	50	1
EC 807	Major Project				240	160	400	12
Total		12	2	4	420	480	900	28
Grand Total of credits		138	17	73	2820	4180	7000	210

L- Lecture,T-Tutorial,P-Practical,IA-Internal Assessment,EA-External Assessment

The student will submit a synopsis at the beginning of the semester for approval from the departmental committee in a specified format ,thereafter he/she will have to present the progress of the work through seminars and progress reports. Seminar related to the project should be delivered one after starting of semester .The progress will be monitored through seminars and progress reports.

**Note;--**

1. The total number of the credits of (ECE)Programme are = 210.
2. Each student shall be required to appear for examinations in all courses. However, for the award of the degree a student shall be required to earn minimum of 200 credits .

**For lateral entry students in Third SEMESTER :-**

- 1.The total number of credits of the B. Tech (ECE)Programme = 160
- 2.Each student shall be required to appear for examination for all courses third semester onwards .However, for the award of the degree a student shall be required to earn the minimum of 150 credits .

**JAGAN NATH UNIVERSITY  
BACHELOR OF TECHNOLOGY  
ELECTRICAL ENGINEERING  
COURSE STRUCTURE  
FIRST SEMESTER**

**THEORY PAPERS**

Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
PH 101	Engineering Physics I	3	1	-	30	70	100	4
CS101	Introduction to Computers Fundamental and IT*	3	-	-	30	70	100	3
MA101	Applied Mathematics I	3	1	-	30	70	100	4
EE101	Introduction to Electrical & Electronic Engineering I	3	-	-	30	70	100	3
CT101	English & Communication Skills	3	-	-	30	70	100	3
CH101	Engineering Chemistry	3	-	-	30	70	100	3

**PRACTICALS/VIVA VOCE**

		L	T	P	Sessional	Practical	Total	Credits
EE110	Electronics Lab I	-	-	2	30	20	50	1
PH110	Physics Lab I	-	-	2	30	20	50	1
CS110	IT Fundamental Lab	-	-	2	30	20	50	1
CH110	Chemistry Lab	-	-	2	30	20	50	1
ME111	Engineering Work shop	-	-	2	30	20	50	1
	<b>Total</b>	<b>18</b>	<b>2</b>	<b>10</b>	<b>330</b>	<b>520</b>	<b>850</b>	<b>25</b>

**CC: Core Course**

**FC: Foundation course**

**BACHELOR OF TECHNOLOGY  
COMMON TO ALL BRANCHES  
SECOND SEMESTER**

**THEORY PAPERS**

Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
PH201	Engineering Physics II	3	1	-	30	70	100	4
CS 201	Introduction to computer Programming *	3	-	-	30	70	100	3
ME 201	Engineering Mechanics *	3	1	-	30	70	100	4
DE201	Digital electronics	3	-	-	30	70	100	3
MA201	Applied Mathematics-II	3	-	-	30	70	100	3
EV201/CH 201*	Environmental Sciences	3	-	-	30	70	100	3

**PRACTICALS / VIVA VOCE**

		L	T	P	Sessional	Practical	Total	Credits
EE210	Electronic Lab II	-	-	2	30	20	50	1
PH210	Engineering Physics Lab II	-	-	2	30	20	50	1
CS210	Computer Programming Lab*	-	-	2	30	20	50	1
ME210	Engineering Drawing	-	-	2	30	20	50	1
CT210	Communication skill Lab*	-	-	2	30	20	50	1
	<b>Total</b>	<b>18</b>	<b>2</b>	<b>10</b>	<b>330</b>	<b>520</b>	<b>850</b>	<b>25</b>

**CC: Core Course**

**FC: Foundation course**

**BACHELOR OF TECHNOLOGY  
THIRD SEMESTER**

THEORY PAPERS								
Code	Subject/Paper	L		T/P	IA	EA	Total	Credits
EE301	Applied Mathematics III	3	1	-	30	70	100	4
EE302	Circuit Analysis-I	3	1	-	30	70	100	4
EE303	Electrical Machine-I	3	-	-	30	70	100	3
EE304	Electronic Measurements & Instrumentation	3	-	-	30	70	100	4
EE305	Generation of Electric Power	3	-	-	30	70	100	3
EE306	Object Oriented Programming	3	-	-	30	70	100	3
PRACTICALS /VIVA VOCE								
		L	T	P	Sessional	Practical	Total	Credits
EE307	Electrical Machine Lab - I	-	-	2	30	20	50	1
EE308	Electronic Measurement & Instrumentation Lab	-	-	2	30	20	50	1
EE309	Object Oriented Programming Lab	-	-	2	30	20	50	1
EE310	Electrical Circuit Lab	-	-	2	30	20	50	1
EE311	Digital electronics Lab	-	-	2	30	20	50	1
	<b>Total</b>	18	2	10	330	520	850	25

CC: Core Course

FC: Foundation course

**BACHELOR OF TECHNOLOGY  
FOURTH SEMESTER SEMESTER**

THEORY PAPERS								
Code	Subject/Paper	L		T/P	IA	EA	Total	Credits
EE401	Analog Electronics	3	1	-	30	70	100	4
EE402	Circuit Analysis-II	3	1	-	30	70	100	4
EE403	Electric Machines-II	3	-	-	30	70	100	3
EE404	Non Conventional Energy Systems	3	-	-	30	70	100	3
EE405	Data Base Management System	3	-	-	30	70	100	3
EE406	Random Variable & Stochastic Processes	3	-	-	30	70	100	3
PRACTICALS/ VIVA VOCE								
		L	T	P	Sessional	Practical	Total	Credits
EE407	Analog Electronics Lab	-	-	2	30	20	50	1
EE408	Electric Machine Lab-II	-	-	2	30	20	50	1
EE409	Technical Seminar	-	-	2	30	20	50	1
EE410	DBMS Lab	-	-	2	30	20	50	1
EE411	GD & Soft Skill	-	-	2	30	20	50	1
	<b>Total</b>	18	2	10	330	520	850	25
	<b>4 -6 weekS training will be held after fourth semester,viva will be conducted in fifth sem.</b>							

**BACHELOR OF TECHNOLOGY  
FIFTH SEMESTER**

Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
EE501	Industrial Electronics	3	1	-	30	70	100	4
EE502	Microprocessors & Interfaces	3	-	-	30	70	100	4
EE503	Control System	3	1	-	30	70	100	4
EE504	Transmission & Distribution of Electric Power	3	-	-	30	70	100	3
EE505	High Voltage Engineering	3	-	-	30	70	100	3
	<b>Elective (any one)</b>							
EE506A	Materials in Electrical Systems	3	-	-	30	70	100	3
EE566B	Switching Theory and Logic Design	3	-	-	30	70	100	3
EE506C	Digital Signal Processing	3	-	-	30	70	100	3
EE506D	Communication Systems	3	-	-	30	70	100	3
EE506F	Electromagnetic Field Theory	3	-	-	30	70	100	3
<b>PRACTICALS / VIVA VOCE</b>								
		L	T	P	Sessional	Practical	Total	Credits
EE507	Industrial Electronics Lab	-	-	2	30	20	50	1
EE508	Microprocessor Lab	-	-	2	30	20	50	1
EE509	MATLAB Programming Lab	-	-	2	30	20	50	1
EE510	Control System Lab	-	-	2	30	20	50	1
EE 511	Digital Signal Processing	-	-	2	30	20	50	1
EE 512	Training viva	-	-	0	30	20	50	2
		18	2	10	360	540	900	27

**BACHELOR OF TECHNOLOGY  
SIXTH SEMESTER**

THEORY PAPERS								
Code	Subject/Paper	L	T	T/P	IA	EA	Total	Credits
EE601	Advanced Power System	3	1	-	30	70	100	4
EE602	Switchgear & protection	3	-	-	30	70	100	3
EE603	Economic operation of power system	3	-	-	30	70	100	3
EE604	Signals & Systems	3	1	-	30	70	100	4
EE605	Modern Control Theory	3	-	-	30	70	100	3
	<b>Elective (any one)</b>							
EE606A	Power Quality	3	-	-	30	70	100	3
EE606B	Power System Reliability	3	-	-	30	70	100	3
EE606C	Power system coordination and control	3	-	-	30	70	100	3
EE606D	Advanced Microprocessors	3	-	-	30	70	100	3
<b>PRACTICALS / VIVA VOCE</b>								
		L	T	P	Sessional	Practical	Total	Credits
EE607	Power System Lab	-	-	2	30	20	50	1
EE608	Advanced Power Electronics Lab	-	-	2	30	20	50	1
EE609	Power System Design Lab	-	-	2	30	20	50	1
EE610	Signal and Systems Lab	-	-	2	30	20	50	1
EE611	Industrial tour/ In house workshop	-	-	0	30	20	50	1
EE612	Minor Project - I	-	-	1	30	20	50	2
		18	2	9	360	540	900	28
	<b>4 -6 weekS training will be held after sixth semester,viva will be conducted in seventh sem.</b>							

**BACHELOR OF TECHNOLOGY  
SEVENTH SEMESTER**

THEORY PAPERS								
Code	Subject/Paper	L		T/P	IA	EA	Total	Credits
EE701	Power System Analysis	3	1	-	30	70	100	4
EE702	Power System Engineering	3	1	-	30	70	100	4
EE703	Electrical Machine Design	3	-	-	30	70	100	3
EE704	Electric Drives & Their Control	3	-	-	30	70	100	3
	<b>ELECTIVE(any one)</b>							
EE705A	EHV AC/DC Transmission	3	-	-	30	70	100	3
EE705B	Electrical Machine Design	3	-	-	30	70	100	3
EE705C	PLC and SCADA Systems	3	-	-	30	70	100	3
EE705D	Power line Carrier Communication	3	-	-	30	70	100	3
	<b>ELECTIVE(any one)</b>							
EE706A	Utilization of Electric Power	3	-	-	30	70	100	3
EE706B	Artificial Intelligence	3	-	-	30	70	100	3
EE706C	Power Quality	3	-	-	30	70	100	3
EE706D	Power Distribution System	3	-	-	30	70	100	3
PRACTICALS /VIVA VOCE								
		L	T	P	Sessional	Practical	Total	Credits
EE707	Electric Machine Design Lab	-	-	2	30	20	50	1
EE708	Electric Drives & Control Lab	-	-	2	30	20	50	1
EE709	Matlab for Electrical Engineers	-	-	2	30	20	50	1
EE710	Traning viva	-	-	0	30	20	50	2
EE711	Minor project II	-	-	4	30	20	50	2
		18		12	360	540	900	28

**BACHELOR OF TECHNOLOGY  
EIGHTH SEMESTER**

Code	Subject/Paper	L		T/P	IA	EA	Total	Credits
EE 801	Application of Power Electronics to Power Systems	3	1	-	30	70	100	4
EE 802	Power System Operation and Control	3	1	-	30	70	100	4
	<b>Elective (any one)</b>							
EE803A	Neuro and Fuzzy Systems	3	-	-	30	70	100	3
EE803B	Electrical System Design	3	-	-	30	70	100	3
EE803C	Power Plant Instrumentation	3	-	-	30	70	100	3
EE803D	Control System Design	3	-	-	30	70	100	3
EE803E	VLSI	3	-	-	30	70	100	3
	<b>Elective(open) (any one)</b>							
EE804A	Reliability Engineering and Application to Power	3	-	-	30	70	100	3
EE804B	Computation fluid dynamics	3	-	-	30	70	100	3
EE804C	Advanced manufacturing methods	3	-	-	30	70	100	3
EE804D	Disaster Management	3	-	-	30	70	100	3
EE804E	sociology and elements of Indian history for engineers	3	-	-	30	70	100	3
EE804F	Value Education And Human Rights	3	-	-	30	70	100	3
EE804G	Community development	3	-	-	30	70	100	3
<b>PRACTICALS /VIVA VOCE</b>								
		L	T	P	Sessional	Practical	Total	Credits
EE 805	Power System Analysis and Stability Lab	-	-	2	30	20	50	1
EE806	Control System Lab	-	-	2	30	20	50	1
EE807	Major Project	-	-	-	240	160	400	12
		12		4	420	480	900	28
<b>Grand Total of Credits</b>		<b>138</b>	<b>17</b>	<b>73</b>	<b>2820</b>	<b>4180</b>	<b>7000</b>	<b>210</b>

The student will submit a synopsis at the beginning of the semester for approval from the departmental committee in a specified format, thereafter he/she will have to present the progress of the work through seminars and progress reports. Seminar related to the project should be delivered one after starting of semester. The progress will be monitored through seminars and progress reports.

**Note;--**

1. The total number of the credits of (Mechanical) Programme are = 210.
2. Each student shall be required to appear for examinations in all courses. However, for the award of the degree a student shall be required to earn minimum of 200 credits.

**For lateral entry students in Third SEMESTER ::--**

1. The total number of credits of the B. Tech (Mechanical) Programme = 160
2. Each student shall be required to appear for examination for all courses third semester onwards. However, for the award of the degree a student shall be required to earn the minimum of 150 credits.

**JAGAN NATH UNIVERSITY**  
**BACHELOR OF TECHNOLOGY**  
**MECHANICAL ENGINEERING**  
**COURSE STRUCTURE**  
**FIRST SEMESTER**

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
PH 101	Engineering Physics I	3	1	-	30	70	100	4
CS101	Introduction to Computers Fundamental and IT*	3	-	-	30	70	100	3
MA101	Applied Mathematics I	3	1	-	30	70	100	4
EE101	Introduction to Electrical & Electronic Engineering	3	-	-	30	70	100	3
CT101	English & Communication Skills	3	-	-	30	70	100	3
CH101	Engineering Chemistry	3	-	-	30	70	100	3
PRACTICALS/VIVA-VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
EE110	Electronics Lab I	-	-	2	30	20	50	1
PH110	Engineering Physics Lab I	-	-	2	30	20	50	1
CS110	IT Fundamental Lab*	-	-	2	30	20	50	1
CH110	Chemistry Lab	-	-	2	30	20	50	1
ME111	Engineering Work shop	-	-	2	30	20	50	1
<b>TOTAL</b>		<b>18</b>	<b>2</b>	<b>10</b>	<b>330</b>	<b>520</b>	<b>850</b>	<b>25</b>

**BACHELOR OF TECHNOLOGY**  
**MECHANICAL ENGINEERING**  
**COMMON TO ALL BRANCHES**  
**SECOND SEMESTER**

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
PH201	Engineering Physics II	3	1	-	30	70	100	4
CS 201	Introduction to computer Programming *	3	-	-	30	70	100	3
ME 201	Engineering Mechanics*	3	1	-	30	70	100	4
DE201	Digital electronics	3	-	-	30	70	100	3
MA201	Applied Mathematics II	3	-	-	30	70	100	3
EV201	Environmental Sciences	3	-	-	30	70	100	3
PRACTICALS/VIVA-VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
EE210	Electronic Lab II	-	-	2	30	20	50	1
PH210	Engineering Physics Lab II	-	-	2	30	20	50	1
CS210	Computer Programming Lab*	-	-	2	30	20	50	1
ME210	Engineering Drawing	-	-	2	30	20	50	1
CT210	Communication skill Lab*	-	-	2	30	20	50	1
<b>TOTAL</b>		<b>18</b>	<b>2</b>	<b>10</b>	<b>330</b>	<b>520</b>	<b>850</b>	<b>25</b>

**BACHELOR OF TECHNOLOGY  
MECHANICAL ENGINEERING  
THIRD SEMESTER**

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
ME 301	Numerical Analysis and Statistical Techniques	3	-	-	30	70	100	3
ME 302	Thermodynamics	3	1	-	30	70	100	4
ME 303	Electronics Measurement and Instrumentation	3	-	-	30	70	100	3
ME 304	Mechanics of solids	3	1	-	30	70	100	4
ME 305	Production Technology	3	-	-	30	70	100	3
ME 306	Material Science & Engineering	3	-	-	30	70	100	3
PRACTICALS/VIVA-VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
ME 307	EMI Lab	-	-	2	30	20	50	1
ME 308	Strength of Material Lab	-	-	2	30	20	50	1
ME 309	Production Technology Lab	-	-	2	30	20	50	1
ME 310	Material Science Lab	-	-	2	30	20	50	1
ME311	Machine drawing lab	-	-	2	30	20	50	1
<b>TOTAL</b>		<b>18</b>	<b>2</b>	<b>10</b>	<b>330</b>	<b>520</b>	<b>850</b>	<b>25</b>

**BACHELOR OF TECHNOLOGY  
MECHANICAL ENGINEERING  
FOURTH SEMESTER**

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
ME 401	Fluid Mechanics and Hydraulics	3	1	-	30	70	100	4
ME 402	Automobile Engineering	3	-	-	30	70	100	3
ME 403	Kinematics of machines	3	1	-	30	70	100	4
ME 404	Industrial Engineering	3	-	-	30	70	100	3
ME 405	Manufacturing Processes	3	-	-	30	70	100	3
ME 406	Design Of Machine Elements-1	3	-	-	30	70	100	3
PRACTICALS/VIVA-VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
ME 407	Fluid Mechanics and hydraulics Lab	-	-	2	30	20	50	1
ME 408	Automobile Engineering Lab	-	-	2	30	20	50	1
ME409	KOM Lab	-	-	2	30	20	50	1
ME410	Production Engineering practice lab	-	-	2	30	20	50	1
ME411	Machine Design Lab -I	-	-	2	30	20	50	1
<b>TOTAL</b>		<b>18</b>	<b>2</b>	<b>10</b>	<b>330</b>	<b>520</b>	<b>850</b>	<b>25</b>
<b>4-6 weeks training will be held after fourth</b>								





**BACHELOR OF TECHNOLOGY  
MECHANICAL ENGINEERING  
SEVENTH SEMESTER**

<b>THEORY PAPERS</b>		<b>No. of Teaching Hours</b>			<b>Marks Allocation</b>			
<b>Code</b>	<b>Subject/Paper</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>IA</b>	<b>EA</b>	<b>Total</b>	<b>Credits</b>
ME 701	Steam & Gas Turbines	3	1	-	30	70	100	4
ME 702	Computer Integrated Manufacturing	3	-	-	30	70	100	3
ME 703	Noise, Vibration and Harshness	3	1	-	30	70	100	4
ME 704	Power plant engineering	3	-	-	30	70	100	3
	<b>ELECTIVE(any one)</b>							
ME 705A	Product Design and Development	3	-	-	30	70	100	3
ME 705B	Non Conventional Energy	3	-	-	30	70	100	3
ME 705C	Total Quality Management	3	-	-	30	70	100	3
ME 705D	Advanced material science and metallurgy	3	-	-	30	70	100	3
ME 705E	Data base management system	3	-	-	30	70	100	3
	<b>ELECTIVE(any one)</b>							
ME 706A	Quality Control & Quality Assurance/	3	-	-	30	70	100	3
ME 706B	Operation management	3	-	-	30	70	100	3
ME 706C	Non-conventional manufacturing processes	3	-	-	30	70	100	3
ME 706D	Geometric Modelling and Product Design	3	-	-	30	70	100	3
ME 706E	Newer machining methods	3	-	-	30	70	100	3
<b>PRACTICALS/VIVA-VOCE</b>		<b>No. of Teaching Hours</b>			<b>Sessional</b>	<b>Practical</b>	<b>Total</b>	<b>Credits</b>
ME 707	CIM Lab	-	-	2	30	20	50	1
ME 708	Vibration Lab	-	-	2	30	20	50	1
ME 709	Mat Lab	-	-	2	30	20	50	1
ME 710	Training viva voce	-	-	0	30	20	50	2
ME 711	Minor project	-	-	4	60	40	100	2
<b>TOTAL</b>		<b>18</b>	<b>2</b>	<b>10</b>	<b>360</b>	<b>540</b>	<b>900</b>	<b>27</b>

**BACHELOR OF TECHNOLOGY  
MECHANICAL ENGINEERING  
EIGHTH SEMESTER**

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			Credits
Code	Subject/Paper	L	T	P	IA	EA	Total	
ME 801	Engineering System Modelling and Simulation	3	1	-	30	70	100	4
ME 802	Statistical Quality Control and reliability	3	1	-	30	70	100	4
	<b>Elective (any one)</b>							
ME803A	Advanced Control system	3	-	-	30	70	100	3
ME803B	Work study	3	-	-	30	70	100	3
ME803C	Rapid prototyping	3	-	-	30	70	100	3
ME803D	Robotics	3	-	-	30	70	100	3
ME803E	Planning for sustainable development	3	-	-	30	70	100	3
ME803F	Cyber Crime	3	-	-	30	70	100	3
ME803G	IPR	3	-	-	30	70	100	3
ME803H	Entrepreneurship	3	-	-	30	70	100	3
	<b>Elective(open) (any one)</b>							
ME804A	Renewable energy resources	3	-	-	30	70	100	3
ME804B	Finite Element Methods	3	-	-	30	70	100	3
ME804C	Computation fluid dynamics	3	-	-	30	70	100	3
ME804D	Advanced manufacturing methods	3	-	-	30	70	100	3
ME804E	Disaster Management	3	-	-	30	70	100	3
ME804F	Sociology and Elements of Indian History for	3	-	-	30	70	100	3
ME804G	Value Education And Human Rights	3	-	-	30	70	100	3
ME804H	Community Development	3	-	-	30	70	100	3
<b>PRACTICALS/VIVA-VOCE</b>		<b>No. of Teaching Hours</b>			<b>Sessional</b>	<b>Practical</b>	<b>Total</b>	<b>Credits</b>
ME 805	Engineering System Modelling and Simulation	-	-	2	30	20	50	1
M806	Statistical Quality Control and reliability Lab	-	-	2	30	20	50	1
ME807	Major Project	-	-	-	240	160	400	12
<b>TOTAL</b>		<b>12</b>	<b>2</b>	<b>4</b>	<b>420</b>	<b>480</b>	<b>900</b>	<b>28</b>
<b>Grand Total of Credits</b>		<b>138</b>	<b>17</b>	<b>73</b>	<b>2820</b>	<b>4180</b>	<b>7000</b>	<b>210</b>

**L=LECTURER, T= TUTORIAL, P=PRACTICAL, IA=INTERNAL ASSESSMENT, EA=EXTERNAL ASSESSMENT**

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