School of Engineering & Information Technology

Department of Engineering

FACULTY -BACHELOR OF TECHNOLOGY (B.Tech)

Electrical & Electronics Engineering

(Semester I - VIII)

Scheme of Study (w.e.f Batch 2020-21)

> ARKA JAIN University Jharkhand (Jamshedpur)

JGI





Scheme of Study (w.e.f Batch 2020-21)

SEMESTER - I (GROUP A)

S.No	Name of the Subject	Type of Paper	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA *	Attendance
1	Engineering Chemistry	BSC	3	3	100	70	20	5	5
2	Engineering Mathematics-I	BSC	4	4	100	70	20	5	5
3	Basic Electrical Engineering	ESC	4	4	100	70	20	5	5
4	Engineering Mechanics	ESC	3	3	100	70	20	5	5
	Practical								
5	Engineering Chemistry Lab	BSC	1	2	50	35	5	5	5
6	Basic Electrical Engineering Lab	ESC	1	2	50	35	5	5	5
7	Engineering Mechanics Lab	ESC	1	2	50	35	5	5	5
8	Engineering Graphics & Design	ESC	2	4	50	35	5	5	5
	Total		19	24	600	420	100	40	40





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SEMESTER - I (GROUP B)

S.No	Name of the Subject	Type of Paper	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA *	Attendance
1	Engineering physics	BSC	4	4	100	70	20	5	5
2	Engineering Mathematics - I	BSC	4	4	100	70	20	5	5
3	Programming for Problem Solving	ESC	3	3	100	70	20	5	5
4	English for Communication	HSMC	3	3	100	70	20	5	5
5	Constitution of India	МС	0	2	50	35	10	2.5	2.5
	Practical								
6	Engineering physics Lab	BSC	1	2	50	35	5	5	5
7	Programming for Problem Solving Lab	ESC	2	4	50	35	5	5	5
8	Workshop Practices	ESC	2	4	50	35	5	5	5
	Total		19	26	700	490	125	37.5	37.5





Scheme of Study (w.e.f Batch 2020-21)

SEMESTER - II (GROUP A)

S.No	Name of the Subject	Type of Paper	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA *	Attendance
1	Engineering physics	BSC	4	4	100	70	20	5	5
2	Engineering Mathematics - II	BSC	4	4	100	70	20	5	5
3	Programming for Problem Solving	ESC	3	3	100	70	20	5	5
4	English for Communication	HSMC	3	3	100	70	20	5	5
5	Constitution of India	МС	0	2	50	35	10	2.5	2.5
	Practical								
6	Engineering physics Lab	BSC	1	2	50	35	5	5	5
7	Programming for Problem Solving Lab	ESC	2	4	50	35	5	5	5
8	Workshop Practices	ESC	2	4	50	35	5	5	5
	Total		19	26	600	420	105	37.5	37.5





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SEMESTER - II (GROUP B)

S.No	Name of the Subject	Type of Paper	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA *	Attendance
1	Engineering Chemistry	BSC	3	3	100	70	20	5	5
2	Engineering Mathematics - II	BSC	4	4	100	70	20	5	5
3	Basic Electrical Engineering	ESC	4	4	100	70	20	5	5
4	Engineering Mechanics	ESC	3	3	100	70	20	5	5
	Practical								
5	Engineering Chemistry Lab	BSC	1	2	50	35	5	5	5
6	Basic Electrical Engineering Lab	ESC	1	2	50	35	5	5	5
7	Engineering Mechanics Lab	ESC	1	2	50	35	5	5	5
8	Engineering Graphics & Design	ESC	2	4	50	35	5	5	5
	Total		19	24	600	420	100	40	40



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SEMESTER - III

S.No	Name of the Subject	Type of Paper	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA *	Attendance
1	Electrical Circuit Analysis	PCC	3	3	100	70	20	5	5
2	Electromagnetic Fields	PCC	4	4	100	70	20	5	5
3	Analog Electronics	PCC	3	3	100	70	20	5	5
4	Engineering Mathematics - III	BSC	4	4	100	70	20	5	5
5	Electrical Mechanics - I	PCC	4	4	100	70	20	5	5
6	Environmental Science	МС	0	2	50	35	10	2.5	2.5
	Practical								
7	Electrical Machines - Analysis Lab	PCC	1	2	50	35	5	5	5
8	Electrical Machines - I Lab	PCC	1	2	50	35	5	5	5
9	Analog Electronics Lab	PCC	1	2	50	35	5	5	5
	Total		21	26	00	640	155	42.5	42.5





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SEMESTER - IV

S.No	Name of the Subject	Type of Paper	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA *	Attendance
1	Electrical Machines - II	PCC	4	4	100	70	20	5	5
2	Digital Electronics	PCC	3	3	100	70	20	5	5
3	Power Electronics	PCC	4	4	100	70	20	5	5
4	Signal and Systems	PCC	3	3	100	70	20	5	5
5	Biology for Engineers	BSC	3	3	100	70	20	5	5
6	Essence of Indian Knowledge Tradition	МС	0	2	50	35	10	2.5	2.5
	Practical								
7	Electrical Machines II Lab	PCC	1	2	50	35	5	5	5
8	Digital Electronics Lab	PCC	1	2	50	35	5	5	5
9	Power Electronics Lab	PCC	1	2	50	35	5	5	5
	Total		20	25	700	490	125	42.5	42.5



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SEMESTER - V

S.No	Name of the Subject	Type of Paper	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA *	Attendance
1	Power System - I	PCC	3	3	100	70	20	5	5
2	Control System	PCC	3	3	100	70	20	5	5
3	Microprocessors	PCC	3	3	100	70	20	5	5
4	Program Elective -I Electrical Energy Conservation and Auditing Electrical Machine Design Industrial Electrical System	PEC	3	3	100	70	20	5	5
5	Open Elective - I Electronic Devices Strength of Materials Data Structure and Algorithms	OEC	3	3	100	70	20	5	5
6	Professional Practice Law & Ethics	HSMC	3	3	100	70	20	5	5
	Practical								
7	Power System I Lab	PCC	1	2	50	35	5	5	5
8	Control System Lab	PCC	1	2	50	35	5	5	5
9	Microprocessors Lab	PCC	1	2	50	35	5	5	5
10	Summer Internship - I (3 - 4 weeks)	PROJ	2	0	50	35	15	0	0
	Total		23	24	800	560	150	45	45



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SEMESTER - VI

S.No	Name of the Subject	Type of Paper	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA *	Attendance
1	Power System - II	PCC	3	3	100	70	20	5	5
2	Measurement and Instrumentation	PCC	3	3	100	70	20	5	5
3	Program Elective - II Digital Signal Processing Control System Design	PEC	3	3	100	70	20	5	5
4	Program Elective - III Line Commutated and Active Rectifiers High Voltage Engineering Electromagnetic Waves	PEC	3	3	100	70	20	5	5
5	Open Elective - II Wavelet Transforms Internet of Things Thermal and Fluid Engineering	OEC	3	3	100	70	20	5	5
6	IPR	HSMC	3	3	100	70	20	5	5
	Practical								
7	Power System II Lab	PCC	1	2	50	35	5	5	5
8	Measurement and Instrument Lab	PCC	1	2	50	35	5	5	5
	Total		20	22	700	490	130	40	40



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SEMESTER - VII

S.No	Name of the Subject	Type of Paper	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA *	Attendance
1	Professional Elective - IV Power System Protection Electrical and Hybrid Vehicle Computational Electromagnetic	PEC	3	3	100	70	20	5	5
2	Professional Elective - V Power System Dynamics and Control Power Quality and FACTS Electrical Drives	PEC	3	3	100	70	20	5	5
3	Open Elective - III Analog and Design Communication Embedded Systems Fluid Machinery	OEC	3	3	100	70	20	5	5
4	Open Elective - III Power Plant Engineering Image Processing Automobile Engineering	OEC	3	3	100	70	20	5	5
5	Project Management	HSMC	3	3	100	70	20	5	5
	Practical								
6	Summer Internship -II (4 - 6 Weeks)	PROJ	3	0	100	70	30	0	0
7	Minor Project (Project to be carried over to next Semester)	PROJ	3	6	100	70	30	0	0
	Total		21	21	600	490	160	25	25



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SEMESTER - VIII

S.No	Name of the Subject	Type of Paper	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA *	Attendance
1	Professional Elective - IV HVDC Transmission System Wind and Solar Energy System Advance Electric Drivers	PEC	3	3	100	70	20	5	5
2	Open Elective - v VLSI Circuits Modern Manufacturing Processes Computer Networks	OEC	3	3	100	70	20	5	5
3	Open Elective - IV Electric Materials Big Data Analysis	OEC	3	3	100	70	20	5	5
	Practical								
4	Major Projects	PROJ	8	16	200	140	60	0	0
5	Extra-Curricular/ Co-Curricular Activity	PROJ	0	0	100	70	30	0	0
	Total		17	25	600	420	150	15	15



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DISTRIBUTION OF CREDIT ACROSS 8 SEMESTERS:

SI. No	Type of Paper	No. of Paper	Total Credit
1	Humanities and Social Sciences including Management Courses (HSMC)	4	12
2	Basic Science courses (BSC)	8	24
3	Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc (ESC)	8	18
4	Professional core courses (PCC)	24	54
5	Professional Elective courses relevant to chosen specialization/branch (PEC)	6	18
6	Open subjects - Electives from other technical and /or emerging subjects (OEC)	6	18
7	Project work, seminar and internship in industry or elsewhere (PROJ)	5	16
8	Mandatory Courses [Environmental Sciences, Induction training, Indian Constitution, Essence of Indian Knowledge Tradition] (MC)	3	0
	Total	64	160

CIA - Continuous Internal Assessment - Based on Projects / Assignment during the semester

Note:

AICTE Activity Points to be earned by students admitted to Diploma program (For more details refer to Chapter 6, AICTE, Activity Point Program, Model Internship Guidelines):

Every regular student, who is admitted to the 4 year Degree program, is required to earn 100 activity points in addition to the total credits earned for the program. Students entering 4 years Degree Program through lateral entry are required to earn 75 activity points in addition to the total credits earned for the program. The activity points earned by the student shall be reflected on the students 8th Semester grade card.

The activities to earn the points can be spread over the duration of the course. However, minimum prescribed duration should be fulfilled.

Activity Points (non-credit) have no effect on SGPA/CGPA and shall not be considered for vertical progression.

Incase student fail to earn the prescribed activity points, Eight semesters Grade Card shall be issued only after earning the required activity Points.

Students shall be eligible for the award of degree only after the release of the Eight Semester grade card.

There are two groups (A & B) in semester 1 & 2. The Group division will be decided by The Dean SoE & IT before commencement of classes

Approved in the 16th Academic Council Meeting held on dated 25th November 2020