

ARKA JAIN UNIVERSITY

School of  
Engineering & Information Technology

Department of  
Engineering & Polytechnic

# **FACULTY - DIPLOMA IN ELECTRICAL & ELECT. ENGG.**

(Semester I - VI)

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



**ARKA JAIN**  
**University**  
Jharkhand (Jamshedpur)



## 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	Communication Skills in English	HSC	3	3	100	70	20	5	5
2	Mathematics - I	BSC	4	4	100	70	20	5	5
3	Applied Physics	BSC	4	4	100	70	20	5	5
4	Applied Chemistry	BSC	4	4	100	70	20	5	5
	Practical								
5	Engineering Workshop Practice	ESC	2	4	50	35	5	5	5
6	Applied Physics Lab	BSC	1	2	50	35	5	5	5
7	Applied Chemistry Lab	BSC	1	2	50	35	5	5	5
8	Communication Skills in English Lab	HSC	1	2	50	35	5	5	5
	Total		20	25	600	420	100	40	40



## 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	Mathematics -I	BSC	4	4	100	70	20	5	5
2	Fundamentals of Electrical & Electronics Engg.	ESC	4	4	100	70	20	5	5
3	Introduction to IT system	ESC	3	3	100	70	20	5	5
4	Engineering Mechanics	ESC	4	4	100	70	20	5	5
5	Environmental Science	AC	0	2	50	35	10	2.5	2.5
	Practical								
6	Fundamentals of electrical & electronics Engg. Lab	ESC	1	2	50	35	5	5	5
7	Introduction to IT system Lab	ESC	1	2	50	35	5	5	5
8	Engineering Mechanics Lab	ESC	1	2	50	35	5	5	5
9	Engineering Graphics	ESC	2	4	50	35	5	5	5
	Total		20	27	650	455	110	42.5	42.5



## 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	Mathematics -II	BSC	4	4	100	70	20	5	5
2	Fundamentals of Electrical & Electronics Engg.	ESC	4	4	100	70	20	5	5
3	Introduction to IT system	ESC	3	3	100	70	20	5	5
4	Engineering Mechanics	ESC	4	4	100	70	20	5	5
5	Environmental Science	AC	0	2	50	35	10	2.5	2.5
	<b>Practical</b>								
6	Fundamentals of electrical & electronics Engg. Lab	ESC	1	2	50	35	5	5	5
7	Introduction to IT system Lab	ESC	1	2	50	35	5	5	5
8	Engineering Mechanics Lab	ESC	1	2	50	35	5	5	5
9	Engineering Graphics	ESC	2	4	50	35	5	5	5
	<b>Total</b>		<b>20</b>	<b>27</b>	<b>650</b>	<b>455</b>	<b>110</b>	<b>42.5</b>	<b>42.5</b>



## 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	Communication Skills in English	HSC	3	3	100	70	20	5	5
2	Mathematics - II	BSC	4	4	100	70	20	5	5
3	Applied Physics	BSC	4	4	100	70	20	5	5
4	Applied Chemistry	BSC	4	4	100	70	20	5	5
	Practical								
5	Engineering Workshop Practice	ESC	2	4	50	35	5	5	5
6	Applied Physics Lab	BSC	1	2	50	35	5	5	5
7	Applied Chemistry Lab	BSC	1	2	50	35	5	5	5
8	Communication Skills in English Lab	HSC	1	2	50	35	5	5	5
	Total		20	25	600	420	100	40	40



## 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	Introduction to Electric Generation Systems	PCC	3	3	100	70	20	5	5
2	Electrical Circuits	PCC	3	3	100	70	20	5	5
3	Electrical and Electronic Measurements	PCC	3	3	100	70	20	5	5
4	Electric Motors and Transformers	PCC	3	3	100	70	20	5	5
5	Applied Electronics	PCC	3	3	100	70	20	5	5
	Practical								
6	Electrical Circuits Lab	PCC	1	2	50	35	5	5	5
7	Electrical and Electronic Measurements Lab	PCC	1	2	50	35	5	5	5
8	Electric Motors and Transformers Lab	PCC	1	2	50	35	5	5	5
9	Applied Electronics 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		21	23	750	525	135	45	45

## 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	Digital Electronics	PCC	3	3	100	70	20	5	5
2	Electric Power Transmission and Distribution	PCC	4	4	100	70	20	5	5
3	Induction, Synchronous and Special Electrical Machines	PCC	4	4	100	70	20	5	5
4	Elective-I Instrumentation and Condition Monitoring Electrical Testing & Commissioning Illumination Practices	PEC	3	3	100	70	20	5	5
5	Elective-II Industrial Drives Electrical Estimation & Contracting Biomass and Micro hydro Power plants	PEC	3	3	100	70	20	5	5
6	Essence of Indian Knowledge Tradition	AC	0	2	50	35	10	2.5	2.5
	Practical								
7	Digital Electronics Lab	PCC	1	2	50	35	5	5	5
8	Electrical & Electronics Engg. Drawing	PCC	2	4	50	35	5	5	5
9	Induction, Synchronous and Special Electrical Machines Lab	PCC	1	2	50	35	5	5	5
10	Minor Project	PROJ	2	4	50	35	15	0	0
	Total		23	31	750	525	140	42.5	42.5





## 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	Microprocessor & Microcontroller	PCC	4	4	100	70	20	5	5
2	Fundamentals of Power Electronics	PCC	4	4	100	70	20	5	5
3	Elective - III Switchgear and Protection Wind Power Technologies Electric Vehicles	PEC	3	3	100	70	20	5	5
4	Elective - IV Industrial Automation & Control Communication Technologies Electric Traction	PEC	3	3	100	70	20	5	5
5	Open Elective - I Artificial Intelligence & Machine Learning Introduction to E - Governance Robotics	OEC	3	3	100	70	20	5	5
	Practical								
6	Microprocessor & Microcontroller Lab	PCC	1	2	100	70	20	5	5
7	Fundamentals of Power Electronics Lab	PCC	1	2	50	35	5	5	5
8	Summer Internship - II (4-6 Weeks)	PROJ	3	0	100	70	30	0	0
9	Major Project - I	PROJ	1	2	50	35	15	0	0
	Total		23	23	800	560	170	35	35

Project to be carried over to next semester





## 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	Building Electrification	PCC	4	4	100	70	20	5	5
2	Entrepreneurship and Start-ups	HSC	4	4	100	70	20	5	5
3	Open Elective - II Internet of Things Project Management Operations Research	OEC	3	3	100	70	20	5	5
4	Open Elective - III Economic Policies in India Energy Efficiency and Audit	OEC	3	3	100	70	20	5	5
5	Indian constitution	AC	0	2	50	35	10	2.5	2.5
	Practical								
6	Seminar	PROJ	1	2	50	35	15	0	0
7	Major Project - II	PROJ	3	6	100	70	30	0	0
	Total		18	24	600	420	135	22.5	22.5

**DISTRIBUTION OF CREDIT ACROSS 6 SEMESTERS:**

Sl. No	Type of Paper	No. of Paper	Total Credit
1	Humanities and Social Sciences Courses (HSC)	3	8
2	Basic Science courses (BSC)	6	18
3	Engineering Science courses (ESC)	8	18
4	Professional core courses (PCC)	20	48
5	Professional Elective courses (PEC)	4	12
6	Open Electives Courses (OEC)	3	9
7	Project work, seminar and internship in industry or elsewhere (PROJ)	6	12
8	Audit Courses [Environmental Sciences, Induction training, Indian Constitution, Essence of Indian Knowledge Tradition] (AC)	3	(non-credit)
	Total	53	125

**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 3 year Diploma program, is required to earn 75 activity points in addition to the total credits earned for the program. Students entering 3 years Diploma Program through lateral entry are required to earn 50 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 6th 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, Sixth semester 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 Six 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\***