



**ARKA JAIN University**  
Jharkhand (Jamshedpur)

Recognized by **UGC**  
Approved by **AICTE**

Scheme of Study of the Program

**Bachelor of Technology-**  
**Electrical & Electronics Engineering(B.Tech-EEE)**  
Semester-I, II, III, IV, V, VI, VII & VIII  
(Batch 2018-2022)

## Semester I – Scheme of Study

S.No	Name of the Subject	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA	Attendance
1	Communicative English *	3	3	100	70	20	5	5
2	Engineering Mathematics -I §	4	4	100	70	20	5	5
3	Environment & Ecology *	3	3	100	70	20	5	5
4	Basic Electrical Engg. #	3	4	100	70	20	5	5
5	Computer Programming #	3	4	100	70	20	5	5
6	Engineering Graphics #	3	4	100	70	20	5	5
	<b>Practical</b>							
7	Basic Electrical Engg. Lab #	2	3	50	35	5	5	5
8	Computer Programming Lab #	2	3	50	35	5	5	5
9	Engineering Graphics Lab #	2	3	50	35	5	5	5
10	Workshop Practice Lab #	2	3	50	35	5	5	5
	<b>TOTAL</b>	<b>27</b>	<b>34</b>	<b>800</b>	<b>560</b>	<b>140</b>	<b>50</b>	<b>50</b>

## Semester II – Scheme of Study

S.No	Name of the Subject	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA	Attendance
1	Science, Society & Ethical Value	3	3	100	70	20	5	5
2	Engineering Mathematics-II	3	3	100	70	20	5	5
3	Engineering Mechanics	3	3	100	70	20	5	5
4	Engineering Physics	4	4	100	70	20	5	5
5	Engineering Chemistry	4	4	100	70	20	5	5
6	Elements of Mechanical Engg.	4	4	100	70	20	5	5
<b>PRACTICAL</b>								
7	Engineering Mechanics Lab	2	2	50	35	5	5	5
8	Engineering Physics Lab	2	2	50	35	5	5	5
9	Engineering Chemistry Lab	2	2	50	35	5	5	5
10	Elements of Mechanical Engg. Lab	2	2	50	35	5	5	5
<b>Total</b>		29	29	800	560	140	50	50

### SEMESTER-III

S.No	Name of the Subject	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA	Attendance
1	Electric Circuit Analysis	3	3	100	70	20	5	5
2	Engineering Mathematics –III	4	4	100	70	20	5	5
3	Transformers and Generators	3	3	100	70	20	5	5
4	Analog Electronic Circuits	3	3	100	70	20	5	5
5	Electrical Machine-I	3	3	100	70	20	5	5
6	Electrical and Electronic Measurements	3	3	100	70	20	5	5
	<b>PRACTICAL</b>							
7	Electrical Machines –I Lab	1	2	50	35	5	5	5
8	Electronic Lab	1	2	50	35	5	5	5
	<b>TOTAL</b>	<b>21</b>	<b>23</b>	<b>700</b>	<b>490</b>	<b>130</b>	<b>40</b>	<b>40</b>

## SEMESTER-IV

S.No	Name of the Subject	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA	Attendance
1	Electrical Machine-II	4	4	100	70	20	5	5
2	Power Generation and Economics	3	3	100	70	20	5	5
3	Transmission and Distribution	3	3	100	70	20	5	5
4	Electromagnetic Field Theory	3	3	100	70	20	5	5
5	Operational Amplifiers and Linear ICs	3	3	100	70	20	5	5
	<b>PRACTICAL</b>							
6	Electrical Machines -II Lab	1	2	50	35	5	5	5
7	Operational Amplifiers and Linear ICs Lab	1	2	50	35	5	5	5
	<b>TOTAL</b>	18	20	600	420	110	35	35

## SEMESTER V

S.No	Name of the Subject	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory / Practical Exam	CIA	Attendance
1	Management and Entrepreneurship	3	3	100	70	20	5	5
2	Power Electronics	3	3	100	70	20	5	5
3	Signals and Systems	3	3	100	70	20	5	5
4	Power System Analysis- I	3	3	100	70	20	5	5
5	Electrical Machine Design	3	3	100	70	20	5	5
	<b>PRACTICAL</b>							
6	Power Electronics Lab	1	2	50	35	5	5	5
7	Signals and Systems Lab	1	2	50	35	5	5	5
	<b>TOTAL</b>	<b>17</b>	<b>19</b>	<b>600</b>	<b>420</b>	<b>110</b>	<b>35</b>	<b>35</b>

## SEMESTER VI

S.No	Name of the Subject	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA	Attendance
1	High Voltage Engineering	3	3	100	70	20	5	5
2	Control Systems	4	4	100	70	20	5	5
3	Digital Signal Processing	3	3	100	70	20	5	5
4	Professional Elective -I	3	3	100	70	20	5	5
	Microcontroller							
	Protection of power apparatus and system							
	Modern control theory							
5	Open Elective –I	3	3	100	70	20	5	5
	Bio-medical sensors and transducers							
<b>PRACTICAL</b>								
6	Control System Lab	1	2	50	35	5	5	5
7	Digital Signal Processing Lab	1	2	50	35	5	5	5
<b>TOTAL</b>		<b>18</b>	<b>20</b>	<b>600</b>	<b>420</b>	<b>110</b>	<b>35</b>	<b>35</b>

## SEMESTER VII

S.No	Name of the Subject	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA	Attendance
1	Power System Analysis – II	3	3	100	70	20	5	5
2	Power System Protection	3	3	100	70	20	5	5
3	Professional Elective – II	3	3	100	70	20	5	5
	Utilization of electrical power							
	Computer aided power systems analysis EHV power transmission							
4	Professional Elective – III	3	3	100	70	20	5	5
	Direct energy conversion Fuzzy logic control							
5	Open Elective –II	3	3	100	70	20	5	5
	Digital system design Digital image processing							
	<b>PRACTICAL</b>							
6	Industrial Training	2	4	50	35	15		
7	PROJECT I ( Minor Project)	6	12	100	70	20	5	5
	<b>TOTAL</b>	<b>23</b>	<b>31</b>	<b>650</b>	<b>455</b>	<b>135</b>	<b>30</b>	<b>30</b>



## SEMESTER VIII

S.No	Name of the Subject	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA	Attendance
1	Power System Operation and Control	3	3	100	70	20	5	5
2	Professional Elective – IV	3	3	100	70	20	5	5
	Neutral networks system							
	Switch gear and protection							
3	Open Elective-III	3	3	100	70	20	5	5
	Embedded system design							
	VLSI- design							
4	Professional Elective – V	3	3	100	70	20	5	5
	High voltage engineering							
	Industrial drives and control							
	<b>PRACTICAL</b>							
5	PROJECT II (Major Project)	6	12	100	70	20	5	5
	<b>TOTAL</b>	<b>18</b>	<b>24</b>	<b>500</b>	<b>350</b>	<b>100</b>	<b>25</b>	<b>25</b>