



**ARKA JAIN University**  
Jharkhand (Jamshedpur)

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

Scheme of Study of the Program

**Bachelor of Technology-  
Civil Engineering (B.Tech-CE)**  
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	Fluid Mechanics	3	3	100	70	20	5	5
2	Biology for Engineers	3	3	100	70	20	5	5
3	Building Material & construction	3	3	100	70	20	5	5
4	Basic Surveying	3	3	100	70	20	5	5
5	Mechanics of solid	3	3	100	70	20	5	5
6	Mathematics-III	4	4	100	70	20	5	5
	<b>PRACTICAL</b>							
7	Fluid Mechanics Lab	1	2	50	35	5	5	5
8	Basic Surveying Lab	1	2	50	35	5	5	5
9	Mechanics of solid-I Lab	1	2	50	35	5	5	5
10	Civil engineering Drawing Lab	2	4	50	35	5	5	5
	<b>TOTAL</b>	24	29	800	560	140	50	50

## 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	Concrete Technology	3	3	100	70	20	5	5
2	Engineering Geology	3	3	100	70	20	5	5
3	Geotechnical Engineering I	3	3	100	70	20	5	5
4	Structural analysis I	3	3	100	70	20	5	5
5	Advance Surveying	3	3	100	70	20	5	5
6	Civil Engineering – Societal & Global Impact	3	3	100	70	20	5	5
7	Management I	0	0	100	70	20	5	5
	Organizational Behaviour							
	Operation research & Technique							
	<b>PRACTICAL</b>							
8	Concrete Technology	1	2	50	35	5	5	5
9	Engineering Geology	1	2	50	35	5	5	5
10	Geotechnical Engineering-I	1	2	50	35	5	5	5
11	Advance Surveying	2	4	50	35	5	5	5
	<b>TOTAL</b>	23	28	800	630	160	55	55

## 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	Hydraulic Engineering	3	3	100	70	20	5	5
2	Structural analysis II	3	3	100	70	20	5	5
3	Hydrology & Water Resources Engineering	3	3	100	70	20	5	5
4	Environmental Engineering	3	3	100	70	20	5	5
5	Transportation Engineering-I	3	3	100	70	20	5	5
6	Professional Practice, Law & Ethics	3	3	100	70	20	5	5
7	Mandatory Courses Constitution of India	0	0	100	70	20	5	5
	Essence of Indian Traditional Knowledge							
	<b>PRACTICAL</b>							
8	Hydraulic Engineering Lab	1	2	50	35	5	5	5
9	Structural analysis II Lab	1	2	50	35	5	5	5
10	Transportation Engineering-I Lab	1	2	50	35	5	5	5
11	Environmental Engineering-I Lab	1	2	50	35	5	5	5
	<b>TOTAL</b>	22	26	900	630	160	55	55

## SEMESTER VI

S.No	Name of the Subject	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical I Exam	Mid Term Theory/ Practical Exam	CIA	Attendance
1	Construction Engineering & Management	3	3	100	70	20	5	5
2	Engineering Economics & Estimation Costing	3	3	100	70	20	5	5
3	Elective-I	3	4	100	70	20	5	5
	Geotechnical Engineering-II							
	Advanced foundation Engineering							
4	Elective-II	3	3	100	70	20	5	5
	Environmental Engineering-II							
	Remote Sensing							
5	Open Elective-I	3	3	100	70	20	5	5
	Transportation Engineering-II							
	Rural Water Supply & Sanitation							
6	Elective-III	3	3	100	70	20	5	5
	Design of Steel Structure-I							
	Repair and rehabilitation of Buildings							
	<b>TOTAL</b>	18	19	600	420	120	30	30

## 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	Elective-IV	3	3	100	70	20	5	5
	Design of Hydraulic Structure							
	Solid Waste Management							
2	Elective-V	3	3	100	70	20	5	5
	Design of steel structure -II							
	Flood and Drought							
3	Open Elective-II	3	3	100	70	20	5	5
	Traffic Engineering-II							
	Earthquake Resistant construction & Design							
4	Ground water Improvement Technique	3	3	100	70	20	5	5
	<b>PRACTICAL</b>							
7	Industrial Training	2	4	50	35	15		
5	Project-I (Minor Project)	6	12	100	70	20	5	5
	<b>TOTAL</b>	20	28	550	385	115	25	25



## 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	Elective-VI	3	3	100	70	20	5	5
	Pre-stress Concrete Design							
	Bridge Engineering							
2	Elective-VII	3	3	100	70	20	5	5
	Industrial Waste Treatment							
	Environmental Impact Assessment							
3	Open Elective-III	3	3	100	70	20	5	5
	Civil Engineering Drawing using Auto Cad							
	Application of Numerical Method in Civil Engineering							
	<b>PRACTICAL</b>							
7	Project-II (Major Project)	6	12	100	70	20	5	5
	<b>TOTAL</b>	15	21	400	280	80	20	20