

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.TECH. I YEAR COURSE STRUCTURE AND SYLLABUS (R16)

(Common for Civil, ME, AE, ME (M), MME, AU, Mining, Petroleum, CEE, ME (Nanotech))

Applicable From 2017-18 Admitted Batch

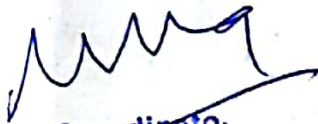
I YEAR I SEMESTER


S. No	Course Code	Course Title	L	T	P	Credits
1	MA101BS	Mathematics-I	3	1	0	3
2	MA102BS	Mathematics-II	4	1	0	4
3	PH103BS	Engineering Physics	3	0	0	3
4	CS104ES	Computer Programming in C	3	0	0	3
5	ME105ES	Engineering Mechanics	3	0	0	3
6	ME106ES	Engineering Graphics	2	0	4	4
7	PH107BS	Engineering Physics Lab	0	0	3	2
8	CS108ES	Computer Programming in C Lab	0	0	3	2
9	*EA109MC	NSS	0	0	0	0
		Total Credits	18	2	10	24

I YEAR II SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	AP201BS	Applied Physics	3	0	0	3
2	CH202BS	Engineering Chemistry	4	0	0	4
3	MA203BS	Mathematics-III	4	1	0	4
4	EN204HS	Professional Communication in English	3	0	0	3
5	EE205ES	Basic Electrical and Electronics Engineering	4	0	0	4
6	CH206BS	Engineering Chemistry Lab	0	0	3	2
7	EN207HS	English Language Communication Skills Lab	0	0	3	2
8	ME208ES	Engineering Workshop	0	0	3	2
9	*EA209MC	NCC/NSO	0	0	0	0
		Total Credits	18	1	9	24

*Mandatory Course- Satisfactory/Unsatisfactory


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.TECH. CIVIL ENGINEERING
II, III, IV YEARS COURSE STRUCTURE & SYLLABUS (R16)

Admitted From 2016-17 Admitted Batch


II YEAR I SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	MA301BS	Mathematics - IV	4	1	0	4
2	CE302ES	Strength of Materials - I	4	1	0	4
3	CE303ES	Fluid Mechanics - I	4	1	0	4
4	CE304ES	Building Materials, Construction and Planning	3	0	0	3
5	CE305ES	Surveying	3	0	0	3
6	CE306ES	Strength of Material Lab	0	0	3	2
7	CE307ES	Computer Aided Drafting Lab	0	0	3	2
8	CE308ES	Surveying Lab - I	0	0	3	2
9	*MC300HS	Gender Sensitization Lab	0	0	3	0
		Total Credits	18	3	12	24

II YEAR II SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	CE401ES	Strength of Material - II	4	1	0	4
2	CE402ES	Fluid Mechanics - II	4	1	0	4
3	CE403ES	Structural Analysis	4	1	0	4
4	CV404ES	Engineering Geology	3	0	0	3
5	SM405MS	Business Economic and Financial Analysis	3	0	0	3
6	CE406ES	Fluid Mechanics Lab	0	0	3	2
7	CE408ES	Surveying Lab - II	0	0	3	2
8	CV407ES	Engineering Geology Lab	0	0	3	2
9	*MC400ES	Environmental Science and Technology	3	0	0	0
		Total Credits	21	3	9	24


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III YEAR I SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	CE501PC	Concrete Technology	4	0	0	4
2	CE502PC	Design of Reinforced Concrete Structures	4	1	0	4
3	CE503PC	Water Resources Engineering	4	0	0	4
4	SM504MS	Fundamentals of Management	3	0	0	3
5		Open Elective -I	3	0	0	3
6	CE505PC	Concrete Technology Lab	0	0	3	2
7	CE506PC	Geographical Information Systems Lab	0	0	3	2
8	CE507PC	Hydraulics and Hydraulic Machinery Lab	0	0	3	2
9	MC500HS	Professional Ethics	3	0	0	0
		Total Credits	21	1	9	24


III YEAR II SEMESTER

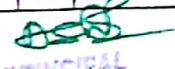
S. No	Course Code	Course Title	L	T	P	Credits
1	CE601PC	Design of Steel Structures	4	1	0	4
2	CE602PC	Environmental Engineering	4	0	0	4
3	CE603PC	Soil Mechanics	4	0	0	4
4		Open Elective-II	3	0	0	3
5		Professional Elective-I	3	0	0	3
6	CE604PC	Soil Mechanics Lab	0	0	3	2
7	CE605PC	Computer Aided Drafting - II Lab	0	0	3	2
8	EN606HS	Advanced English Communication Skills Lab	0	0	3	2
		Total Credits	18	1	9	24

*During Sumer Vacation between III and IV Years: Industry Oriented Mini Project

IV YEAR I SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	CE701PC	Transportation Engineering	4	0	0	4
2	CE702PC	Estimation Quantity Surveying and Valuation	4	1	0	4
3		Professional Elective - II	3	0	0	3
4		Professional Elective - III	3	0	0	3
5		Professional Elective -IV	3	0	0	3
6	CE703PC	Transportation Engineering Lab	0	0	3	2
7	CE704PC	Environmental Engineering Lab	0	0	3	2
8	CE705PC	Industry Oriented Mini Project	0	0	3	2
9	CE706PC	Seminar	0	0	2	1
		Total Credits	17	1	11	24


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IV YEAR II SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1		Open Elective - III	3	0	0	3
2		Professional Elective -V	3	0	0	3
3		Professional Elective -VI	3	0	0	3
4	CE801PC	Major Project	0	0	30	15
		Total Credits	9	0	30	24

Professional Elective - I

CE611PE	Air Pollution and Control.
CE612PE	Advanced Structural Analysis.
CE613PE	Ground Water Development and Management.
CE614PE	Earth and Rock fill Dams and Slope Stability.

Professional Elective – II

CE721PE	Stochastic Hydrology.
CE722PE	Construction Technology and Management.
CE723PE	Foundation Engineering.
CE724PE	Rehabilitation and Retrofitting of Structures.

Professional Elective – III

CE731PE	Watershed Management.
CE732PE	Prestressed Concrete.
CE733PE	Ground Improvement Techniques.
CE734PE	Railway and Airport Engineering.

Professional Elective – IV

CE741PE	Traffic Engineering.
CE742PE	Bridge Engineering.
CE743PE	Soil Dynamics and Machine Foundation.
CE744PE	Irrigation and Hydraulic Structures.

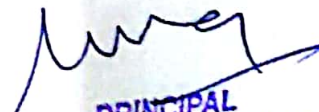
Professional Elective – V

CE851PE	Waste Management.
CE852PE	Pavement Design.
CE853PE	Elements of Earthquake Engineering.
CE854PE	Water Resources Systems Analysis.

Professional Elective – VI

CE861PE	Finite Element Methods for Civil Engineering.
CE862PE	Geoenvironmental Engineering.
CE863PE	Design and Drawing of Irrigation Structures.
CE864PE	Industrial Waste Water Treatment.

*Open Elective subjects' syllabus is provided in a separate document.



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***Open Elective** – Students should take Open Electives from The List of Open Electives Offered by Other Departments/Branches Only.

Ex: - A Student of Mechanical Engineering can take Open Electives from all other departments/branches except Open Electives offered by Mechanical Engineering Dept.


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech. in CIVIL ENGINEERING
COURSE STRUCTURE & SYLLABUS (R18)

Applicable From 2018-19 Admitted Batch

I YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	MA101BS	Mathematics - I	3	1	0	4
2	PH102BS	Engineering Physics	3	1	0	4
3	CS103ES	Programming for Problem Solving	3	1	0	4
4	ME104ES	Engineering Graphics	1	0	4	3
5	PH105BS	Engineering Physics Lab	0	0	3	1.5
6	CS106ES	Programming for Problem Solving Lab	0	0	3	1.5
7	*MC109ES	Environmental Science	3	0	0	0
		Induction Programme				
		Total Credits	13	3	10	18

I YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	MA201BS	Mathematics - II	3	1	0	4
2	CH202BS	Chemistry	3	1	0	4
3	ME203ES	Engineering Mechanics	3	1	0	4
4	ME205ES	Engineering Workshop	1	0	3	2.5
5	EN205HS	English	2	0	0	2
6	CH206BS	Engineering Chemistry Lab	0	0	3	1.5
7	EN207HS	English Language and Communication Skills Lab	0	0	2	1
		Total Credits	12	3	8	19.0

II YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	CE301PC	Surveying and Geomatics	3	0	0	3
2	CE302PC	Engineering Geology	2	0	0	2
3	CE303PC	Strength of Materials - I	3	1	0	4
4	MA304BS	Probability and Statistics	3	1	0	4
5	CE305PC	Fluid Mechanics	3	1	0	4
6	CE306PC	Surveying Lab	0	0	3	1.5
7	CE307PC	Strength of Materials Lab	0	0	3	1.5
8	CE308PC	Engineering Geology Lab	0	0	2	1
9	*MC309	Constitution of India	3	0	0	0
		Total Credits	17	3	8	21

II YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	EE401ES	Basic Electrical and Electronics Engineering	3	0	0	3

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2	CE402ES	Basic Mechanical Engineering for Civil Engineers	2	0	0	2
3	CE403PC	Building Materials, Construction and Planning	3	0	0	3
4	CE404PC	Strength of Materials - II	3	0	0	3
5	CE405PC	Hydraulics and Hydraulic Machinery	3	0	0	3
6	CE406PC	Structural Analysis - I	3	0	0	3
7	CE407PC	Computer aided Civil Engineering Drawing	0	0	3	1.5
8	CE409PC	Hydraulics and Hydraulic Machinery Lab	0	0	3	1.5
9	EE409ES	Basic Electrical and Electronics Engineering Lab	0	0	2	1
10	*MC409	Gender Sensitization Lab	0	0	2	0
		Total Credits	17	0	10	21

III YEAR I SEMESTER


S. No.	Course Code	Course Title	L	T	P	Credits
4	CE501	Structural Analysis-II	3	0	0	3
2	CE502PC	Geotechnical Engineering	3	0	0	3
3	CE503PC	Structural Engineering -I (RCC)	3	1	0	4
4	CE504PC	Transportation Engineering	3	0	0	3
5		Professional Elective-I	3	0	0	3
6	SM505MS	Engineering Economics and Accountancy	2	0	0	2
7	CE506PC	Highway Engineering and Concrete Technology Lab	0	0	3	1.5
8	CE507PC	Geotechnical Engineering Lab	0	0	3	1.5
9	EN508HS	Advanced Communication Skills Lab	0	0	2	1
10	*MC509	Intellectual Property Rights	3	0	0	0
		Total Credits	20	1	8	22

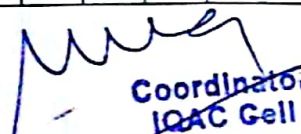
III YEAR II SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	CE601PC	Hydrology & Water Resources Engineering	3	1	0	4
1	CE602PC	Environmental Engineering	3	0	0	3
2	CE603PC	Foundation Engineering	3	0	0	3
3	CE604PC	Structural Engineering -II (Steel)	3	1	0	4
5		Professional Elective -II	3	0	0	3
6		Open Elective -I	3	0	0	3
7	CE605PC	Environmental Engineering Lab	0	0	2	1
8	CE606PC	Computer Aided Design Lab	0	0	2	1
9	*MC609	Environmental Science	3	0	0	0
		Total Credits	21	2	4	22

IV YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	CE701PC	Estimation, Costing and Project Management	3	1	0	4
2		Professional Elective -III	3	0	0	3
3		Professional Elective -IV	3	0	0	3
4		Open Elective -II	3	0	0	3
5	SM702MS	Professional Practice law & Ethics	2	0	0	2


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6	CE703PC	Industrial Oriented Mini Project/ Summer Internship	0	0	0	2*
7	CE704PC	Seminar	0	0	2	1
8	CE705PC	Project Stage - I	0	0	6	3
		Total Credits	14	1	12	21

IV YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1		Professional Elective -V	3	0	0	3
2		Professional Elective -VI	3	0	0	3
3		Open Elective -III	3	0	0	3
4	CE801PC	Project Stage-II	0	0	14	7
		Total Credits	9	0	14	16

*MC - Environmental Science – Should be Registered by Lateral Entry Students Only.
 *MC – Satisfactory/Unsatisfactory

Note: Industrial Oriented Mini Project/ Summer Internship is to be carried out during the summer vacation between 6th and 7th semesters. Students should submit report of Industrial Oriented Mini Project/ Summer Internship for evaluation.

Professional Elective – I

CE511PE	Concrete Technology
CE512PE	Theory of Elasticity
CE513PE	Rock Mechanics

Professional Elective – II

CE611PE	Prestressed Concrete
CE612PE	Elements of Earth Quake Engineering
CE613PE	Advanced Structural Analysis

Professional Elective-III

CE711PE	Remote Sensing & GIS
CE712PE	Ground Improvement Techniques
CE713PE	Advanced Structural Design

Professional Elective -IV

CE721PE	Irrigation and Hydraulic Structures
CE722PE	Pipeline Engineering
CE723PE	Ground Water Hydrology


Professional Elective –V

CE811PE	Solid Waste Management
CE812PE	Environmental Impact Assessment
CE813PE	Air pollution

Professional Elective -VI

CE821PE	Airports, Railways and Waterways
CE822PE	Urban Transportation Planning
CE823PE	Finite Element Methods for Civil Engineering


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**SCHEME OF INSTRUCTION & EXAMINATION
B.E. (Civil Engineering) III – SEMESTER**

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	MC112CE	Environmental Science	2	-	-	2	30	70	3	-
2	MC113PY	Essence of Indian Traditional Knowledge	2	-	-	2	30	70	3	-
3	MC204CE	Overview of Civil Engineering*	1	-	-	1	30	-	-	-
4	HS203MP	Industrial Psychology	3	-	-	3	30	70	3	3
5	BS206BZ	Biology for Engineers	3	-	-	3	30	70	3	3
6	ES211CE	Engineering Mechanics	2	1	-	3	30	70	3	3
7	ES213ME	Energy Sciences and Engineering	2	-	-	2	30	70	3	2
8	PC221CE	Solid Mechanics	3	-	-	3	30	70	3	3
9	PC222CE	Engineering Geology	2	-	-	2	30	70	3	2
10	PC223CE	Surveying and Geomatics	3	-	-	3	30	70	3	3
Practical/ Laboratory Courses										
11	PC251CE	Engineering Geology Lab	-	-	2	2	25	50	3	1
12	PC252CE	Surveying Lab	-	-	2	2	25	50	3	1
			23	01	04	28	350	730		21


HS: Humanities and Social Sciences BS: Basic Science ES: Engineering Science
 MC: Mandatory Course PC: Professional Core
 L: Lecture T: Tutorial P: Practical D: Drawing
 CIE: Continuous Internal Evaluation SEE: Semester End Evaluation (Univ. Exam)
 PY: Philosophy, BZ: Biology/ Life Sciences, CE: Civil Engineering
 MP: Mechanical / Production Engineering, ME: Mechanical Engineering.

Note:

- Each contact hour is a clock hour
- The duration of the practical class is two hours, however it can be extended wherever necessary, to enable the student to complete the experiment.
- All the mentioned **Mandatory Courses** should be offered either in I–Semester or II–Semester only from the academic year 2019-2020.
- For those of the students admitted during the academic year 2018-2019, since the Mandatory Courses were not offered during the I–Semester or II–Semester, they should be offered either in III–Semester or IV–Semester of the academic year 2019-2020.

* Mandatory Course for Civil Engineering Students only


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**SCHEME OF INSTRUCTION & EXAMINATION
B.E. (Civil Engineering) IV – SEMESTER**

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	MC111PO	Indian Constitution	2	-	-	2	30	70	3	-
2	HS201EG	Effective Technical Communication in English	3	-	-	3	30	70	3	3
3	HS202CM	Finance and Accounting	3	-	-	3	30	70	3	3
4	BS205MT	Mathematics – III (PDE, Probability & Statistics)	3	-	-	3	30	70	3	3
5	ES212ME	Elements of Mechanical Engineering	3	-	-	3	30	70	3	3
6	PC231CE	Mechanics of Materials and Structures	3	-	-	3	30	70	3	3
7	PC232CE	Fluid Mechanics	3	-	-	3	30	70	3	3
8	PC233CE	Materials: Testing and Evaluation	2	-	-	2	30	70	3	2
Practical/ Laboratory Courses										
9	PC261CE	Solid Mechanics Lab	-	-	2	2	25	50	3	1
10	PC262CE	Materials: Testing and Evaluation Lab	-	-	2	2	25	50	3	1
			22	-	04	26	290	660		22

HS: Humanities and Social Sciences BS: Basic Science ES: Engineering Science
 MC: Mandatory Course PC: Professional Core
 L: Lecture T: Tutorial P: Practical D: Drawing
 CIE: Continuous Internal Evaluation SEE: Semester End Evaluation (Univ. Exam)
 PO: Political Science, EG: English, CM: Commerce, MT: Mathematics, CE: Civil Engineering,
 ME: Mechanical Engineering.

Note:

- Each contact hour is a clock hour
- The duration of the practical class is two hours, however it can be extended wherever necessary, to enable the student to complete the experiment.
- All the mentioned **Mandatory Courses** should be offered either in I–Semester or II–Semester only from the academic year 2019-2020.
- For those of the students admitted during the academic year 2018-2019, since the Mandatory Courses were not offered during the I–Semester or II–Semester, they should be offered either in III–Semester or IV–Semester of the academic year 2019-2020.
- The students have to undergo a Summer Internship of two-week duration after IV–Semester and credits will be awarded in V–Semester after evaluation.


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SCHEME OF INSTRUCTION & EXAMINATION
B.E. V – Semester
(CIVIL ENGINEERING)

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	Pr/ Drg	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	PC321CE	Structural Analysis - I	3	1	-	3	30	70	3	3
2	PC322CE	Hydraulic Engineering	3	-	-	3	30	70	3	3
3	PC323CE	Structural Engineering Design and Detailing	2	1	-	3	30	70	3	3
4	PC324CE	Geotechnical Engineering	2	1	-	3	30	70	3	3
5	PC325CE	Hydrology & Water Resources Engineering	2	1	-	3	30	70	3	3
6	PC326CE	Transportation Engineering	3	-	-	3	30	70	3	3
Practical/ Laboratory Courses										
7	PC351CE	Fluid Mechanics Lab	-	-	2	2	25	50	3	1
8	PC352CE	Geotechnical Engineering Lab	-	-	2	2	25	50	3	1
9	PC353CE	Transportation Engineering Lab	-	-	2	2	25	50	3	1
			15	03	06	24	345	780		21

PC: Professional Course


L: Lectures T: Tutorial Pr : Practical Drg: Drawing


CIE: Continuous Internal Evaluation

SEE: Semester End Examination (Univ. Exam)

Note:

1. Each contact hour is a Clock Hour.
2. The practical class can be of two and half hour (clock hours) duration as per the requirement of a particular laboratory.


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SCHEME OF INSTRUCTION & EXAMINATION
B.E. VI – Semester
(CIVIL ENGINEERING)

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	Pr/ Drg	Contact Hrs/Wk	CI E	SE E	Duration in Hrs	
Theory Courses										
1	PC331CE	Environmental Engineering	3	-	-	3	30	70	3	3
2	PC332CE	Estimation and Specifications	3	-	-	3	30	70	3	3
3		Professional Elective – 1	3	-	-	3	30	70	3	3
4		Professional Elective – 2	3	-	-	3	30	70	3	3
5		Professional Elective – 3	3	-	-	3	30	70	3	3
6		Open Elective – 1	3	-	-	3	30	70	3	3
7		Open Elective – 2	3	-	-	3	30	70	3	3
Practical/ Laboratory Courses										
8	PC361CE	Environmental Engineering Laboratory	-	-	2	2	25	50	3	1
9	PC362CE	Computer Aided Civil Engineering Drafting, Analysis & Design Lab	-	-	2	2	25	50	3	1
10	PC363CE	Hydraulics Laboratory	-	-	2	2	25	50	3	1
			21	-	06	27	285	640		24

Professional Elective – 1			Professional Elective – 3		
S. No.	Course code	Course title	S. No.	Course code	Course title
1	PE301CE	Design of Hydraulic Structures	1	PE309CE	Steel Structures
2	PE302CE	Structural Analysis – II	2	PE310CE	Ground Water Engineering
3	PE303CE	Foundation Engineering	3	PE311CE	Geotechnical Design
4	PE304CE	Railway and Airport Engineering	4	PE312CE	Environmental Impact Assessment of Transportation Projects

Professional Elective – 2


S. No.	Course code	Course title			
1	PE305CE	Design of Concrete Structures-I			
2	PE306CE	Traffic Engineering and Management			
3	PE307CE	Sustainable Construction Methods			
4	PE308CE	Open Channel Flow & River Engineering			

Open Elective – 1			Open Elective – 2		
S. No.	Course code	Course title	S. No	Course code	Course title
1	OE350CE	Remote Sensing & Geographical Information	3	OE353CE	Principles of Green Building Practices
2	OE351CE	Road Safety Engineering	4	OE354CE	Disaster Mitigation & Management

PC: Professional Course PE: Professional Elective OE: Open Elective
 L: Lectures T: Tutorials Pr : Practical Drg: Drawing
 CIE: Continuous Internal Evaluation SEE: Semester End Examination (Univ. Exam)

Note: 1) Each contact hour is a Clock Hour

*2) The practical class can be of two and half hour (clock hours) duration as per the requirement of a particular laboratory.


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FACULTY OF ENGINEERING
Scheme of Instruction & Examination
(AICTE Model Curriculum)

and

Syllabi

B.E. VII&VIII Semesters of

Four Year Degree Programme

in

ELECTRONICS & COMMUNICATION ENGINEERING

(With effect from the Academic Year 2021 - 2022)

(As approved in the Faculty Meeting held on X-X-2021)



Dean, Faculty of Engineering
Osmania University, Hyderabad – 500 007
2021

SCHEME OF INSTRUCTION & EXAMINATION
B.E. VII- Semester
(ELECTRONICS AND COMMUNICATION ENGINEERING)

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Course										
1	PC 701 EC	Embedded System	3	-	-	3	30	70	3	3
2	PC 702 EC	VLSI Design	3	-	-	3	30	70	3	3
3	PC 703 EC	Microwave Techniques	3	-	-	3	30	70	3	3
4	HS 707 ME	Industrial Administration and Financial Management	3	-	-	3	30	70	3	3
5	PEXXXEC	Professional Elective – II	3	-	-	3	30	70	3	3
6	OEXXXyy	Open Elective – II	3	-	-	3	30	70	3	3
7	OEXXXyy	Open Elective – III	3	-	-	3	30	70	3	3
Practical/Laboratory Course										
8	PC751 EC	Microwave Lab	-	-	2	2	25	50	3	1
9	PC752 EC	Electronic Design & Automation Lab	-	-	2	2	25	50	3	1
10	PW 761 EC	Project Work – I	-	-	4	4	50	-	-	2
Total			21	-	8	29	310	590	27	25

PC: Professional Course

MC: Mandatory Course

L: Lecture T: Tutorial P: Practical

D: Drawing G: Grade (E/VG/G/S/U)

CIE: Continuous Internal Evaluation


SEE: Semester End Examination (Univ. Exam)

Note-1:

1. Each contact hour is a Clock Hour
2. The duration of the practical class is two clock hours, however it can be extended wherever necessary, to enable the student to complete the experiment

Note-2:

- *The students have to undergo a Summer Internship of four weeks duration after VI semester and credits will be awarded in VII semester after evaluation.
- ** Subject is not offered to the students of Electronics and Communication Engineering Department


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SCHEME OF INSTRUCTION & EXAMINATION
B.E. VIII - Semester
(ELECTRONICS AND COMMUNICATION ENGINEERING)

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	PEXXXEC	Professional Elective – III	3	-	-	3	30	70	3	3
2	PEXXXEC	Professional Elective – IV	3	-	-	3	30	70	3	3
3	PEXXXEC	Professional Elective – V	3	-	-	3	30	70	3	3
Practical/Laboratory Courses										
4	PW961EC	Project Work – II	-	-	12	12	50	100	-	6
Total			9	-	12	21	140	310	9	15

PC: Professional Course
 MC: Mandatory Course
 and Social Sciences

L: Lecture

CIE: Continuous Internal Evaluation

T: Tutorial

PE: Professional Elective
 SI: Summer Internship

P: Practical

SEE: Semester End Examination (Univ. Exam)

OE: Open Elective
 HS: Humanities

D: Drawing

Note-1:

3. Each contact hour is a Clock Hour
4. The duration of the practical class is two clock hours, however it can be extended wherever necessary, to enable the student to complete the experiment

Note-2:

- *The students have to undergo a Summer Internship of four weeks duration after VI semester and credits will be awarded in VII semester after evaluation.
- ** Subject is not offered to the students of Electronics and Communication Engineering Department.

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Proposed ECE Dept Professional Electives				
	PE2	PE3	PE4	PE5
	Mobile and Cellular Communications(PE 721 EC)	Field Programmable Gate Arrays (PE 821 EC)	Wireless Sensor Networks (PE 831 EC)	Real Time Operating Systems (PE 841 EC)
	Speech Signal Processing(PE 722 EC)	Artificial Intelligence & Machine Learning (PE 822 EC)	Global Navigational Satellite Systems (PE 832 EC)	Fuzzy Logic And Applications (PE 842 EC)
	Nano Technology (PE 723 EC)	Neural Networks (PE 823 EC)	System Verilog(PE 833 EC)	Radar Systems(PE 843 EC)
	Digital Signal Processor Architectures(PE 724 EC)	Satellite Communications (PE 824 EC)	Multirate Signal Processing (PE 834 EC)	Design of Fault Tolerant Systems(PE 844 EC)

Open Elective – II		
S. No.	Course Code	Course Title
1	OE771 CE	Green Building Technologies
2	OE 772 CS	Data Science Using R Programming
3	OE 773 EC**	Fundamentals of IoT
4	OE 774 EE	Non-Conventional Energy Sources
5	OE 775 ME	Entrepreneurship

Open Elective – III		
S.No	Course	Course Title
1	OE 781 CE	Road Safety Engineering
2	OE 782 IT	Software Engineering
3	OE 783 EC**	Principles of Electronic
4	OE 784 EE	Illumination and Electric Traction
5	OE 785 ME	Mechatronics

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B.TECH. I YEAR COURSE STRUCTURE AND SYLLABUS (R16)**
(Common for Civil, ME, AE, ME (M), MME, AU, Mining, Petroleum, CEE, ME (Nanotech))

Applicable From 2017-18 Admitted Batch

I YEAR I SEMESTER


S. No	Course Code	Course Title	L	T	P	Credits
1	MA101BS	Mathematics-I	3	1	0	3
2	MA102BS	Mathematics-II	4	1	0	4
3	PH103BS	Engineering Physics	3	0	0	3
4	CS104ES	Computer Programming in C	3	0	0	3
5	ME105ES	Engineering Mechanics	3	0	0	3
6	ME106ES	Engineering Graphics	2	0	4	4
7	PH107BS	Engineering Physics Lab	0	0	3	2
8	CS108ES	Computer Programming in C Lab	0	0	3	2
9	*EA109MC	NSS	0	0	0	0
		Total Credits	18	2	10	24

I YEAR II SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	AP201BS	Applied Physics	3	0	0	3
2	CH202BS	Engineering Chemistry	4	0	0	4
3	MA203BS	Mathematics-III	4	1	0	4
4	EN204HS	Professional Communication in English	3	0	0	3
5	EE205ES	Basic Electrical and Electronics Engineering	4	0	0	4
6	CH206BS	Engineering Chemistry Lab	0	0	3	2
7	EN207HS	English Language Communication Skills Lab	0	0	3	2
8	ME208ES	Engineering Workshop	0	0	3	2
9	*EA209MC	NCC/NSO	0	0	0	0
		Total Credits	18	1	9	24

*Mandatory Course- Satisfactory/Unsatisfactory

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B.TECH. MECHANICAL ENGINEERING
II, III, IV YEARS COURSE STRUCTURE & SYLLABUS (R16)****Applicable From 2016-17 Admitted Batch****II YEAR I SEMESTER**

S. No.	Course Code	Course Title	L	T	P	Credits
1	MA301BS	Mathematics - IV	4	1	0	4
2	ME304ES	Thermodynamics	4	1	0	4
3	ME302ES	Kinematics of Machinery	4	1	0	4
4	ME305ES	Metallurgy and Material Science	3	0	0	3
5	ME303ES	Mechanics of Solids	3	1	0	3
6	ME306ES	Fuels and Lubricants Lab	0	0	3	2
7	ME307ES	Mechanics of Solids Lab	0	0	3	2
8	ME308ES	Metallurgy and Material Science Lab	0	0	3	2
9	*MC300HS	Gender Sensitization Lab	0	0	3	0
		Total Credits	18	4	12	24

II YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	ME403ES	Dynamics of Machinery	4	1	0	4
2	ME401ES	Fluid Mechanics and Hydraulic Machines	4	1	0	4
3	ME404ES	Machine Drawing	2	0	4	4
4	ME405ES	Manufacturing Process	3	0	0	3
5	SM405MS	Business Economic and Financial Analysis	3	0	0	3
6	ME406ES	Kinematics and Dynamics Lab	0	0	3	2
7	ME407ES	Fluid Mechanics and Hydraulic Machines Lab	0	0	3	2
8	ME408ES	Manufacturing Process Lab	0	0	3	2
9	*MC400ES	Environmental Science and Technology	3	0	0	0
		Total Credits	18	2	15	24


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III YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	ME501PC	Design of Machine Members - I	4	1	0	4
2	ME502PC	Thermal Engineering-I	4	1	0	4
3	ME503PC	Metrology and Machine Tools	4	1	0	4
4	SM504MS	Fundamentals of Management	3	0	0	3
5		Open Elective – I	3	0	0	3
6	ME505PC	Thermal Engineering Lab	0	0	3	2
7	ME506PC	Machine Tools Lab	0	0	3	2
8	ME507PC	Engineering Metrology Lab	0	0	3	2
9	*MC500HS	Professional Ethics	3	0	0	0
		Total Credits	21	3	9	24

III YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	ME601PC	Thermal Engineering –II	4	1	0	4
2	ME602PC	Design of Machine Members-II	4	1	0	4
3	ME603PC	Heat Transfer	4	1	0	4
4		Open Elective - II	3	0	0	3
5		Professional Elective - I	3	0	0	3
6	ME604PC	Heat Transfer Lab	0	0	3	2
7	ME605PC	CADD and MATLAB	0	0	3	2
8	EN606HS	Advanced English Communication Skills Lab	0	0	3	2
		Total Credits	18	3	9	24

During Summer Vacation between III and IV Years: Industry Oriented Mini Project

IV YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	ME701PC	CAD/CAM	4	0	0	4
2	ME702PC	Instrumentation and Control System	4	0	0	4
3		Professional Elective - II	3	0	0	3
4		Professional Elective - III	3	0	0	3
5		Professional Elective - IV	3	0	0	3
6	ME703PC	CAD/CAM Lab	0	0	3	2
7	ME704PC	Instrumentation and Control Systems Lab	0	0	3	2
8	ME705PC	Industry Oriented Mini Project	0	0	3	2

9	ME706PC	Seminar	0	0	2	1
		Total Credits	17	0	11	24

IV YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	-	Open Elective – III	3	0	0	3
2		Professional Elective - V	3	0	0	3
3		Professional Elective - VI	3	0	0	3
4	ME801PC	Major Project	0	0	30	15
		Total Credits	9	0	30	24

Professional Elective - I

ME611PE	Finite Element Methods
ME612PE	Refrigeration and Air Conditioning
ME613PE	Machine Tool Design
ME614PE	IC Engines and Gas Turbines

Professional Elective - II

ME721PE	Composite materials
ME722PE	Industrial Management
ME723PE	Power Plant Engineering
ME724PE	Operations Research

Professional Elective – III


ME731PE	Engineering Tribology
ME732PE	Computational Fluid Dynamics
ME733PE	Robotics
ME734PE	CNC Technology


Professional Elective - IV

ME741PE	Mechanical Vibrations
ME742PE	Turbo Machines
ME743PE	MEMS
ME744PE	Additive Manufacturing Technology

Professional Elective - V

ME851PE	Automation in Manufacturing
ME852PE	Fluid Power System
ME853PE	Renewable Energy Sources
ME854PE	Production Planning and Control


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech. in MECHANICAL ENGINEERING
COURSE STRUCTURE & SYLLABUS (R18)

Applicable From 2018-19 Admitted Batch

I YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	MA101BS	Mathematics - I	3	1	0	4
2	PH102BS	Engineering Physics	3	1	0	4
3	CS103ES	Programming for Problem Solving	3	1	0	4
4	ME104ES	Engineering Graphics	1	0	4	3
5	PH105BS	Engineering Physics Lab	0	0	3	1.5
6	CS106ES	Programming for Problem Solving Lab	0	0	3	1.5
7	*MC109ES	Environmental Science	3	0	0	0
		Induction Programme				
		Total Credits	13	3	10	18

I YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	MA201BS	Mathematics - II	3	1	0	4
2	CH202BS	Chemistry	3	1	0	4
3	ME203ES	Engineering Mechanics	3	1	0	4
4	ME205ES	Engineering Workshop	1	0	3	2.5
5	EN205HS	English	2	0	0	2
6	CH206BS	Engineering Chemistry Lab	0	0	3	1.5
7	EN207HS	English Language and Communication Skills Lab	0	0	2	1
		Total Credits	12	3	8	19.0

II YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	MA301BS	Probability and Statistics & Complex Variables	3	1	0	4
2	ME302PC	Mechanics of Solids	3	1	0	4
3	ME303PC	Material Science and Metallurgy	3	0	0	3
4	ME304PC	Production Technology	3	0	0	3
5	ME305PC	Thermodynamics	3	1	0	4
6	ME306PC	Production Technology Lab	0	0	2	1
7	ME307PC	Machine Drawing Practice	0	0	2	1
8	ME308PC	Material Science and Mechanics of Solids Lab	0	0	2	1
9	*MC309	Constitution of India	3	0	0	0
		Total Credits	18	3	6	21

II YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	EE401ES	Basic Electrical and Electronics Engineering	3	0	0	3

2	ME402PC	Kinematics of Machinery	3	1	0	4
3	ME403PC	Thermal Engineering - I	3	1	0	4
4	ME404PC	Fluid Mechanics and Hydraulic Machines	3	1	0	4
5	ME405PC	Instrumentation and Control Systems	3	0	0	3
6	EE409ES	Basic Electrical and Electronics Engineering Lab	0	0	2	1
7	ME407PC	Fluid Mechanics and Hydraulic Machines Lab	0	0	2	1
8	ME408PC	Instrumentation and Control Systems Lab	0	0	2	1
10	*MC409	Gender Sensitization Lab	0	0	2	0
		Total Credits	15	3	8	21

III YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	ME501PC	Dynamics of Machinery	3	1	0	4
2	ME502PC	Design of Machine Members-I	3	0	0	3
3	ME503PC	Metrology & Machine Tools	3	0	0	3
4	SM504MS	Business Economics & Financial Analysis	3	0	0	3
5	ME505PC	Thermal Engineering-II	3	0	0	3
6	ME506PC	Operations Research	3	0	0	3
7	ME507PC	Thermal Engineering Lab	0	0	2	1
8	ME508PC	Metrology & Machine Tools Lab	0	0	2	1
9	ME509PC	Kinematics & Dynamics Lab	0	0	2	1
10	*MC510	Intellectual Property Rights	3	0	0	0
		Total Credits	21	1	6	22

III YEAR II SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	ME601PC	Design of Machine Members-II	3	0	0	3
2	ME602PC	Heat Transfer	3	1	0	4
3	ME603PC	CAD & CAM	3	0	0	3
4		Professional Elective - I	3	0	0	3
5		Open Elective - I	3	0	0	3
6	ME604PC	Finite Element Methods	3	0	0	3
7	ME605PC	Heat Transfer Lab	0	0	2	1
8	ME606PC	CAD & CAM Lab	0	0	2	1
9	EN608HS	Advanced Communication Skills lab	0	0	2	1
10	*MC609	Environmental Science	3	0	0	0
		Total Credits	21	1	6	22

*MC609 - Environmental Science – Should be Registered by Lateral Entry Students Only.

IV YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	ME701PC	Refrigeration & Air Conditioning	3	0	0	3
2		Professional Elective – II	3	0	0	3
3		Professional Elective – III	3	0	0	3
4		Professional Elective - IV	3	0	0	3
5		Open Elective - II	3	0	0	3

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6	ME702PC	Industrial Oriented Mini Project/ Summer Internship	0	0	0	2*
7	ME703PC	Seminar	0	0	2	1
8	ME704PC	Project Stage - I	0	0	6	3
		Total Credits	15	0	12	21

IV YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1		Professional Elective – V	3	0	0	3
2		Professional Elective - VI	3	0	0	3
3		Open Elective - III	3	0	0	3
4	ME801PC	Project Stage - II	0	0	14	7
		Total Credits	9	0	14	16

***MC – Satisfactory/Unsatisfactory**

Note: Industrial Oriented Mini Project/ Summer Internship is to be carried out during the summer vacation between 6th and 7th semesters. Students should submit report of Industrial Oriented Mini Project/ Summer Internship for evaluation.

Professional Elective - I

ME611PE	Unconventional Machining Processes
ME612PE	Machine Tool Design
ME613PE	Production Planning & Control

Professional Elective – II

ME711PE	Additive Manufacturing
ME712PE	Automation in Manufacturing
ME713PE	MEMS

Professional Elective – III

ME721PE	Power Plant Engineering
ME722PE	Automobile Engineering
ME723PE	Renewable Energy Sources

Professional Elective – IV

ME731PE	Computational Fluid Dynamics
ME732PE	Turbo Machinery
ME733PE	Fluid Power Systems

Professional Elective – V

ME811PE	Industrial Robotics
ME812PE	Mechanical Vibrations
MM813PE	Composite Materials

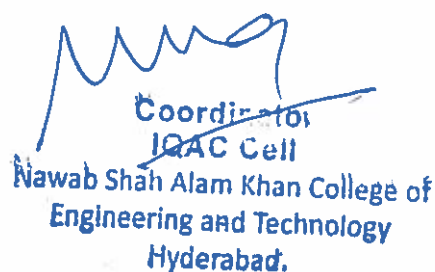
Professional Elective – VI

ME821PE	Industrial Management
ME822PE	Production and Operations Management
ME823PE	Tribology



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**SCHEME OF INSTRUCTION & EXAMINATION
B.E. (Mechanical Engineering) III – SEMESTER**

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	MC111PO	Indian Constitution	2	-	-	2	30	70	3	-
2	HS201EG	Effective Technical Communication in English	3	-	-	3	30	70	3	3
3	HS202CM	Finance and Accounting	3	-	-	3	30	70	3	3
4	BS205MT	Mathematics-III (PDE, Probability & Statistics)	3	-	-	3	30	70	3	3
5	ES211CE	Engineering Mechanics	2	1	-	3	30	70	3	3
6	ES214EC	Basic Electronics	3	-	-	3	30	70	3	3
7	PC221ME	Metallurgy and Material Science	3	-	-	3	30	70	3	3
8	PC222ME	Thermodynamics	3	-	-	3	30	70	3	3
Practical/ Laboratory Courses										
9	PC251ME	Metallurgy and Material Testing Lab	-	-	2	2	25	50	3	1
10	PC252ME	Machine Drawing and Modelling Lab	-	-	2	2	25	50	3	1
			22	01	04	27	290	660		23

HS: Humanities and Social Sciences

BS: Basic Science

ES: Engineering Science

MC: Mandatory Course

PC: Professional Core

L: Lecture T: Tutorial

P: Practical

D: Drawing

CIE: Continuous Internal Evaluation


SEE: Semester End Evaluation (Univ. Exam)


PO: Political Science, EG: English, CM: Commerce, MT: Mathematics, CE: Civil Engineering,

EC: Electronics and Communication Engineering, ME: Mechanical Engineering.

Note:

- Each contact hour is a clock hour
- The duration of the practical class is two hours, however it can be extended wherever necessary, to enable the student to complete the experiment.
- All the mentioned **Mandatory Courses** should be offered either in I-Semester or II-Semester only from the academic year 2019-2020.
- For those of the students admitted during the academic year 2018-2019, since the Mandatory Courses were not offered during the I-Semester or II-Semester, they should be offered either in III-Semester or IV-Semester of the academic year 2019-2020.


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**SCHEME OF INSTRUCTION & EXAMINATION
B.E. (Mechanical Engineering) IV – SEMESTER**

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	MC112CE	Environmental Science	2	-	-	2	30	70	3	-
2	MC113PY	Essence of Indian Traditional Knowledge	2	-	-	2	30	70	3	-
3	HS213MP	Industrial Psychology	3	-	-	3	30	70	3	3
4	BS206BZ	Biology for Engineers	3	-	-	3	30	70	3	3
5	ES213ME	Energy Sciences and Engineering	2	-	-	2	30	70	3	2
6	PC231ME	Mechanics of Materials	3	-	-	3	30	70	3	3
7	PC232ME	Applied Thermodynamics	3	-	-	3	30	70	3	3
8	PC233ME	Kinematics of Machinery	3	-	-	3	30	70	3	3
9	PC234ME	Manufacturing Processes	3	-	-	3	30	70	3	3
Practical/ Laboratory Courses										
10	PC261ME	Thermal Engineering Lab – I	-	-	2	2	25	50	3	1
11	PC262ME	Manufacturing Processes Lab	-	-	2	2	25	50	3	1
			24	-	04	28	320	730		22

HS: Humanities and Social Sciences

BS: Basic Science

ES: Engineering Science

MC: Mandatory Course

PC: Professional Core

L: Lecture T: Tutorial

P: Practical

D: Drawing

CIE: Continuous Internal Evaluation

SEE: Semester End Evaluation (Univ. Exam)


PY: Philosophy, BZ: Biology/ Life Sciences, CE: Civil Engineering

MP: Mechanical / Production Engineering, ME: Mechanical Engineering.

Note:

- Each contact hour is a clock hour
- The duration of the practical class is two hours, however it can be extended wherever necessary, to enable the student to complete the experiment.
- All the mentioned **Mandatory Courses** should be offered either in I–Semester or II–Semester only from the academic year 2019-2020.
- For those of the students admitted during the academic year 2018-2019, since the Mandatory Courses were not offered during the I–Semester or II–Semester, they should be offered either in III–Semester or IV–Semester of the academic year 2019-2020.
- The students have to undergo a Summer Internship of two-week duration after IV – Semester and credits will be awarded in V – Semester after evaluation.


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**SCHEME OF INSTRUCTION & EXAMINATION
B.E. (Mechanical Engineering) V – SEMESTER**

S.No.	Course Code	CourseTitle	SchemeofInstructions				SchemeofExamina tion			Credits
			L	T	P/D	Contact Hours/ Week	CIE	SEE	Durationin Hours	
Theory Course										
1	PC501ME	Fluid Mechanics and Hydraulic Machinery	3	-	-	3	30	70	3	3
2	PC502ME	Design of Machine Elements	3	-	-	3	30	70	3	3
3	PC503ME	Dynamics of Machines	3	-	-	3	30	70	3	3
4	PC504ME	Metal Cutting and Machine Tools	3	-	-	3	30	70	3	3
5	PC505ME	Heat Transfer	3	-	-	3	30	70	3	3
LaboratoryCourse										
6	PC591ME	Thermal Engineering Lab-2	-	-	2	2	25	50	3	1
7	PC592ME	Dynamics of Machines Lab	-	-	2	2	25	50	3	1
8	PC593ME	Fluid Mechanics and Hydraulic Machinery Lab	-	-	2	2	25	50	3	1
		Total	15	-	06	21				18

PC: Professional Core

PE: Professional Elective

OE: Open Elective


L: Lecture T: Tutorial

P: Practical

D: Drawing

CIE: Continuous Internal Evaluation

SEE: Semester End Evaluation (Univ. Exam)


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**SCHEME OF INSTRUCTION & EXAMINATION
B.E. (Mechanical Engineering) VI – SEMESTER**

S.No.	Course Code	CourseTitle	SchemeofInstructions				SchemeofExamina tion			Credits
			L	T	P/D	Contact Hours/ Week	CIE	SEE	Durationin Hours	
Theory Course										
1	PC601ME	Machine Design	3	-	-	3	30	70	3	3
2	PC602ME	Metrology and Instrumentation	3	-	-	3	30	70	3	3
3	PC603ME	Finite Element Analysis	3	-	-	3	30	70	3	3
4	PEME - 1	Professional Elective – I	3	-	-	3	30	70	3	3
5	PEME - 2	Professional Elective – II	3	-	-	3	30	70	3	3
6	OEME - 1	Open Elective – 1	3	-	-	3	30	70	3	3
LaboratoryCourse										
7	PC691ME	Metrology and Machine Tools Lab	-	-	2	2	25	50	3	1
8	PC692ME	Computer Aided Engineering Lab	-	-	2	2	25	50	3	1
9		Summer Internship*								2
		Total	18	00	04	22				22

Open Elective - 1 (OE611ME) : Industrial Robotics (Not for Mechanical / Prod. / Automobile)

PROFESSIONAL ELECTIVE - I	
PE611ME	CAD/CAM
PE612ME	Automobile Engineering
PE613ME	Modern Machining and Forming Methods

Professional Elective-II		
S. No.	Course Code	Course Title
1.	PE621ME	Thermal Turbo Machines
2.	PE622ME	Production and Operations management
3.	PE623ME	Design For Manufacture

PC: Professional Core

PE: Professional Elective

OE: Open Elective

L: Lecture T: Tutorial

P: Practical

D: Drawing

CIE: Continuous Internal Evaluation

SEE: Semester End Evaluation (Univ. Exam)

* At the end of VI semester students should undergo summer Internship - Credits for Summer Internship will be awarded in VII semester

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R18 B.Tech. ECE Syllabus

(2021-2022)

(R.18)

JNTU HYDERABAD

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech. in ELECTRONICS AND COMMUNICATION ENGINEERING
COURSE STRUCTURE & SYLLABUS (R18)

Applicable From 2018-19 Admitted Batch

I YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	MA101BS	Mathematics - I	3	1	0	4
2	AP102BS	Applied Physics	3	1	0	4
3	CS103ES	Programming for Problem Solving	3	1	0	4
4	ME104ES	Engineering Graphics	1	0	4	3
5	AP105BS	Applied Physics Lab	0	0	3	1.5
6	CS106ES	Programming for Problem Solving Lab	0	0	3	1.5
7	*MC109ES	Environmental Science	3	0	0	0
		Induction Programme				
		Total Credits	13	3	10	18

I YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	MA201BS	Mathematics - II	3	1	0	4
2	CH202BS	Chemistry	3	1	0	4
3	EE203ES	Basic Electrical Engineering	3	0	0	3
4	ME205ES	Engineering Workshop	1	0	3	2.5
5	EN205HS	English	2	0	0	2
6	CH206BS	Engineering Chemistry Lab	0	0	3	1.5
7	EN207HS	English Language and Communication Skills Lab	0	0	2	1
8	EE208ES	Basic Electrical Engineering Lab	0	0	2	1
		Total Credits	12	2	10	19

II YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	EC301PC	Electronic Devices and Circuits	3	1	0	4
2	EC302PC	Network Analysis and Transmission Lines	3	0	0	3
3	EC303PC	Digital System Design	3	1	0	4
4	EC304PC	Signals and Systems	3	1	0	4
5	EC305ES	Probability Theory and Stochastic Processes	3	0	0	3
6	EC306PC	Electronic Devices and Circuits Lab	0	0	2	1
7	EC307PC	Digital System Design Lab	0	0	2	1
8	EC308ES	Basic Simulation Lab	0	0	2	1
9	*MC309	Constitution of India	3	0	0	0
		Total Credits	18	3	6	21

II YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	MA401BS	Laplace Transforms, Numerical Methods & Complex Variables	3	1	0	4
2	EC402PC	Electromagnetic Fields and Waves	3	0	0	3

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3	EC403PC	Analog and Digital Communications	3	1	0	4
4	EC404PC	Linear IC Applications	3	0	0	3
5	EC405PC	Electronic Circuit Analysis	3	0	0	3
6	EC406PC	Analog and Digital Communications Lab	0	0	3	1.5
7	EC407PC	IC Applications Lab	0	0	3	1.5
8	EC408PC	Electronic Circuit Analysis Lab	0	0	2	1
9	*MC409	Gender Sensitization Lab	0	0	2	0
		Total Credits	15	2	10	21

III YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	EC501PC	Microprocessors & Microcontrollers	3	1	0	4
2	EC502PC	Data Communications and Networks	3	1	0	4
3	EC503PC	Control Systems	3	1	0	4
4	SM504MS	Business Economics & Financial Analysis	3	0	0	3
5		Professional Elective - I	3	0	0	3
6	EC505PC	Microprocessors & Microcontrollers Lab	0	0	3	1.5
7	EC506PC	Data Communications and Networks Lab	0	0	3	1.5
8	EN508HS	Advanced Communication Skills Lab	0	0	2	1
9	*MC510	Intellectual Property Rights	3	0	0	0
		Total Credits	18	3	8	22

III YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	EC601PC	Antennas and Propagation	3	1	0	4
2	EC602PC	Digital Signal Processing	3	1	0	4
3	EC603PC	VLSI Design	3	1	0	4
4		Professional Elective - II	3	0	0	3
5		Open Elective - I	3	0	0	3
6	EC604PC	Digital Signal Processing Lab	0	0	3	1.5
7	EC605PC	e – CAD Lab	0	0	3	1.5
8	EC606PC	Scripting Languages Lab	0	0	2	1
9	*MC609	Environmental Science	3	0	0	0
		Total Credits	18	3	8	22

IV YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	EC701PC	Microwave and Optical Communications	3	0	0	3
2		Professional Elective – III	3	0	0	3
3		Professional Elective – IV	3	0	0	3
4		Open Elective - II	3	0	0	3
5	SM702MS	Professional Practice, Law & Ethics	2	0	0	2
6	EC703PC	Microwave and Optical Communications Lab	0	0	2	1
7	EC704PC	Industrial Oriented Mini Project/ Summer Internship	0	0	0	2*
8	EC705PC	Seminar	0	0	2	1
9	EC706PC	Project Stage - I	0	0	6	3
		Total Credits	14	0	10	21

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IV YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1		Professional Elective – V	3	0	0	3
2		Professional Elective – VI	3	0	0	3
3		Open Elective - III	3	0	0	3
4	EC801PC	Project Stage - II	0	0	14	7
		Total Credits	9	0	14	16

***MC - Environmental Science – Should be Registered by Lateral Entry Students Only.**

***MC – Satisfactory/Unsatisfactory**

Note: Industrial Oriented Mini Project/ Summer Internship is to be carried out during the summer vacation between 6th and 7th semesters. Students should submit report of Industrial Oriented Mini Project/ Summer Internship for evaluation.

Professional Elective – I

EC511PE	Computer Organization & Operating Systems
EC512PE	Error Correcting Codes
EC513PE	Electronic Measurements and Instrumentation

Professional Elective – II

EC611PE	Object Oriented Programming through Java
EC612PE	Mobile Communications and Networks
EC613PE	Embedded System Design

Professional Elective – III

EC711PE	Artificial Neural Networks
EC712PE	Scripting Languages
EC713PE	Digital Image Processing

Professional Elective – IV

EC721PE	Biomedical Instrumentation
EC722PE	Database Management Systems
EC723PE	Network Security and Cryptography

Professional Elective – V

EC811PE	Satellite Communications
EC812PE	Radar Systems
EC813PE	Wireless Sensor Networks

Professional Elective – VI

EC821PE	System on Chip Architecture
EC822PE	Test and Testability
EC823PE	Low Power VLSI Design

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(2019-2020)

R.16

R16 B.TECH ECE.

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B.TECH I YEAR COURSE STRUCTURE AND SYLLABUS (R16)**

(Common for EEE, ECE, CSE, EIE, BME, IT, ETE, ECM, ICE)

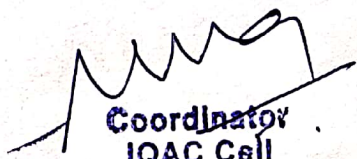
Applicable From 2017-18 Admitted Batch**I YEAR I SEMESTER**


S. No	Course Code	Course Title	L	T	P	Credits
1	MA101BS	Mathematics-I	3	1	0	3
2	CH102BS	Engineering Chemistry	4	0	0	4
3	PH103BS	Engineering Physics-I	3	0	0	3
4	EN104HS	Professional Communication in English	3	0	0	3
5	ME105ES	Engineering Mechanics	3	0	0	3
6	EE106ES	Basic Electrical and Electronics Engineering	4	0	0	4
7	EN107HS	English Language Communication Skills Lab	0	0	3	2
8	ME108ES	Engineering Workshop	0	0	3	2
9	*EA109MC	NSS	0	0	0	0
		Total Credits	20	1	6	24

I YEAR II SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	PH201BS	Engineering Physics-II	3	0	0	3
2	MA202BS	Mathematics-II	4	1	0	4
3	MA203BS	Mathematics-III	4	1	0	4
4	CS204ES	Computer Programming in C	3	0	0	3
5	ME205ES	Engineering Graphics	2	0	4	4
6	CH206BS	Engineering Chemistry Lab	0	0	3	2
7	PH207BS	Engineering Physics Lab	0	0	3	2
8	CS208ES	Computer Programming in C Lab	0	0	3	2
9	*EA209MC	NCC/NSO	0	0	0	0
		Total Credits	16	2	13	24

***Mandatory Course – Satisfactory/Unsatisfactory.**


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B.TECH. ELECTRONICS AND COMMUNICATION ENGINEERING
II, III, IV YEARS COURSE STRUCTURE & SYLLABUS (R16)**

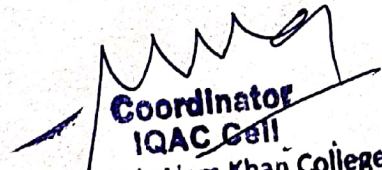
Applicable From 2016-17 Admitted Batch


II YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	MA301BS	Mathematics – IV	4	1	0	4
2	EC302ES	Analog Electronics	4	1	0	4
3	EC303ES	Electrical Technology	4	1	0	4
4	EC304ES	Signals and Stochastic Process	3	1	0	3
5	EC305ES	Network Analysis	3	1	0	3
6	EC306ES	Electronic Devices and Circuits Lab	0	0	3	2
7	EC307ES	Basic Simulation Lab	0	0	3	2
8	EC308ES	Basic Electrical Engineering Lab	0	0	3	2
9	*MC300ES	Environmental Science and Technology	3	0	0	0
		Total Credits	21	5	9	24

II YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	EC401ES	Switching Theory and Logic Design	3	1	0	3
2	EC402ES	Pulse and Digital Circuits	4	0	0	4
3	EE404ES	Control Systems	4	1	0	4
4	EC405ES	Analog Communications	4	0	0	4
5	SM405MS	Business Economics and Financial Analysis	3	0	0	3
6	EC406ES	Analog Communications Lab	0	0	3	2
7	EC407ES	Pulse and Digital Circuits Lab	0	0	3	2
8	EC408ES	Analog Electronics Lab	0	0	3	2
9	*MC400HS	Gender Sensitization Lab	0	0	3	0
		Total Credits	18	2	12	24


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.TECH. ELECTRONICS AND COMMUNICATION ENGINEERING II, III, IV YEARS COURSE STRUCTURE & SYLLABUS (R16)


Applicable From 2016-17 Admitted Batch


II YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	MA301BS	Mathematics – IV	4	1	0	4
2	EC302ES	Analog Electronics	4	1	0	4
3	EC303ES	Electrical Technology	4	1	0	4
4	EC304ES	Signals and Stochastic Process	3	1	0	3
5	EC305ES	Network Analysis	3	1	0	3
6	EC306ES	Electronic Devices and Circuits Lab	0	0	3	2
7	EC307ES	Basic Simulation Lab	0	0	3	2
8	EC308ES	Basic Electrical Engineering Lab	0	0	3	2
9	*MC300ES	Environmental Science and Technology	3	0	0	0
		Total Credits	21	5	9	24

II YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	EC401ES	Switching Theory and Logic Design	3	1	0	3
2	EC402ES	Pulse and Digital Circuits	4	0	0	4
3	EE404ES	Control Systems	4	1	0	4
4	EC405ES	Analog Communications	4	0	0	4
5	SM405MS	Business Economics and Financial Analysis	3	0	0	3
6	EC406ES	Analog Communications Lab	0	0	3	2
7	EC407ES	Pulse and Digital Circuits Lab	0	0	3	2
8	EC408ES	Analog Electronics Lab	0	0	3	2
9	*MC400HS	Gender Sensitization Lab	0	0	3	0
		Total Credits	18	2	12	24


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III YEAR I SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	EC501PC	Electromagnetic Theory and Transmission Lines	4	1	0	4
2	EC502PC	Linear and Digital IC Applications	4	0	0	4
3	EC503PC	Digital Communications	4	1	0	4
4	SM504MS	Fundamentals of Management	3	0	0	3
5		Open Elective – I	3	0	0	3
6	EC505PC	Linear IC Applications Lab	0	0	3	2
7	EC506PC	Digital IC Applications Lab	0	0	3	2
8	EC507PC	Digital Communications Lab	0	0	3	2
9	*MC500HS	Professional Ethics	3	0	0	0
		Total Credits	21	2	9	24

III YEAR II SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1		Open Elective-II	3	0	0	3
2		Professional Elective-I	3	0	0	3
3	EC601PC	Antennas and Wave Propagation	4	0	0	4
4	EC602PC	Microprocessors and Microcontrollers	4	0	0	4
5	EC603PC	Digital Signal Processing	4	0	0	4
6	EC604PC	Digital Signal Processing Lab	0	0	3	2
7	EC605PC	Microprocessors and Microcontrollers Lab	0	0	3	2
8	EN606HS	Advanced English Communication Skills Lab	0	0	3	2
		Total Credits	18	0	9	24

During Summer Vacation between III and IV Years: Industry Oriented Mini Project


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.TECH. ELECTRONICS AND COMMUNICATION ENGINEERING
IV YEAR COURSE STRUCTURE & SYLLABUS (R16)

Applicable From 2016-17 Admitted Batch

IV YEAR I SEMESTER

S.No.	Course Code	Course Title	L	T	P	Credits
1	EC701PC	Microwave Engineering	4	0	0	4
2		Professional Elective - II	3	0	0	3
3		Professional Elective - III	3	0	0	3
4		Professional Elective - IV	3	0	0	3
5	EC702PC	VLSI Design	4	0	0	4
6	EC703PC	VLSI and E-CAD Lab	0	0	3	2
7	EC704PC	Microwave Engineering Lab	0	0	3	2
8	EC705PC	Industry Oriented Mini Project	0	0	3	2
9	EC706PC	Seminar	0	0	2	1
		Total Credits	17	0	11	24

IV YEAR II SEMESTER

S.No.	Course Code	Course Title	L	T	P	Credits
1		Open Elective – III	3	0	0	3
2		Professional Elective -V	3	0	0	3
3		Professional Elective -VI	3	0	0	3
4	EC801PC	Major Project	0	0	30	15
		Total Credits	9	0	30	24

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(2018 - 2019)

(R-15)

**ACADEMIC REGULATIONS
COURSE STRUCTURE
AND
DETAILED SYLLABUS**

4

**ELECTRONICS AND
COMMUNICATION
ENGINEERING**

For
B.TECH. FOUR YEAR DEGREE COURSE
(Applicable for the batches admitted from 2013-14)
(I - IV Years Syllabus)



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
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B. TECH. ELECTRONICS AND COMMUNICATION ENGINEERING**I YEAR**

Code	Subject	L	T/P/D	C
A10001	English	2	-	4
A10002	Mathematics - I	3	1	6
A10003	Mathematical Methods	3	-	6
A10004	Engineering Physics	3	-	6
A10005	Engineering Chemistry	3	-	6
A10501	Computer Programming	3	-	6
A10301	Engineering Drawing	2	3	6
A10581	Computer Programming Lab.	-	3	4
A10081	Engineering Physics / Engineering Chemistry Lab.	-	3	4
A10083	English Language Communication Skills Lab.	-	3	4
A10082	IT Workshop / Engineering Workshop	-	3	4
	Total	19	16	56

II YEAR I SEMESTER

Code	Subject	L	T/P/D	C
A30007	Mathematics - III	4	-	4
A30405	Probability Theory and Stochastic Processes	4	-	4
A30407	Switching Theory and Logic Design	4	-	4
A30204	Electrical Circuits	4	-	4
A30404	Electronic Devices and Circuits	4	-	4
A30406	Signals and Systems	4	-	4
A30482	Electronic Devices and Circuits Lab.	-	3	2
A30481	Basic Simulation Lab.	-	3	2
	Total	24	6	28


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Code	Subject	L	T/P/D	C
A40215	Principles of Electrical Engineering	4	-	4
A40412	Electronic Circuit Analysis	4	-	4
A40415	Pulse and Digital Circuits	4	-	4
A40009	Environmental Studies	4	-	4
A40411	Electromagnetic Theory and Transmission Lines	4	-	4
A40410	Digital Design using Verilog HDL	4	-	4
A40288	Electrical Technology Lab.	-	3	2
A40484	Electronic Circuits and Pulse Circuits Lab.	-	3	2
	Total	24	6	28

III YEAR I SEMESTER

Code	Subject	L	T/P/D	C
A50217	Control Systems Engineering	4	-	4
A50516	Computer Organization and Operating Systems	4	-	4
A50418	Antennas and Wave Propagation	4	-	4
A50422	Electronic Measurements and Instrumentation	4	-	4
A50408	Analog Communications	4	-	4
A50425	Linear and Digital IC Applications	4	-	4
A50482	Analog Communications Lab.	-	3	2
A50488	IC Applications and HDL Simulation Lab.	-	3	2
	Total	24	6	28

III YEAR II SEMESTER

Code	Subject	L	T/P/D	C
A60010	Managerial Economics and Financial Analysis	4	-	4
	Open Elective:	4	-	4
A60018	Human Values and Professional Ethics			
A60117	Disaster Management			
A60017	Intellectual Property Rights			
A60420	Digital Communications	4	-	4
A60432	VLSI Design	4	-	4
A60430	Microprocessors and Microcontrollers	4	-	4
A60421	Digital Signal Processing	4	-	4
A60494	Microprocessors and Microcontrollers Lab.	-	3	2
A60493	Digital Signal Processing Lab.	-	3	2
	Total	24	6	28

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IV YEAR I SEMESTER

Code	Subject	L	T/P/D	C
A70014	Management Science	4	-	4
A70442	Microwave Engineering	4	-	4
A70515	Computer Networks	4	-	4
A70434	Cellular and Mobile Communications	4	-	4
A70436	Elective -I: Digital Image Processing	4	-	4
A70443	Multimedia and Signal Coding			
A70505	Object Oriented Programming through Java			
A70447	Elective -II: Television Engineering	4	-	4
A70444	Optical Communications			
A70440	Embedded Systems Design			
A70086	Advanced Communication Skills Lab,	-	3	2
A70499	Microwave Engineering and Digital Communications Lab	-	3	2
	Total	24	6	28

IV YEAR II SEMESTER

Code	Subject	L	T/P/D	C
A80452	Elective -III: Satellite Communications	4	-	4
A81102	Biomédical Instrumentation			
A80527	Artificial Neural Networks			
A80431	Elective -IV: Telecommunication Switching Systems and Networks	4	-	4
A80450	Radar Systems			
A80449	Network Security			
A80454	Elective -V: Wireless Communications and Networks	4	-	4
A80437	Digital Signal Processors and Architectures			
A80451	RF Circuit Design			
A80087	Industry Oriented Mini Project	-	-	2
A80089	Seminar	-	6	2
A80088	Major Project Work	-	15	10
A80090	Comprehensive Viva	-	-	2
	Total	12	21	28

Note: All End Examinations (Theory and Practical) are of three hours duration.

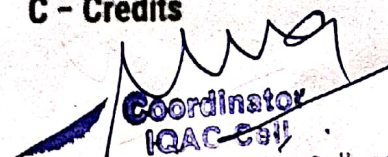
T-Tutorial L - Theory P - Practical D-Drawing C - Credits



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Nawab Shah Alam Khan

College of Engineering & Technology
New Malakpet, Hyderabad-500024.



Coordinator
IQAC
Nawab Shah Alam Khan College of
Engineering and Technology
Hyderabad.

FACULTY OF ENGINEERING
Scheme of Instruction & Examination
(AICTE Model Curriculum)
and
Syllabi
of
Four Year Degree Program of
Bachelors of Engineering(B.E)
ELECTRONICS & COMMUNICATION ENGINEERING



Issued by

Dean, Faculty of Engineering

Osmania University, Hyderabad – 500 007

30.01.2021

SCHEME OF INSTRUCTION & EXAMINATION
B.E. I- Semester
(ELECTRONICS AND COMMUNICATION ENGINEERING)

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/ D	Contact Hrs/W	CIE	SEE	Duration in Hrs	
MC: Three Week Induction Programme										
Theory Course										
1	MC 801 PO	Indian Constitution	2	-	-	2	30	70	3	-
2	BS 201 MT	Mathematics-I	3	1	-	4	30	70	3	4
3	BS 202 PH	Engineering Physics	3	1	-	4	30	70	3	4
4	ES 301 EE	Basic Electrical Engineering	3	1	-	4	30	70	3	4
Practical/Laboratory Course										
5	BS 251 PH	Engineering Physics Lab	-	-	3	3	25	50	3	1.5
6	ES 354 EE	Basic Electrical Engineering Lab	-	-	2	2	25	50	3	1
7	ES 353 CE	Engineering Graphics	-	-	3*2	6	50	50	3	3
Total			11	3	11	25	220	430	21	17.5

MC: Mandatory Course

BS: Basic Science

ES: Engineering Science

L: Lecture

T: Tutorial

P: Practical

D: Drawing

CIE: Continuous Internal Evaluation

SEE: Semester End Examination (Univ. Exam)

PO: Political Science

MT: Mathematics

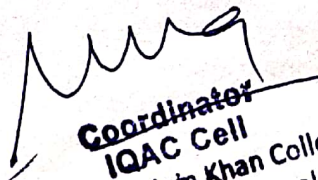
PH: Physics


EE: Electrical Engineering

CE: Civil Engineering

Note:

1. Each contact hour is a ClockHour
2. The duration of the practical class is two clock hours, however it can be extended wherever necessary, to enable the student to complete the experiment


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SCHEME OF INSTRUCTION & EXAMINATION
B.E. II- Semester
(ELECTRONICS AND COMMUNICATION ENGINEERING)

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/W	CIE	SEE	Duration in Hrs	
Theory Course										
1	MC 802 CE	Environmental Science	2	-	-	2	30	70	3	-
2	MC 803 PY	Essence of Indian Traditional Knowledge	2	-	-	2	30	70	3	-
3	HS 101 EG	English	2	-	-	2	30	70	3	2
4	BS 203 MT	Mathematics-II	3	1	-	4	30	70	3	4
5	BS 204 CH	Engineering Chemistry	3	1	-	4	30	70	3	4
6	ES 302 CS	Programming for Problem Solving	3	-	-	3	30	70	3	3
Practical/Laboratory Course										
7	HS 151 EG	English Lab	-	-	2	2	25	50	3	1
8	BS 252 CH	Engineering Chemistry Lab	-	-	3	3	25	50	3	1.5
9	ES 351 CS	Programming for Problem Solving Lab	-	-	2	2	25	50	3	1
10	ES 352 ME	Workshop Practice	-	-	2*3	6	50	50	3	3
Total			15	2	15	32	305	620	30	19.5

HS: Humanities and Social Sciences
MC: Mandatory Course

BS: Basic Science

ES: Engineering Science

L: Lectures

T: Tutorial

P: Practical

D: Drawing

CIE: Continuous Internal Evaluation

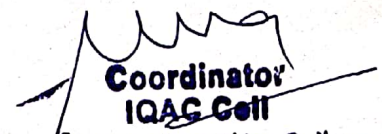
SEE: Semester End Examination (Univ. Exam)


PY: Philosophy **EG:** English **MT:** Mathematics **CH:** Chemistry

CE: Civil Engineering, **CS:** Computer Science and Engineering, **ME:** Mechanical Engineering.

Note:

- Each contact hour is a Clock Hour.
- The students have to undergo a Summer Internship of Rural Agriculture Work Experience (RAW) of one week duration after II-Semester and credits will be awarded in VII semester after evaluation.
- Rural Agriculture Work Experience helps the students primarily to understand the rural situations, status of Agricultural Technologies adopted by farmers and village development plans and to develop skills & attitude of working with farm families for overall development in rural area.
- The main objectives of RAW component are:
 - To make the students familiar with socio-economic conditions of the farmers.
 - To develop communication skills in students using extension teaching methods in transfer of Technology wherever necessary, to enable the student to complete the experiment.


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FACULTY OF ENGINEERING
Scheme of Instruction & Examination
(AICTE Model Curriculum for the Academic Year 2018-2019)

and
Syllabi

B.E. I and II Semesters (Group-A)

of

Four Year Degree Programme

in

B.E. (Common to All Branches)

(With effect from the Academic Year 2018–2019)

(As approved in the Faculty Meeting held on 26th June 2018)



Issued by
Dean, Faculty of Engineering
Osmania University, Hyderabad
2019

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SCHEME OF INSTRUCTION & EXAMINATION

B.E. (All Branches) I - Semester
(Group A – ECE, IT, ME, PE, AE)

S. No.	Course Code	Course Title	Scheme of Instructions				Scheme of Examination			Credits
			L	T	P/D	Contact Hours/Week	CIE	SEE	Duration in Hours	
MC: Three Week Induction Programme										
Theory Course										
1	MC111PO	Indian Constitution	2	-	-	2	30	70	3	-
2	BS102MT	Mathematics-I	3	1	-	4	30	70	3	4
3	BS104PH	Physics	3	1	-	4	30	70	3	4
4	ES106EE	Basic Electrical Engineering	3	1	-	4	30	70	3	4
Practical / Laboratory Course										
5	BS152PH	Physics Lab	-	-	3	3	25	50	3	1.5
6	ES154EE	Basic Electrical Engineering Lab	-	-	2	2	25	50	3	1
7	ES156CE	Engineering Graphics & Design	1	-	4	5	50	50	3	3
Total			12	03	09	24	220	430		17.5

MC: Mandatory Course

BS: Basic Science

ES: Engineering Science

L: Lecture

T: Tutorial

P: Practical

D: Drawing

CIE: Continuous Internal Evaluation

SEE: Semester End Examination (Univ. Exam)

PO: Political Science

MT: Mathematics


PH: Physics


EE: Electrical Engineering

CE: Civil Engineering

Note:

- Each contact hour is a Clock Hour.
- The duration of the practical class is two hours, however it can be extended wherever necessary, to enable the student to complete the experiment.


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SCHEME OF INSTRUCTION & EXAMINATION

B.E. (All Branches) II - Semester

(Group A – ECE, IT, ME, PE, AE)

S.No.	Course Code	Course Title	Scheme of Instructions				Scheme of Examination			Credits
			L	T	P / D	Contact Hours/Week	CIE	SEE	Duration in Hours	
Theory Course										
1	MC112CE	Environmental Science	2	-	-	2	30	70	3	-
2	MC113PY	Essence of Indian Traditional Knowledge	2	-	-	2	30	70	3	-
3	HS101EG	English	2	-	-	2	30	70	3	2
4	BS103MT	Mathematics-II	3	1	-	4	30	70	3	4
5	BS105CH	Chemistry	3	1	-	4	30	70	3	4
6	ES107CS	Programming for Problem Solving	3	-	-	3	30	70	3	3
Practical / Laboratory Course										
7	HS151EG	English Lab			2	2	25	50	3	1
8	BS153CH	Chemistry Lab			3	3	25	50	3	1.5
9	ES155CS	Programming for Problem Solving Lab			4	4	25	50	3	2
10	ES157ME	Workshop / Manufacturing Process	1	-	4	5	50	50	3	3
		Total	16	02	13	31	305	620		20.5

HS: Humanities and Social Sciences
MC: Mandatory Course

BS: Basic Science

ES: Engineering Science

L: Lectures
CIE: Continuous Internal Evaluation

T: Tutorials

P: Practical

D: Drawing

SEE: Semester End Examination (Univ. Exam)

PY: Philosophy

EG: English


MT: Mathematics

CH: Chemistry

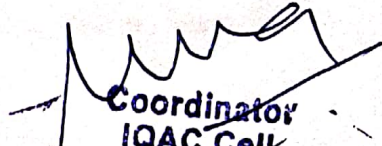
CE: Civil Engineering, CS: Computer Science and Engineering, ME: Mechanical Engineering.

Note:

- Each contact hour is a Clock Hour.
- The students have to undergo a Summer Internship of Rural Agriculture Work Experience (RAWE) of one week duration after II-Semester and credits will be awarded in VII semester after evaluation.
- Rural Agriculture Work Experience helps the students primarily to understand the rural situations, status of Agricultural Technologies adopted by farmers and village development plans and to develop skills & attitude of working with farm families for overall development in rural area.
- The main objectives of RAWE component are:
 - To make the students familiar with socio-economic conditions of the farmers.
 - To develop communication skills in students using extension teaching methods in transfer of Technology.


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21/12/19

FACULTY OF ENGINEERING
Scheme of Instruction & Examination
(AICTE Model Curriculum for the Academic Year 2019-2020)

and

Syllabi

B.E. III and IV Semester

of

Four Year Degree Programme

in

Electronics and Communication Engineering
(With effect from the academic year 2019– 2020)
(As approved in the faculty meeting held on 25-06-2019)



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2019

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SCHEME OF INSTRUCTION & EXAMINATION
B.E. (Electronics and Communication Engineering) III – SEMESTER

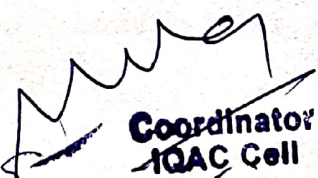
S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	MC111PO	Indian Constitution	2	-	-	2	30	70	3	-
2	HS201EG	Effective Technical Communication in English	3	-	-	3	30	70	3	3
3	HS202CM	Finance and Accounting	3	-	-	3	30	70	3	3
4	BS205MT	Mathematics – III (PDE, Probability & Statistics)	3	-	-	3	30	70	3	3
5	ES212ME	Elements of Mechanical Engineering	3	-	-	3	30	70	3	3
6	ES216EC	Digital Electronics	3	-	-	3	30	70	3	3
7	PC221EC	Electronic Devices	3	-	-	3	30	70	3	3
8	PC222EC	Network Theory	3	-	-	3	30	70	3	3
Practical/ Laboratory Courses										
9	PC251EC	Electronic Devices Lab	-	-	2	2	25	50	2	1
10	PC252EC	Electronic Workshop	-	-	2	2	25	50	2	1
			23	-	04	27	290	660		23

HS: Humanities and Social Sciences BS: Basic Science ES: Engineering Science
 MC: Mandatory Course PC: Professional Core
 L: Lecture T: Tutorial P: Practical D: Drawing
 CIE: Continuous Internal Evaluation SEE: Semester End Evaluation (Univ. Exam)
 PO: Political Science, EG: English, CM: Commerce, MT: Mathematics, ME: Mechanical Engineering.
 EC: Electronics and Communication Engineering.

Note:

- Each contact hour is a clock hour
- The duration of the practical class is two hours, however it can be extended wherever necessary, to enable the student to complete the experiment.
- All the mentioned **Mandatory Courses** should be offered either in I-Semester or II-Semester only from the academic year 2019-2020.
- For those of the students admitted during the academic year 2018-2019, since the Mandatory Courses were not offered during the I-Semester or II-Semester, they should be offered either in III-Semester or IV-Semester of the academic year 2019-2020.


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SCHEME OF INSTRUCTION & EXAMINATION
B.E.(Electronics and Communication Engineering)IV – SEMESTER

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	MC112CE	Environmental Science	2	-	-	2	30	70	3	-
2	MC113PY	Essence of Indian Traditional Knowledge	2	-	-	2	30	70	3	-
3	HS213MP	Industrial Psychology	3	-	-	3	30	70	3	3
4	BS206BZ	Biology for Engineers	3	-	-	3	30	70	3	3
5	ES215EC	Signals and Systems	3	-	-	3	30	70	3	3
6	PC231EC	Analog Electronic Circuits	3	-	-	3	30	70	3	3
7	PC232EC	Electromagnetic Theory and Transmission Lines	3	-	-	3	30	70	3	3
8	PC233EC	Pulse and Linear Integrated Circuits	3	-	-	3	30	70	3	3
9	PC234EC	Computer Organisation and Architecture	3	-	-	3	30	70	3	3
Practical/ Laboratory Courses										
10	PC261EC	Analog Electronic Circuits Lab	-	-	2	2	25	50	3	1
11	PC262EC	Pulse and Linear Integrated Circuits Lab	-	-	2	2	25	50	3	1
			25	-	04	29	320	730		23


HS: Humanities and Social Sciences BS: Basic Science ES: Engineering Science
 MC: Mandatory Course PC: Professional Core
 L: Lecture T: Tutorial P: Practical D: Drawing
 CIE: Continuous Internal Evaluation SEE: Semester End Evaluation (Univ. Exam)
 PY: Philosophy, BZ: Biology/ Life Sciences, CE: Civil Engineering,
 MP: Mechanical / Production Engineering, EC: Electronics and Communication Engineering.

Note:

- Each contact hour is a clock hour
- The duration of the practical class is two hours, however it can be extended wherever necessary, to enable the student to complete the experiment.
- All the mentioned **Mandatory Courses** should be offered either in I-Semester or II-Semester only from the academic year 2019-2020.
- For those of the students admitted during the academic year 2018-2019, since the Mandatory Courses were not offered during the I-Semester or II-Semester, they should be offered either in III-Semester or IV-Semester of the academic year 2019-2020.
- The students have to undergo a Summer Internship of two-week duration after IV – Semester and credits will be awarded in V-Semester after evaluation.


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FACULTY OF ENGINEERING
Scheme of Instruction & Examination
(AICTE Model Curriculum)

and

Syllabi

B.E. V and VI Semesters

of

Four Year Degree Programme


in

ELECTRONICS & COMMUNICATION ENGINEERING

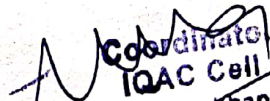
(With effect from the Academic Year 2020 - 2021)
(As approved in the Faculty Meeting held on 17-02-2020)



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Osmania University, Hyderabad – 500 007
2020


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SCHEME OF INSTRUCTION & EXAMINATION
B.E. V- Semester
(ELECTRONICS AND COMMUNICATION ENGINEERING)

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Course										
1	PC501EC	Analog Communication	3	-	-	3	30	70	3	3
2	PC502EC	Digital Signal Processing	3	1	-	4	30	70	3	4
3	PC503EC	Automatic Control Systems	3	1	-	4	30	70	3	4
4	PC504EC	Antenna and wave Propagation	3	-	-	3	30	70	3	3
5	PC505EC	Microprocessors & Microcontrollers	3	1	-	4	30	70	3	4
Practical/Laboratory Course										
7	PC551EC	Systems and Signal Processing Lab	-	-	2	2	25	50	2	1
8	PC552EC	Microprocessor and Microcontroller Lab	-	-	2	2	25	50	2	1
9	PC553EC	Mini Project	-	-	2	2	50	-	2	1
Total			15	3	6	24	250	450	21	21

PC: Professional Course

L: Lecture **T:** Tutorial **P:** Practical **D:** Drawing **G:** Grade (E/VG/G/S/U)

CIE: Continuous Internal Evaluation

SEE: Semester End Examination (Univ. Exam)


Note-1:


- Each contact hour is a Clock Hour
- The duration of the practical class is two clock hours, however it can be extended wherever necessary, to enable the student to complete the experiment

Note-2:

*The students have to undergo a Summer Internship of four weeks duration after VI semester and credits will be awarded in VII semester after evaluation.

** Subject is not offered to the students of Electronics and Communication Engineering Department


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SCHEME OF INSTRUCTION & EXAMINATION
B.E. VI - Semester
(ELECTRONICS AND COMMUNICATION ENGINEERING)

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	PC601EC	Digital Communication	3	-	-	3	30	70	3	3
2	PC602EC	Digital system Design with Verilog	3	-	-	3	30	70	3	3
3	PC603EC	Data Communication and computer networks	3	1	-	4	30	70	3	4
4	PC604EC	Electronic Measurements and Instrumentation	3	-	-	3	30	70	3	3
5	PE – I	Professional Elective-I	3	-	-	3	30	70	3	3
6	OE – I	Open Elective-I	3	-	-	3	30	70	3	3
Practical/Laboratory Courses										
7	PC651EC	Communication Lab	-	-	2	2	25	50	3	1
8	PC652EC	DCCN Lab	-	-	2	2	25	50	3	1
9	PC653EC	Digital system Design with Verilog Lab	-	-	2	2	25	50	3	1
10	PC654EC	Summer Internship*	-	-	-	-	50	-	-	2
Total			18	1	6	24	305	570	27	24


PC: Professional Course**PE:** Professional Elective**OE:** Open Elective**MC:** Mandatory Course
Sciences**SI:** Summer Internship**HS:** Humanities and Social**L:** Lecture**T:** Tutorial**P:** Practical**D:** Drawing**CIE:** Continuous Internal Evaluation**SEE:** Semester End Examination (Univ. Exam)**Note-1:**

- Each contact hour is a Clock Hour
- The duration of the practical class is two clock hours, however it can be extended wherever necessary, to enable the student to complete the experiment

Note-2:

*The students have to undergo a Summer Internship of four weeks duration after VI semester and credits will be awarded in VII semester after evaluation.

** Subject is not offered to the students of Electronics and Communication Engineering Department.


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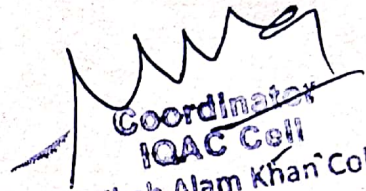

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Faculty of Engineering O.U.

With effect from Academic Year 2020 – 21

Open Elective-I:			Professional Elective – I		
S.No	Course Code	Course Title	S.No.	Course Code	Course Title
1	OE601EC	Principles of Electronic Communications	1	PE671EC	Image and Video Processing
2	OE602EC	Fundamental Digital design using Verilog HDL	2	PE672EC	Advanced Microcontrollers
			3	PE673EC	Optical Communications
			4	PE674EC	IOT Sensors


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD.

B. TECH. COMPUTER SCIENCE AND ENGINEERING

I YEAR

Code	Subject	L	T/P/D	C
A10001	English	2	-	4
A10002	Mathematics – I	3	1	6
A10003	Mathematical Methods	3	-	6
A10004	Engineering Physics	3	-	6
A10005	Engineering Chemistry	3	-	6
A10501	Computer Programming	3	-	6
A10301	Engineering Drawing	2	3	6
A10581	Computer Programming Lab.	-	3	4
A10081	Engineering Physics / Engineering Chemistry Lab.	-	3	4
A10083	English Language Communication Skills Lab.	-	3	4
A10082	IT Workshop / Engineering Workshop	-	3	4
	Total	19	16	56

II YEAR I SEMESTER

Code	Subject	L	T/P/D	C
A30008	Probability and Statistics	4	-	4
A30504	Mathematical Foundations of Computer Science	4	-	4
A30502	Data Structures	4	-	4
A30401	Digital Logic Design	4	-	4
A30404	Electronic Devices and Circuits	4	-	4
A30202	Basic Electrical Engineering	4	-	4
A30282	Electrical and Electronics Lab	-	3	2
A30582	Data Structures Lab	-	3	2
	Total	24	6	28


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IV YEAR I SEMESTER

Code	Subject	L	T/P/D	C
A70511	Linux Programming	4	-	4
A70530	Design Patterns	4	-	4
A70520	Data Warehousing and Data Mining	4	-	4
A70519	Cloud Computing	4	-	4
	ELECTIVE – I	4	-	4
A70540	Software Project Management			
A70532	Image processing and Pattern Recognition			
A70536	Mobile Computing			
A70529	Computer Graphics			
A70352	Operations Research			
	ELECTIVE – II	4	-	4
A70534	Machine Learning			
A70539	Soft Computing			
A70533	Information Retrieval Systems			
A70526	Artificial Intelligence			
A70628	Computer Forensics			
A70596	Linux Programming Lab	-	3	2
A70595	Data Warehousing and Mining Lab	-	3	2
	Total	24	6	28


IV YEAR II SEMESTER

Code	Subject	L	T/P/D	C
A80014	Management Science	4	-	4
	ELECTIVE III	4	-	4
A80551	Web Services			
A80538	Semantic Web and Social Networks			
A80537	Scripting Languages			
A80547	Multimedia & Rich Internet Applications			
	ELECTIVE – IV	4	-	4
A80542	Ad hoc and Sensor Networks			
A80550	Storage Area Networks			
A80543	Database Security			
A80439	Embedded Systems			
A80087	Industry Oriented Mini Project	-	-	2
A80089	Seminar	-	6	2
A80088	Project Work	-	15	10
A80090	Comprehensive Viva	-	-	2
	Total	12	21	28

Note: All End Examinations (Theory and Practical) are of three hours duration.

T-Tutorial L – Theory P – Practical D-Drawing C – Credits


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.TECH I YEAR COURSE STRUCTURE AND SYLLABUS (R16)
 (Common for EEE, ECE, CSE, EIE, BME, IT, ETE, ECM, ICE)

Applicable From 2017-18 Admitted Batch


I YEAR I SEMESTER


S. No	Course Code	Course Title	L	T	P	Credits
1	MA101BS	Mathematics-I	3	1	0	3
2	CH102BS	Engineering Chemistry	4	0	0	4
3	PH103BS	Engineering Physics-I	3	0	0	3
4	EN104HS	Professional Communication in English	3	0	0	3
5	ME105ES	Engineering Mechanics	3	0	0	3
6	EE106ES	Basic Electrical and Electronics Engineering	4	0	0	4
7	EN107HS	English Language Communication Skills Lab	0	0	3	2
8	ME108ES	Engineering Workshop	0	0	3	2
9	*EA109MC	NSS	0	0	0	0
		Total Credits	20	1	6	24

I YEAR II SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	PH201BS	Engineering Physics-II	3	0	0	3
2	MA202BS	Mathematics-II	4	1	0	4
3	MA203BS	Mathematics-III	4	1	0	4
4	CS204ES	Computer Programming in C	3	0	0	3
5	ME205ES	Engineering Graphics	2	0	4	4
6	CH206BS	Engineering Chemistry Lab	0	0	3	2
7	PH207BS	Engineering Physics Lab	0	0	3	2
8	CS208ES	Computer Programming in C Lab	0	0	3	2
9	*EA209MC	NCC/NSO	0	0	0	0
		Total Credits	16	2	13	24

*Mandatory Course – Satisfactory/Unsatisfactory.


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Proposed for the academic years 2020-2024
SCHEME OF INSTRUCTION & EXAMINATION

B.E (Computer Science and Engineering)

SEMESTER-I

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P / D	Contact Hrs / Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1.	Three Week Induction Program									
2.	MC 802 CE	Environmental Sciences	2	-	-	2	30	70	3	-
3.	MC 803 PY	Essence of Indian Traditional Knowledge	2	-	-	2	30	70	3	-
4.	BS 201 MT	Mathematics-I	3	1	-	4	30	70	3	4
5.	BS 204 CH	Chemistry	3	1	-	4	30	70	3	4
6.	ES 302 CS	Programming for Problem Solving	3	-	-	3	30	70	3	3
Practical / Laboratory Courses										
7.	BS 252CH	Chemistry Lab	-	-	3	3	25	50	3	1.5
8.	ES 351 CS	Programming for Problem Solving Lab	-	-	2	2	25	50	3	1
9.	ES 352 ME	Workshop Practice	-	-	2x3	6	50	50	3	3
Total			13	02	11	26	250	500		16.5

BS: Basic Science

ES: Engineering Science

MC: Mandatory Course

L: Lecture

T: Tutorial


P: Practical

D: Drawing

CIE: Continuous Internal Evaluation

SEE: Semester End Evaluation


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SCHEME OF INSTRUCTION & EXAMINATION

B.E (Computer Science and Engineering)

SEMESTER-II

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P / D	Contact Hrs / Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	MC 801 PO	Indian Constitution	2	-	-	2	30	70	3	-
2	HS 101 EG	English	2	-	-	2	30	70	3	2
3	BS 202 PH	Physics	3	1	-	4	30	70	3	4
4	BS 203MT	Mathematics-II	3	1	-	4	30	70	3	4
5	ES 301 EE	Basic Electrical Engineering	3	1	-	4	30	70	3	4
Practical / Laboratory Courses										
6	HS 151EG	English Lab	-	-	2	2	25	50	3	1
7	BS 251PH	Physics Lab	-	-	3	3	25	50	3	1.5
8	ES 353 CE	Engineering Graphics		-	3x2	6	50	50	3	3
9	ES 354 EE	Basic Electrical Engineering Lab	-	-	2	2	25	50	3	1
Total			13	03	13	29	275	550		20.5

BE(CSE) SEMESTER-III, IV with Effect from AY(21-22)

CSE: SEMESTER – III

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	HS 103 ME	Operations Research	3	-	-	3	30	70	3	3
2	ES 306 EC	Basic Electronics	3	-	-	4	30	70	3	3
3	ES 303 EC	Digital Electronics	3	1	-	4	30	70	3	3
4	PC 301 CS	Data Structures and Algorithms	3	1	-	4	30	70	3	3
5	PC 302 CS	Discrete Mathematics	3	1	-	4	30	70	3	3
6	PC 303 CS	OOP using JAVA	3	1	-	4	30	70	3	3
Practical/ Laboratory Courses										
7	PC 351 CS	Data Structures and Algorithms Lab	-	-	2	2	25	50	3	1
8	PC 352 CS	Advanced Computer Skills Lab	-	-	2	2	25	50	3	1
9	ES 351 EC	Basic Electronics Lab	-	-	2	2	25	50	3	1
10	PC 353 CS	OOP using JAVA Lab	-	-	2	2	25	50	3	1
Total			18	4	08	30	280	620		22

CSE: SEMESTER – IV

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	HS 104 EG	Effective Technical Communication in English	3	-	-	3	30	70	3	3
2	HS 105 CM	Finance and Accounting	3	1	-	4	30	70	3	3
3	BS 207 MT	Mathematics – III (Probability & Statistics)	3	-	-	3	30	70	3	3
4	ES 305 EC	Signals and Systems	3	-	-	3	30	70	3	3
5	PC 401 CS	Operating Systems	3	-	-	3	30	70	3	3
6	PC 402 CS	Computer Organization	3	1	-	4	30	70	3	3
7	PC 403 CS	Database Management Systems	3	1	-	4	30	70	3	3
Practical/ Laboratory Courses										
8	PC 451 CS	Computer Organization Lab	-	-	2	2	25	50	3	1
9	PC 452 CS	Operating Systems Lab	-	-	2	2	25	50	3	1
10	PC 453 CS	Database Management Systems Lab	-	-	2	2	25	50	3	1
Total			21	3	06	30	285	640		24

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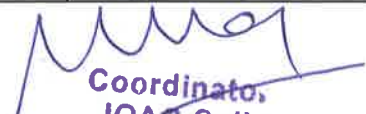
CSE: SEMESTER -V


S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	PC 501 CS	Software Engineering	3	1	-	4	30	70	3	3
2	PC 502 CS	Programming Languages	3	1	-	4	30	70	3	3
3	PC 503 CS	Automata Languages & Computation	3	1	-	4	30	70	3	3
4	PE-I	Professional Elective-I	3	-	-	3	30	70	3	3
5	PE-II	Professional Elective-II	3	-	-	3	30	70	3	3
6	PE-III	Professional Elective-III	3	-	-	3	30	70	3	3
Practical/Laboratory Courses										
7	PC 551 CS	Software Engineering Lab	-	-	2	2	25	50	3	1
8	PC 552 CS	Programming Languages Lab	-	-	2	2	25	50	3	1
9	PW 533 CS	Mini Project	-	-	4	4	25	50	3	2
Total			18	03	08	29	255	570		22

Profession Elective – I	
Course Code	Course Title
PE 511 CS	Artificial Intelligence
PE 512 CS	Advanced Computer Architecture
PE 513 CS	Network Security
PE 514 CS	Foundations of Cryptography

Profession Elective – II	
Course Code	Course Title
PE 531 CS	Web Technologies
PE 532 CS	Embedded Systems
PE 533 CS	Graph Theory
PE 534 CS	Data Analytics

Profession Elective – III	
Course Code	Course Title
PE 521 CS	Block Chain Technologies
PE 522 CS	Information Retrieval Systems
PE 523 CS	Soft Computing
PE 524 CS	Computer Graphics


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Proposed for the academic years 2020-2024

CSE: SEMESTER - VI

CSE: SEMESTER - VI										
S. No	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	Contact Hrs/Wk	CIE	SEE	Duration in Hrs/Wk	
Theory Courses										
1	PC 601 CS	Compiler Design	3	1	-	4	30	70	3	3
2	PC 602 CS	Computer Networks	3	1	-	4	30	70	3	3
3	PC 603 CS	Design and Analysis of Algorithms	3	1	-	3	30	70	3	3
4	PE -IV	Professional Elective -IV	3	-	-	3	30	70	3	3
5	PE -V	Professional Elective -V	3	-	-	3	30	70	3	3
6	OE-I	Open Elective-I	3	-	-	-	30	70	3	3
Practical/Laboratory Courses										
7	PC 651 CS	Compiler Design Lab	-	-	2	2	25	50	3	1
8	PC 652 CS	Computer Networks Lab	-	-	2	2	25	50	3	1
9	PC 653 CS	Design and Analysis of Algorithms Lab	-	-	2	2	25	50	3	1
10	SI 671 CS	Summer Internship*	-	-	-	-	-	-	-	-
Total			18	3	6	27	255	570		21

Open Elective- I		
Sl.No	Code	Name of Subject
1	OE601 EE	Electrical Energy Conservation and Safety (Not for EEE & EIE Students)
2	OE602 EE	Reliability Engineering (Not for EEE & EIE Students)
3	OE611 AE	Automobile Engineering (Not for Auto. Engg. students)
4	OE611 ME	Entrepreneurship (Not for Mech Engg & Prod. Engg. students)
5	OE601 EG	Soft Skills & Interpersonal Skills
6	OE602 MB	Human Resource Development and Organizational Behaviour
7	OE601 LW	Cyber Law and Ethics
8	OE601 CS	Operating Systems (Not for CSE Students)
9	OE602 CS	OOP using Java (Not for CSE Students)
10	OE601 IT	Database Systems (Not for IT Students)
11	OE602 IT	Data Structures (Not for IT Students)
12	OE601 CE	Disaster Mitigation (Not for Civil Engg. Students)

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**SCHEME OF INSTRUCTION
BE (COMPUTER SCIENCE AND ENGINEERING)
CSE-Semester -VIII**

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	PE-VI	Professional Elective -VI	3	-	-	3	30	70	3	3
2	OE-III	Open Elective – III	3	-	-	3	30	70	3	3
Practical/ Laboratory Courses										
3	PW861 CS	Project Work – II	-	-	10	10	50	100	-	8
Total			06	-	10	16	110	240	-	14


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Open Elective – III		
1	OE605 EE	Smart Building Systems (Not for EEE & EIE Students)
2	OE606 EE	Programmable Logic Controllers (Not for EEE & EIE Students)
3	OE631 AE	Automotive Safety and Ergonomics (Not for Auto. Engg students)
4	OE631 ME	Mechatronics (Not for Mech Engg& Prod. Engg. students)
5	OE603 CE	Road Safety Engineering (Not for Civil Engg. Students)
6	OE604 IT	Software Engineering (Not for IT Students)


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Open Elective – II		
1	OE603 EE	Non-Conventional Energy Sources (Not for EEE & EIE Students)
2	OE604 EE	Transducers and Sensors (Not for EEE & EIE Students)
3	OE621 AE	Automotive maintenance (Not for Auto. Engg. students)
4	OE621 ME	Industrial Robotics (Not for Mech Engg& Prod. Engg. students)
5	OE602 CE	Green Building Technologies (Not for Civil Engg. Students)
6	OE602 CS	Data Science Using R (Not for CSE Students)
7	OE 603 IT	Cyber Security (Not for IT Students)


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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY
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B. TECH. INFORMATION TECHNOLOGY / COMPUTER SCIENCE TECHNOLOGY

I YEAR

Code	Subject	L	T/P/D	C
	English	2	-	4
	Mathematics – I	3	1	6
	Mathematical Methods	3	-	6
	Engineering Physics	3	-	6
	Engineering Chemistry	3	-	6
	Computer Programming	3	-	6
	Engineering Drawing	2	3	6
	Computer Programming Lab.	-	3	4
	Engineering Physics / Engineering Chemistry Lab.	-	3	4
	English Language Communication Skills Lab.	-	3	4
	IT Workshop / Engineering Workshop	-	3	4
	Total	19	16	56

II YEAR I SEMESTER

Code	Subject	L	T/P/D	C
	Probability and Statistics	4	-	4
	Mathematical Foundations of Computer Science	4	-	4
	Data Structures	4	-	4
	Digital Logic Design and Computer Organization	4	-	4
	Electronic Devices and Circuits	4	-	4
	Basic Electrical Engineering	4	-	4
	Electrical and Electronics Lab	-	3	2
	Data Structures Lab	-	3	2
	Total	24	6	28

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II YEAR II SEMESTER

Code	Subject	L	T/P/D	C
	Principles of Programming Languages	4	-	4
	Database Management Systems	4	-	4
	Java Programming	4	-	4
	Environmental studies	4	-	4
	Data Communication	4	-	4
	Design and Analysis of Algorithms	4	-	4
	Java Programming Lab	-	3	2
	Database Management Systems Lab	-	3	2
	Total	24	6	28

III YEAR I SEMESTER

Code	Subject	L	T/P/D	C
	Automata and Compiler Design	4	-	4
	Linux Programming	4	-	4
	Software Engineering	4	-	4
	Operating Systems	4	-	4
	Computer Networks	4	-	4
	Managerial Economics and Financial Analysis	4	-	4
	Operating Systems Lab	-	3	2
	Computer Networks Lab (Through Linux)	-	3	2
	Total	24	6	28

III YEAR II SEMESTER

Code	Subject	L	T/P/D	C
	Web Technologies	4	-	4
	OPEN ELECTIVE	4	-	4
	Human Values and Professional Ethics			
	Intellectual Property Rights			
	Disaster Management			
	Object Oriented Analysis and Design	4	-	4
	Data Warehousing and Data Mining	4	-	4
	Software Testing Methodologies	4	-	4
	Cloud Computing	4	-	4
	Data Mining and Web Technologies Lab	-	3	2
	Advanced Communication Skills Lab	-	3	2
	Total	24	6	28


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IV YEAR I SEMESTER

Code	Subject	L	T/P/D	C
	Information Security	4	-	4
	Design Patterns	4	-	4
	Mobile Application Development	4	-	4
	Information Retrieval Systems	4	-	4
	ELECTIVE – I	4	-	4
	Wireless Networks and Mobile Computing			
	Image Processing and Pattern Recognition			
	Soft Computing			
	Semantic Web and Social Networks			
	Operations Research			
	ELECTIVE – II	4	-	4
	Software Project Management			
	Computer Graphics			
	Human Computer Interaction			
	Scripting Languages			
	Computer Forensics			
	Case Tools and Software Testing Lab	-	3	2
	Mobile Applications Development Lab	-	3	2
	Total	24	6	28

IV YEAR II SEMESTER

Code	Subject	L	T/P/D	C
	Management Science	4	-	4
	ELECTIVE III	4	-	4
	Web Services			
	E – Commerce			
	Middleware Technologies			
	Ad hoc and Sensor Networks			
	ELECTIVE IV	4	-	4
	Multimedia & Rich Internet Applications			
	Artificial Intelligence			
	Storage Area Networks			
	Machine Learning			
	Industry Oriented Mini Project	-	-	2
	Seminar	-	6	2
	Project Work	-	15	10
	Comprehensive Viva	-	-	2
	Total	12	21	28

Note: All End Examinations (Theory and Practical) are of three hours duration.

T-Tutorial L – Theory P – Practical D-Drawing C – Credits

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.TECH. INFORMATION TECHNOLOGY
IV YEAR COURSE STRUCTURE & SYLLABUS (R16)

Applicable From 2016-17 Admitted Batch

IV YEAR I SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	CS701PC	Data Mining	4	0	0	4
2	IT702PC	Android Application Development	4	0	0	4
3		Professional Elective – II	3	0	0	3
4		Professional Elective – III	3	0	0	3
5		Professional Elective – IV	3	0	0	3
6	IT703PC	Android Application Development Lab	0	0	3	2
7		PE-II Lab #	0	0	3	2
	CS751PC	Python Programming Lab				
	CS753PC	Web Scripting Languages Lab				
	IT752PC	Ethical Hacking Lab				
	CS754PC	Internet of Things Lab				
8	IT705PC	Industry Oriented Mini Project	0	0	3	2
9	IT706PC	Seminar	0	0	2	1
		Total Credits	17	0	11	24

Courses in PE - II and PE - II Lab must be in 1-1 correspondence.


IV YEAR II SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1		Open Elective – III	3	0	0	3
2		Professional Elective – V	3	0	0	3
3		Professional Elective – VI	3	0	0	3
4	IT801PC	Major Project	0	0	30	15
		Total Credits	9	0	30	24

Professional Elective – I

CS611PE	Mobile Computing
IT612PE	Object Oriented Analysis and Design
IT613PE	Computer Forensics
CS614PE	Information Security Management (Security Analyst - I)
CS615PE	Introduction to Analytics (Associate Analytics - I)


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Professional Elective - II #

CS721PE	Python Programming
CS723PE	Web Scripting Languages
IT722PE	Ethical Hacking
CS724PE	Internet of Things

Professional Elective - III

IT731PE	Web and Database Security
IT732PE	Embedded Systems
IT733PE	Artificial Intelligence
CS734PE	Software Process and Project Management

Professional Elective - IV

CS743PE	Blockchain Technology
CS742PE	Cloud Computing
CS744PE	Social Network Analysis
IT741PE	Information Retrieval Systems

Professional Elective - V

IT851PE	Steganography and Watermarking
CS852PE	Real-Time Systems
CS853PE	Data Analytics
CS854PE	Modern Software Engineering

Professional Elective –VI

IT861PE	Intrusion Detection System
IT862PE	ADHOC and Sensor Networks
CS864PE	Neural Networks and Deep Learning
IT863PE	Human Computer Interaction

***Open Elective** subjects' syllabus is provided in a separate document.

***Open Elective** – Students should take Open Electives from the List of Open Electives Offered by Other Departments/Branches Only.

Ex: - A Student of Mechanical Engineering can take Open Electives from all other departments/branches except Open Electives offered by Mechanical Engineering Dept.


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
LIST OF OPEN ELECTIVES OFFERED BY VARIOUS DEPARTMENTS FOR
B.TECH. III AND IV YEARS

S. No.	Name of the Department Offering Open Electives	Open Elective – I (Semester – V)	Open Elective – II (Semester – VI)
1	Aeronautical Engg.	AE511OE: Introduction to Space Technology	AE621OE: Introduction to Aerospace Engineering
2	Automobile Engg.	CE511OE: Disaster Management MT512OE: Intellectual Property Rights	MT621OE: Data Structures MT622OE: Artificial Neural Networks
3	Biomedical Engg.	BM511OE: Reliability Engineering	BM621OE: Medical Electronics
4	Civil Engg.	CE511OE: Disaster Management.	CE621OE: Remote Sensing and GIS CE622OE: Geo-Informatics CE623OE: Intellectual Property Rights
5	Civil and Environmental Engg.	CE511OE: Disaster Management	CN621OE: Environmental Impact Assessment CE623OE: Intellectual Property Rights
6	Computer Science and Engg. / Information Technology	CS511OE: Operating Systems CS512OE: Database Management Systems	CS621OE: Java Programming CS622OE: Software Testing Methodologies CS623OE: Cyber Security
7	Electronics and Communication Engg. / Electronics and Telematics Engg.	EC511OE: Principles of Electronic Communications	EC621OE: Principles of Computer Communications and Networks
8	Electronics and Computer Engg.	EM511OE: Scripting Languages	EM621OE: Soft Computing Techniques
9	Electrical and Electronics Engg.	EE511OE: Non-Conventional Power Generation EE512OE: Electrical Engineering Materials EE513OE: Nanotechnology	EE621OE: Design Estimation and Costing of Electrical Systems EE622OE: Energy Storage Systems EE623OE: Introduction to Mechatronics
10	Electronics and Instrumentation Engg.	EI511OE: Electronic Measurements and Instrumentation	EI621OE: Industrial Electronics
11	Mechanical Engg.	ME511OE: Optimization Techniques ME512OE: Computer Graphics ME513OE: Introduction	ME621OE: World Class Manufacturing ME622OE: Fundamentals of Robotics ME623OE: Fabrication


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		to Mechatronics ME514OE: Fundamentals of Mechanical Engineering	Processes
12	Mechanical Engg. (Material Science and Nanotechnology)	NT511OE: Fabrication Processes NT512OE: Non destructive Testing Methods NT513OE: Fundamentals of Engineering Materials	NT621OE: Introduction to Material Handling NT622OE: Non-Conventional Energy Sources NT623OE: Robotics
13	Mechanical Engg. (mechatronics)	MT511OE: Analog and Digital I.C. Applications MT512OE: Intellectual Property Rights MT513OE: Computer Organization	MT621OE: Data Structures MT622OE: Artificial Neural Networks MT623OE: Industrial Management
14	Metallurgical and Materials Engg.	MM511OE: Materials Characterization Techniques	MM621OE: Science and Technology of Nano Materials MM622OE: Metallurgy of Non Metallurgists
15	Mining Engg.	MN511OE: Introduction to Mining Technology	MN621OE: Coal Gasification, Coal Bed Methane and Shale Gas
16	Petroleum Engg.	PE511OE: Materials Science and Engineering PE512OE: Renewable Energy Sources PE513OE: Environmental Engineering	PE621OE: Energy Management and Conservation PE622OE: Optimization Techniques PE623OE: Entrepreneurship and Small Business Enterprises

S. No.	Name of the Department Offering Open Electives	Open Elective –III (Semester – VIII)
1	Aeronautical Engg.	AE831OE: Air Transportation Systems AE832OE: Rockets and Missiles
2	Automobile Engg.	AM831OE: Introduction to Mechatronics AM832OE: Microprocessors and Microcontrollers
3	Biomedical Engg.	BM831OE: Telemetry and Telecontrol BM832OE: Electromagnetic Interference and Compatibility
4	Civil Engg.	CE831OE: Environmental Impact Assessment CE832OE: Optimization Techniques in Engineering CE833OE: Entrepreneurship and Small Business Enterprises
5	Civil and Environmental Engg.	CN831OE: Remote Sensing and GIS CE833OE: Entrepreneurship and Small Business


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		Enterprises
6	Computer Science and Engg. / Information Technology	CS831OE: Linux Programming CS832OE: R Programming CS833OE: PHP Programming
7	Electronics and Communication Engg. / Electronics and Telematics Engg.	EC831OE: Electronic Measuring Instruments
8	Electronics and Computer Engg.	EM831OE: Data Analytics
9	Electrical and Electronics Engg.	EE831OE: Entrepreneur Resource Planning EE832OE: Management Information Systems EE833OE: Organizational Behaviour
10	Electronics and Instrumentation Engg.	EI831OE: Sensors and Transducers, EI832OE: PC Based Instrumentation
11	Mechanical Engg.	ME831OE: Total Quality Management ME832OE: Industrial Safety, Health, and Environmental Engineering ME833OE: Basics of Thermodynamics ME834OE: Reliability Engineering
12	Mechanical Engg. (Material Science and Nanotechnology)	NT831OE: Concepts of Nano Science And Technology NT832OE: Synthesis of Nanomaterials NT833OE: Characterization of Nanomaterials
13	Mechanical Engg. (mechatronics)	MT831OE: Renewable Energy Sources MT832OE: Production Planning and Control CE833OE: Entrepreneurship and Small Business Enterprises
14	Metallurgical and Materials Engg.	MM831OE: Design and Selection of Engineering Materials
15	Mining Engg.	MN831OE: Solid Fuel Technology MN832OE: Health & Safety in Mines
16	Petroleum Engg.	PE831OE: Disaster Management PE832OE: Fundamentals of Liquefied Natural Gas PE833OE: Health, Safety and Environment in Petroleum Industry

***Open Elective** – Students should take Open Electives from List of Open Electives Offered by Other Departments/Branches Only.

Ex: - A Student of Mechanical Engineering can take Open Electives from all other departments/branches except Open Electives offered by Mechanical Engineering Dept.


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**SCHEME OF INSTRUCTION
BE (INFORMATION TECHNOLOGY)
AICTE MODEL CURRICULUM**

IT: SEMESTER – I

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hours/ Week	CIE	SEE	Duration in Hours	
Theory Courses										
	Three Week Induction Programme									
1	MC 801 PO	Indian Constitution	2	0	-	2	30	70	-	-
2	BS 202 PH	Physics	3	1	-	4	30	70	3	4
3	BS 201 MT	Mathematics-I	3	1	-	4	30	70	3	4
4	ES 301 EE	Basic Electrical Engineering	3	1	-	4	30	70	3	4
Practical/ Laboratory Courses										
5	BS 251 PH	Physics Lab	-	-	3	3	25	50	3	1.5
6	ES 354 EE	Basic Electrical Engineering Lab	-	-	2	2	25	50	3	1
7	ES 353 CE	Engineering Graphics	-	-	3x2	6	50	50	3	3
Total			11	03	11	25	220	430		17.5

BS: Basic Sciences

ES: Engineering Sciences

MC: Mandatory Course

L: Lectures

T: Tutorials

P: Practicals

D: Drawing

CIE: Continuous Internal Evaluation

SEE: Semester End Examination


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IT: SEMESTER – II

S. No	Course Code	Course Title	Scheme of Instruction				Scheme of Examination		
			L	T	P	Contact Hrs/Wk	CIE	SEE	Credits
Theory Courses									
1	MC 802 CE	Environmental Sciences	2	-	-	2	30	70	-
2	MC 803 PY	Essence of Indian Traditional Knowledge	2	-	-	2	30	70	-
3	HS 101 EG	English	2	-	-	2	30	70	2
4	BS 203 MT	Mathematics-II	3	1	-	4	30	70	4
5	BS 204 CH	Chemistry	3	1	-	4	30	70	4
6	ES 302 CS	Programming for Problem Solving	3	-	-	3	30	70	3
Practical/ Laboratory Courses									
7	HS 151EG	English Lab			2	2	25	50	1
8	BS 252CH	Chemistry Lab			3	3	25	50	1.5
9	ES 351 CS	Programming for Problem Solving Lab			2	2	25	50	1
10	ES 352ME	Workshop Practice	-	-	2x3	6	50	50	3
Total			16	3	11	30	305	410	17.5

IT: SEMESTER – III

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	HS 104 EG	Effective Technical Communication in English	3	-	-	3	30	70	3	3
2	HS 105 CM	Finance and Accounting	3	1	-	4	30	70	3	3
3	BS 205 MT	Mathematics- III (Probability & Statistics)	3	1	-	4	30	70	3	3
4	ES 306 EC	Basic Electronics	3	-	-	3	30	70	3	3
5	ES 303 EC	Digital Electronics	3	1	-	4	30	70	3	3
6	PC 301 IT	Data Structures	3	-	-	3	30	70	3	3
7	PC 302 IT	Mathematical Foundations of Information Technology	3	-	-	3	30	70	3	3
Practical/ Laboratory Courses										
8	ES 351EC	Basic Electronics Lab	-	-	2	2	25	50	3	1
9	PC 351 IT	Data Structures Lab	-	-	2	2	25	50	3	1
10	PC 352 IT	IT Workshop Lab	-	-	2	2	25	50	3	1
Total			21	3	06	30	285	640		24


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IT: SEMESTER – IV

II. SEMESTER – IV										
S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	HS 103 ME	Operations Research	3	1	-	3	30	70	3	3
2	ES 305EC	Signals and Systems	3	1	-	3	30	70	3	3
3	PC 401 IT	JAVA Programming	3	1	-	3	30	70	3	3
4	PC 402 IT	Database Systems	3	1	-	3	30	70	3	3
5	PC 403 IT	Computer Organization and Microprocessor	3	1	-	3	30	70	3	3
6	PC 404 IT	Data Communications	3	1	-	3	30	70	3	3
Practical/ Laboratory Courses										
7	PC 451 IT	Microprocessor Lab	-	-	2	2	25	50	3	1
8	PC 452 IT	JAVA Programming Lab	-	-	2	2	25	50	3	1
9	PC 453 IT	Database Systems Lab	-	-	2	2	25	50	3	1
Total			18	06	06	30	285	640		21

IT: SEMESTER – V

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	PC 501 IT	Web Application Development	3	1	-	4	30	70	3	3
2	PC 502 IT	Operating Systems	3	1	-	4	30	70	3	3
3	PC 503 IT	Automata Theory	3	1	-	4	30	70	3	3
4	PC 504 IT	Computer Networks	3	1	-	4	30	70	3	3
5	PC 505 IT	Software Engineering	3	1	-	4	30	70	3	3
6	PE-I	Professional Elective-I	3	-	-	3	30	70	3	3
Practical/Laboratory Courses										
7	PC 551 IT	Computer Networks Lab	-	-	2	2	25	50	3	1
8	PC 552 IT	Operating Systems Lab	-	-	2	2	25	50	3	1
9	PC 553 IT	Web Application Development Lab	-	-	2	2	25	50	3	1
10	PC 554 IT	Software Engineering Lab	-	-	2	2	25	50	3	1
Total			18	05	06	31	310	690		22


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IT: SEMESTER – VI

IT: SEMESTER – VI										
S. No	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	Contact Hrs/Wk	CIE	SEE	Duration in Hrs/Wk	
Theory Courses										
1	PC 601 IT	Embedded Systems	3	1	-	4	30	70	3	3
2	PC 602 IT	Design and Analysis of Algorithms	3	1	-	4	30	70	3	3
3	PE-II	Professional Elective -II	3	-	-	3	30	70	3	3
4	PE -III	Professional Elective -III	3	-	-	3	30	70	3	3
5	PE -IV	Professional Elective -IV	3	-	-	3	30	70	3	3
6	OE – I	Open Elective -I	3	-	-	3	30	70	3	3
Practical/Laboratory Courses										
7	PC651 IT	Embedded Systems Lab	-	-	2	2	25	50	3	1
8	PC652 IT	Design and Analysis of Algorithms Lab	-	-	2	2	25	50	3	1
9	PW653 IT	Mini Project-I	-	-	4	4	25	50	3	2
10	SI 651 IT	Summer Internship*	-	-	-	-	-	-	-	-
Total			18	2	10	30	255	570		22

IT: SEMESTER – VII

IT: SEMESTER – VII										
S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	PC 701 EC	VLSI Design	3	1	-	4	30	70	3	3
2	PC 702 IT	Big Data Analytics	3	1	-	4	30	70	3	3
3	PE-V	Professional Elective-V	3	1	-	4	30	70	3	3
4	PE-IV	Professional Elective – VI	3	-	-	3	30	70	3	3
Practical/ Laboratory Courses										
5	PC 751 EC	VLSI Design Lab	-	-	2	2	25	50	3	1
6	PC 752 IT	Big Data Analytics Lab	-	-	2	2	25	50	3	1
7	PW 761 IT	Project Work – I	-	-	6	6	50	-	-	3
8	SI 762 IT	Summer Internship	-	-	-	-	50	-	-	2
Total			12	03	10	25	270	380	-	19



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IT - SEMESTER - VIII

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	OE-II	Open Elective – II	3	-	-	3	30	70	3	3
2	OE-III	Open Elective – III	3	-	-	3	30	70	3	3
Practical/ Laboratory Courses										
4	PW861 IT	Project Work – II	-	-	16	16	50	100	-	8
			06	-	16	22	110	240	06	14


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Profession Elective – I	
Course Code	Course Title
PE 511 IT	Artificial Intelligence
PE 512 IT	Computer Graphics
PE 513 IT	Image Processing
PE514 IT	Computational Number Theory

Profession Elective – II	
Course Code	Course Title
PE 611 IT	Data Mining
PE 612 IT	Compiler Construction
PE 613 IT	Distributed Systems
PE 614 IT	Advanced Computer Architecture

Profession Elective – III	
Course Code	Course Title
PE 621 IT	Object Oriented Analysis and Design
PE 622 IT	Multimedia
PE 623 IT	Machine Learning
PE 624 IT	Data Science Using R Programming

Profession Elective – IV	
Course Code	Course Title
PE 631 IT	Computational Intelligence
PE 632 IT	Adhoc and Sensor Networks
PE 633 IT	Natural Language Processing
PE 634 IT	Information Storage and Management

Profession Elective – V	
Course Code	Course Title
PE 721 IT	Wireless and Mobile Communication
PE 722 IT	Semantic Web
PE 723 IT	Cloud Computing
PE 724 IT	Human Computer Interaction

Profession Elective – VI	
Course Code	Course Title
PE 731 IT	Internet of Things
PE 732 IT	Deep Learning
PE 733 IT	Digital Forensics
PE 734 IT	Cryptography and Network Security


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Open Elective – I		
1	OE601EE	Electrical Energy Conservation and Safety (Not for EEE & EIE Students)
2	OE602EE	Reliability Engineering (Not for EEE & EIE Students)
3	OE611AE	Automobile Engineering (Not for Auto. Engg. students)
4	OE611ME	Entrepreneurship (Not for Mech Engg & Prod. Engg. students)
5	OE601EG	Soft Skills & Interpersonal Skills
6	OE602MB	Human Resource Development and Organizational Behaviour
7	OE601LW	Cyber Law and Ethics
8	OE601CS	Operating Systems (Not for CSE Students)
9	OE602CS	OOP using Java (Not for CSE Students)
10	OE601IT	Database Systems (Not for IT Students)
11	OE602IT	Data Structures (Not for IT Students)
12	OE601CE	Disaster Mitigation (Not for Civil Engg. Students)
Open Elective – II		
1	OE603EE	Non-Conventional Energy Sources (Not for EEE & EIE Students)
2	OE604EE	Transducers and Sensors (Not for EEE & EIE Students)
3	OE621AE	Automotive maintenance (Not for Auto. Engg. students)
4	OE621ME	Industrial Robotics (Not for Mech Engg & Prod. Engg. students)
5	OE811CE	Green Building Technologies (Not for Civil Engg. Students)
6	OE802CS	Data Science Using R Programming (Not for CSE Students)
7	OE 816 IT	Cyber Security (Not for IT Students)
Open Elective – III		
1	OE605EE	Smart Building Systems (Not for EEE & EIE Students)
2	OE606EE	Programmable Logic Controllers (Not for EEE & EIE Students)
3	OE631AE	Automotive Safety and Ergonomics (Not for Auto. Engg students)
4	OE631ME	Mechatronics (Not for Mech Engg & Prod. Engg. students)
5	OE821CE	Road Safety Engineering (Not for Civil Engg. Students)
6	OE822IT	Software Engineering (Not for IT Students)


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M.TECH - COMPUTER SCIENCE ENGINEERING
COURSE STRUCTURE AND SYLLABUS

I Year I Semester

Code	Group	Subject	L	P	Credits
		Advanced Data Structures and Algorithms	3	-	3
		Computer System Design	3	-	3
		Advanced Operating Systems	3	-	3
		Distributed Systems	3	-	3
	Elective -I	Software Process and Project Management Natural Language Processing Pattern Recognition	3	-	3
	Elective -II	Machine Learning Parallel and Distributed Algorithms Software Architecture and Design Patterns	3	-	3
	Lab	Advanced Data Structures and Algorithms Lab	-	3	2
		Seminar	-	-	2
		Total Credits	18	3	22

I Year II Semester

Code	Group	Subject	L	P	Credits
		Advanced Network Programming	3	-	3
		Advanced Databases	3	-	3
		Web Services and Service Oriented Architecture	3	-	3
		Grid and Cloud Computing	3	-	3
	Elective -III	Advanced Data Mining Storage Area Networks Database Security	3	-	3
	Elective -IV	Semantic Web and Social Networks Wireless Networks and Mobile Computing Information Retrieval Systems	3	-	3
	Lab	Web Services Lab	-	3	2
		Seminar	-	-	2
		Total Credits	18	3	22

II Year - I Semester

Code	Group	Subject	L	P	Credits
		Comprehensive Viva	-	-	2
		Project Seminar	0	3	2
		Project work	-	-	18
		Total Credits	-	3	22

II Year - II Semester

Code	Group	Subject	L	P	Credits
		Project work and Seminar	-	-	22
		Total Credits	-	-	22

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech. in ELECTRICAL AND ELECTRONICS ENGINEERING
COURSE STRUCTURE & SYLLABUS (R18)

Applicable From 2018-19 Admitted Batch

I YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	MA101BS	Mathematics - I	3	1	0	4
2	CH102BS	Chemistry	3	1	0	4
3	EE103ES	Basic Electrical Engineering	3	0	0	3
4	ME105ES	Engineering Workshop	1	0	3	2.5
5	EN105HS	English	2	0	0	2
6	CH106BS	Engineering Chemistry Lab	0	0	3	1.5
7	EN107HS	English Language and Communication Skills Lab	0	0	2	1
8	EE108ES	Basic Electrical Engineering Lab	0	0	2	1
		Induction Programme				
		Total Credits	12	2	10	19

I YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	MA201BS	Mathematics - II	3	1	0	4
2	AP202BS	Applied Physics	3	1	0	4
3	CS203ES	Programming for Problem Solving	3	1	0	4
4	ME204ES	Engineering Graphics	1	0	4	3
5	AP205BS	Applied Physics Lab	0	0	3	1.5
6	CS206ES	Programming for Problem Solving Lab	0	0	3	1.5
7	*MC209ES	Environmental Science	3	0	0	0
		Total Credits	13	3	10	18

II YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	EE301ES	Engineering Mechanics	3	1	0	4
2	EE302PC	Electrical Circuit Analysis	3	1	0	4
3	EE303PC	Analog Electronics	3	0	0	3
4	EE304PC	Electrical Machines - I	3	1	0	4
5	EE305PC	Electromagnetic Fields	3	0	0	3
6	EE306PC	Electrical Machines Lab - I	0	0	2	1
7	EE307PC	Analog Electronics Lab	0	0	2	1
8	EE308PC	Electrical Circuits Lab	0	0	2	1
9	*MC309	Gender Sensitization Lab	0	0	2	0
		Total Credits	15	3	8	21

II YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	MA401BS	Laplace Transforms, Numerical Methods & Complex variables	3	1	0	4

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2	EE402PC	Electrical Machines – II	3	1	0	4
3	EE403PC	Digital Electronics	3	0	0	3
4	EE404PC	Control Systems	3	1	0	4
5	EE405PC	Power System - I	3	0	0	3
6	EE406PC	Digital Electronics Lab	0	0	2	1
7	EE407PC	Electrical Machines Lab - II	0	0	2	1
8	EE408PC	Control Systems Lab	0	0	2	1
9	*MC409	Constitution of India	3	0	0	0
		Total Credits	18	3	6	21

III YEAR I SEMESTER


S. No.	Course Code	Course Title	L	T	P	Credits
1	EE501PE	Power Electronics	3	1	0	4
2	EE502PE	Power System-II	3	1	0	4
3	EE503PE	Measurements and Instrumentation	3	1	0	4
4		Professional Elective-I	3	0	0	3
5	SM504MS	Business Economics and Financial Analysis	3	0	0	3
6	EE505PC	Power System Simulation Lab	0	0	2	1
7	EE506PC	Power Electronics Lab	0	0	2	1
8	EE507PC	Measurements and Instrumentation Lab	0	0	2	1
9	EN508HS	Advanced Communication Skills Lab	0	0	2	1
10	*MC510	Intellectual Property Rights	3	0	0	0
		Total Credits	18	3	8	22


III YEAR II SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1		Open Elective-I	3	0	0	3
2		Professional Elective-II	3	0	0	3
3	EE601PC	Signals and Systems	2	1	0	3
4	EE602PC	Microprocessors & Microcontrollers	3	0	0	3
5	EE603PC	Power System Protection	3	1	0	4
6	EE604PC	Power System Operation and Control	3	0	0	3
7	EE605PC	Power System Lab	0	0	2	1
8	EE606PC	Microprocessors & Microcontrollers Lab	0	0	2	1
9	EE607PC	Signals and Systems Lab	0	0	2	1
10	*MC609	Environmental Science	3	0	0	0
		Total Credits	20	2	6	22

IV YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1		Open Elective-II	3	0	0	3
2		Professional Elective-III	3	0	0	3
3		Professional Elective-IV	3	0	0	3
4	SM701MS	Fundamentals of Management for Engineers	3	0	0	3
5	EE701PC	Electrical & Electronics Design Lab	1	0	4	3
6	EE702PC	Industrial Oriented Mini Project/ Summer Internship	0	0	4	2*
7	EE703PC	Seminar	0	0	2	1


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EE704PC	Project Stage - I	0	0	6	3
	Total Credits	13	0	16	21

IV YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1		Open Elective-III	3	0	0	3
2		Professional Elective-V	3	0	0	3
3		Professional Elective-VI	3	0	0	3
4	EE801PC	Project Stage - II	0	0	14	7
		Total Credits	9	0	14	16

*MC - Environmental Science – Should be Registered by Lateral Entry Students Only.

*MC – Satisfactory/Unsatisfactory

NOTE: Industrial Oriented Mini Project/ Summer Internship is to be carried out during the summer vacation between 6th and 7th semesters. Students should submit report of Industrial Oriented Mini Project/ Summer Internship for evaluation.

Professional Elective - I

EE511PE	Computer Architecture
EE512PE	High Voltage Engineering
EE513PE	Electrical Machine Design

Professional Elective - II

EE611PE	Optimization Techniques
EE612PE	Power Semiconductor Drives
EE613PE	Wind and Solar Energy systems

Professional Elective - III

EE711PE	Digital Control systems
EE712PE	Digital Signal Processing
EE713PE	Electrical and Hybrid Vehicles

Professional Elective - IV

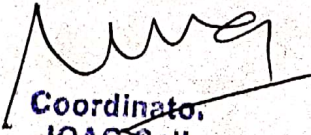
EE721PE	HVDC Transmission
EE722PE	Power System Reliability
EE723PE	Industrial Electrical Systems


Professional Elective - V

EE811PE	Power Quality & FACTS
EE812PE	Control Systems Design
EE813PE	AI Techniques in Electrical Engineering

Professional Elective - VI

EE821PE	Smart Grid Technologies
EE822PE	Electrical Distribution Systems
EE823PE	Advanced Control of Electric Drives


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	EE704PC	Project Stage - I	0	0	0	3
		Total Credits	13	0	16	21

IV YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1		Open Elective-III	3	0	0	3
2		Professional Elective-V	3	0	0	3
3		Professional Elective-VI	3	0	0	3
4	EE801PC	Project Stage - II	0	0	14	7
		Total Credits	9	0	14	16

*MC - Environmental Science – Should be Registered by Lateral Entry Students Only.
 *MC – Satisfactory/Unsatisfactory

NOTE: Industrial Oriented Mini Project/ Summer Internship is to be carried out during the summer vacation between 6th and 7th semesters. Students should submit report of Industrial Oriented Mini Project/ Summer Internship for evaluation.

Professional Elective - I

EE511PE	Computer Architecture
EE512PE	High Voltage Engineering
EE513PE	Electrical Machine Design

Professional Elective - II

EE611PE	Optimization Techniques
EE612PE	Power Semiconductor Drives
EE613PE	Wind and Solar Energy systems

Professional Elective - III

EE711PE	Digital Control systems
EE712PE	Digital Signal Processing
EE713PE	Electrical and Hybrid Vehicles

Professional Elective - IV

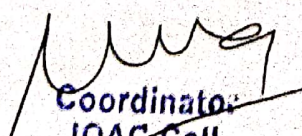
EE721PE	HVDC Transmission
EE722PE	Power System Reliability
EE723PE	Industrial Electrical Systems

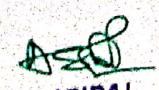
Professional Elective - V

EE811PE	Power Quality & FACTS
EE812PE	Control Systems Design
EE813PE	AI Techniques in Electrical Engineering

Professional Elective - VI

EE821PE	Smart Grid Technologies
EE822PE	Electrical Distribution Systems
EE823PE	Advanced Control of Electric Drives


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With effect from 02/08/2016

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech COURSE STRUCTURE (2016-17)
(Common for EEE, ECE, CSE, EIE, BME, IT, ETE, ECM, ICE)

I YEAR I SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	MA101BS	Mathematics-I	3	1	0	3
2	CH102BS	Engineering Chemistry	4	0	0	4
3	PH103BS	Engineering Physics-I	3	0	0	3
4	EN104HS	Professional Communication in English	3	0	0	3
5	ME105ES	Engineering Mechanics	3	0	0	3
6	EE106ES	Basic Electrical and Electronics Engineering	4	0	0	4
7	EN107HS	English Language Communication Skills Lab	0	0	3	2
8	ME108ES	Engineering Workshop	0	0	3	2
9	*EA109MC	NSS	0	0	0	0
		Total Credits	20	1	6	24


I YEAR II SEMESTER

S. No	Course Code	Course Title	L	T	P	Credits
1	PH201BS	Engineering Physics-II	3	0	0	3
2	MA202BS	Mathematics-II	4	1	0	4
3	MA203BS	Mathematics-III	4	1	0	4
4	CS204ES	Computer Programming in C	3	0	0	3
5	ME205ES	Engineering Graphics	2	0	4	4
6	CH206BS	Engineering Chemistry Lab	0	0	3	2
7	PH207BS	Engineering Physics Lab	0	0	3	2
8	CS208ES	Computer Programming in C Lab	0	0	3	2
9	*EA209MC	NCC/NSO	0	0	0	0
		Total Credits	16	2	13	24

* Mandatory Course.


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.TECH. ELECTRICAL AND ELECTRONICS ENGINEERING

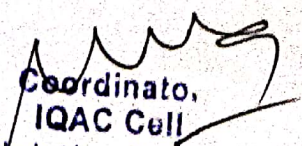
COURSE STRUCTURE & SYLLABUS (2016 - 17)


II YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	MA301BS	Mathamatics – IV	4	1	0	4
2	EE302ES	Electromagnetic Fields	4	1	0	4
3	EE303ES	Electrical Machines-I	4	1	0	4
4	EE304ES	Network Theory	3	0	0	3
5	EE305ES	Electronic Circuits	3	0	0	3
6	EE306ES	Electrical Machines Lab - I	0	0	3	2
7	EC306ES	Electronic Devices & Circuits Lab	0	0	3	2
8	EE307ES	Networks Lab	0	0	3	2
9	*MC300ES	Environmental Science and Technology	3	0	0	0
		Total Credits	21	3	9	24

II YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	EC401ES	Switching Theory & Logic Design	3	1	0	3
2	EE402ES	Power Systems - I	4	1	0	4
3	EE403ES	Electrical Machines – II	4	1	0	4
4	EE404ES	Control Systems	4	1	0	4
5	SM405MS	Business Economics and Financial Analysis	3	0	0	3
6	EE406ES	Control Systems Lab	0	0	3	2
7	EE407ES	Electrical Machines Lab - II	0	0	3	2
8	EE408ES	Electronic Circuits Lab	0	0	3	2
9	*MC400HS	Gender Sensitization Lab	0	0	3	0
		Total Credits	18	4	12	24


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.TECH. ELECTRICAL AND ELECTRONICS ENGINEERING
III YEAR COURSE STRUCTURE & SYLLABUS (R16)

Applicable From 2016-17 Admitted Batch

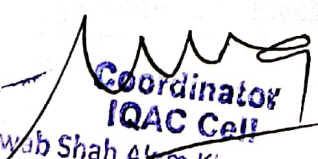
III YEAR I SEMESTER


S. No.	Course Code	Course Title	L	T	P	Credits
1	EE501PC	Electrical Measurements & Instrumentation	4	1	0	4
2	EE502PC	Power Systems - II	4	1	0	4
3	EI503PC	Microprocessors and Microcontrollers	4	1	0	4
4	SM504MS	Fundamentals of Management	3	0	0	3
5		Open Elective - I	3	0	0	3
6	EE505PC	Electrical Measurements & Instrumentation Lab	0	0	3	2
7	EE506PC	Basic Electrical simulation Lab	0	0	3	2
8	EI507PC	Microprocessors and Microcontrollers Lab	0	0	3	2
9	*MC500HS	Professional Ethics	3	0	0	0
		Total Credits	21	3	9	24

III YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	EE601PC	Power Systems Analysis	4	1	0	4
2	EE602PC	Power Electronics	4	1	0	4
3	EE603PC	Switch Gear and Protection	4	1	0	4
4		Open Elective - II	3	0	0	3
5		Professional Elective - I	3	0	0	3
6	EE604PC	Power Systems Lab	0	0	3	2
7	EE605PC	Power Electronics Lab	0	0	3	2
8	EN606HS	Advanced English Communication Skills Lab	0	0	3	2
		Total Credits	18	3	9	24

During Summer Vacation between III and IV Years: Industry Oriented Mini Project


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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.TECH. ELECTRICAL AND ELECTRONICS ENGINEERING
IV YEAR COURSE STRUCTURE & SYLLABUS (R16)

Applicable From 2016-17 Admitted Batch

IV YEAR I SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1	EE701PC	Power Semiconductor Drives	4	1	0	4
2	EE702PC	Power System Operation and control	4	1	0	4
3		Professional Elective - II	3	0	0	3
4		Professional Elective - III	3	0	0	3
5		Professional Elective - IV	3	0	0	3
6	EE703PC	Electrical Systems Simulation Lab	0	0	3	2
7	EE704PC	Electrical Workshop	0	0	3	2
8	EE705PC	Industry Oriented Mini Project	0	0	3	2
9	EE706PC	Seminar	0	0	2	1
		Total Credits	17	2	11	24

IV YEAR II SEMESTER

S. No.	Course Code	Course Title	L	T	P	Credits
1		Open Elective - III	3	0	0	3
2		Professional Elective-V	3	0	0	3
3		Professional Elective-VI	3	0	0	3
4	EE801PC	Major Project	0	0	30	15
		Total Credits	9	0	30	24

Professional Elective - I (PE - I):

EM611PE	Computer Organization
EE612PE	Linear Systems Analysis
EE613PE	Linear and Digital IC Applications
EE614PE	Electrical and Electronics Instrumentation

Professional Elective - II (PE - II):

EE721PE	Digital Signal Processing
EE722PE	Digital Control Systems
ET721PE	VLSI Design
EE724PE	Programmable Logic Controllers


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Professional Elective - III (PE - III):

EE731PE	HVDC Transmission
EE732PE	Reliability Engineering
EE733PE	Optimization Techniques
EE734PE	Utilization of Electric Power

Professional Elective - IV (PE-IV):

EE741PE	Switch Mode Power Supplies
EE742PE	Artificial Neural Networks and Fuzzy Systems
EE743PE	Electrical Distribution Systems
EE744PE	High Voltage Engineering

Professional Elective - V (PE-V):

EE851PE	Smart Electric Grid
EE852PE	Solar Photovoltaic Systems
EE853PE	Modern Power Electronics
EE854PE	Special Machines


Professional Elective - VI (PE-VI):


EE861PE	FACTS
EE862PE	Embedded Systems
EE863PE	Power Quality
EE864PE	EHV AC Transmission Systems

***Open Elective** subjects' syllabus is provided in a separate document.

***Open Elective** – Students should take Open Electives from the List of Open Electives Offered by Other Departments/Branches Only.

Ex: - A Student of Mechanical Engineering can take Open Electives from all other departments/branches except Open Electives offered by Mechanical Engineering Dept.

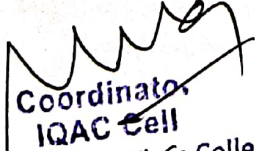

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FACULTY OF ENGINEERING
Scheme of Instruction & Examination
(AICTE Model Curriculum for the Academic Year 2018-2019)
and
Syllabi
B.E. I and II Semesters (Group-B)
of
Four Year Degree Programme
in
B.E. (Common to All Branches)
(With effect from the Academic Year 2018– 2019)
(As approved in the Faculty Meeting held on 26th June 2018)



Issued by
Dean, Faculty of Engineering
Osmania University, Hyderabad
2018


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SCHEME OF INSTRUCTION & EXAMINATION

B.E. (All Branches) I - Semester

(Group B – CSE, CE, EEE, EIE)

S. No.	Course Code	Course Title	Scheme of Instructions				Scheme of Examination			Credits
			L	T	P/ D	Contact Hours/Week	CIE	SEE	Duration in Hours	
Three Week Induction Programme										
Theory Course										
1	MC112CE	Environmental Science	2	-	-	2	30	70	3	-
2	MC113PY	Essence of Indian Traditional Knowledge	2	-	-	2	30	70	3	-
3	BS102MT	Mathematics-I	3	1	-	4	30	70	3	4
4	BS105CH	Chemistry	3	1	-	4	30	70	3	4
5	ES107CS	Programming for Problem Solving	3	-	-	3	30	70	3	3
Practical/ Laboratory Course										
6	BS153CH	Chemistry Lab	-	-	3	3	25	50	3	1.5
7	ES155CS	Programming for Problem Solving Lab	-	-	4	4	25	50	3	2
8	ES157ME	Workshop/ Manufacturing Process	1	-	4	5	50	50	3	3
Total			14	02	09	27	250	500		17.5

BS: Basic Science

ES: Engineering Science

L: Lecture

T: Tutorial

P: Practical

D: Drawing

CIE: Continuous Internal Evaluation

SEE: Semester End Examination (Univ. Exam)

Note: Each contact hour is a Clock Hour.

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SCHEME OF INSTRUCTION & EXAMINATION


B.E. (All Branches) II - Semester


(Group B – CSE, CE, EEE, EIE)

S. No.	Course Code	Course Title	Scheme of Instructions				Scheme of Examination			Credits
			L	T	P/D	Contact Hours/Week	CIE	SEE	Duration in Hours	
Theory Course										
1	MC111PO	Indian Constitution	2	-	-	2	30	70	3	-
2	HS101EG	English	2	-	-	2	30	70	3	2
3	BS103MT	Mathematics-II	3	1	-	4	30	70	3	4
4	BS104PH	Physics	3	1	-	4	30	70	3	4
5	ES106EE	Basic Electrical Engineering	3	1	-	4	30	70	3	4
Practical/ Laboratory Course										
6	HS151EG	English Lab	-	-	2	2	25	50	3	1
7	BS152PH	Physics Lab	-	-	3	3	25	50	3	1.5
8	ES154EE	Basic Electrical Engineering Lab	-	-	2	2	25	50	3	1
9	ES156CE	Engineering Graphics & Design	1	-	4	5	50	50	3	3
		Total	14	03	11	30	275	550		20.5

HS: Humanities and Social Sciences**BS:** Basic Science**ES:** Engineering Science**L:** Lectures**T:** Tutorials**P:** Practical**D:** Drawing**CIE:** Continuous Internal Evaluation**SEE:** Semester End Examination (Univ. Exam)**Note:**

1. Each contact hour is a clock hour
2. The duration of the practical class is two hours, however it can be extended wherever necessary, to enable the student to complete the experiment.
3. The students have to undergo a Summer Internship of 1 week duration after II-Semester.


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FACULTY OF ENGINEERING
Scheme of Instruction & Examination
(AICTE Model Curriculum for the Academic Year 2019-2020)

and

Syllabi

B.E. III and IV Semester

of


Four Year Degree Programme


in

Electrical and Electronics Engineering
(With effect from the academic year 2019– 2020)
(As approved in the faculty meeting held on 25-06-2019)



Issued by
Dean, Faculty of Engineering
Osmania University, Hyderabad – 500 007
2019


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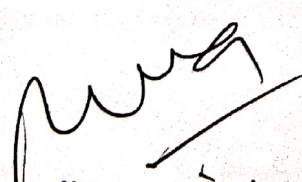
SCHEME OF INSTRUCTION & EXAMINATION
B.E. (Electrical and Electronics Engineering) III – SEMESTER


S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	MC112CE	Environmental Science	2	-	-	2	30	70	3	-
2	MC113PY	Essence of Indian Traditional Knowledge	2	-	-	2	30	70	3	-
3	HS203MP	Industrial Psychology	3	-	-	3	30	70	3	3
4	BS206BZ	Biology for Engineers	3	-	-	3	30	70	3	3
5	ES211CE	Engineering Mechanics	2	1	-	3	30	70	3	3
6	ES213ME	Energy Sciences and Engineering	2	-	-	2	30	70	3	2
7	PC221EE	Electrical Circuit Analysis	3	-	-	3	30	70	3	3
8	PC222EE	Electromagnetic Fields	3	-	-	3	30	70	3	3
9	PC223EC	Analog Electronics	3	-	-	3	30	70	3	3
Practical/ Laboratory Courses										
10	PC252EE	Computer Aided Electrical Drawing Lab	-	-	2	2	25	50	3	1
11	PC253EC	Analog Electronics Lab	-	-	2	2	25	50	3	1
			23	01	04	28	320	730		22

HS: Humanities and Social Sciences BS: Basic Science ES: Engineering Science
 MC: Mandatory Course PC: Professional Core
 L: Lecture T: Tutorial P: Practical D: Drawing
 CIE: Continuous Internal Evaluation SEE: Semester End Evaluation (Univ. Exam)
 PY: Philosophy, BZ: Biology/ Life Sciences, CE: Civil Engineering, EE: Electrical Engineering,
 MP: Mechanical / Production Engineering, ME: Mechanical Engineering
 EC: Electronics and Communication Engineering,

Note:

- Each contact hour is a clock hour
- The duration of the practical class is two hours, however it can be extended wherever necessary, to enable the student to complete the experiment.
- All the mentioned **Mandatory Courses** should be offered either in I-Semester or II-Semester only **from the academic year 2019-2020.**
- For those of the students admitted during the academic year 2018-2019, since the Mandatory Courses were not offered during the I-Semester or II-Semester, they should be offered either in III-Semester or IV-Semester of the **academic year 2019-2020.**


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SCHEME OF INSTRUCTION & EXAMINATION
B.E. (Electrical and Electronics Engineering) IV – SEMESTER

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	MC111PO	Indian Constitution	2	-	-	2	30	70	3	-
2	HS201EG	Effective Technical Communication in English	3	-	-	3	30	70	3	3
3	HS202CM	Finance and Accounting	3	-	-	3	30	70	3	3
4	BS207MT	Mathematics – III (Probability & Statistics)	3	-	-	3	30	70	3	3
5	ES212ME	Elements of Mechanical Engineering	3	-	-	3	30	70	3	3
6	PC231EE	Electrical Machines – I	3	-	-	3	30	70	3	3
7	PC232EE	Digital Electronics and Logic Design	3	-	-	3	30	70	3	3
8	PC233EE	Power Electronics	3	-	-	3	30	70	3	3
Practical/ Laboratory Courses										
9	PC261EE	Electrical Machines Lab – I	-	-	2	2	25	50	3	1
10	PC262EE	Digital Electronics and Logic Design Lab	-	-	2	2	25	50	3	1
			23	-	04	27	290	730		23

HS: Humanities and Social Sciences BS: Basic Science ES: Engineering Science
 MC: Mandatory Course PC: Professional Core
 L: Lecture T: Tutorial P: Practical D: Drawing
 CIE: Continuous Internal Evaluation SEE: Semester End Evaluation (Univ. Exam)
 PO: Political Science, EG: English, CM: Commerce, MT: Mathematics, EE: Electrical Engineering,
 ME: Mechanical Engineering.

Note:

- Each contact hour is a clock hour
- The duration of the practical class is two hours, however it can be extended wherever necessary, to enable the student to complete the experiment.
- All the mentioned **Mandatory Courses** should be offered either in I–Semester or II–Semester only **from the academic year 2019-2020**.
- For those of the students admitted during the academic year 2018-2019, since the Mandatory Courses were not offered during the I–Semester or II–Semester, they should be offered either in III–Semester or IV–Semester of the **academic year 2019-2020**.
- The students have to undergo a Summer Internship of two-week duration after IV–Semester and credits will be awarded in V–Semester after evaluation.


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SCHEME OF INSTRUCTION & EXAMINATION
B.E. (Electrical and Electronics Engineering) I – SEMESTER
(Common for EEE & EIE)


S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
MC: Three Week Induction Programme										
Theory Courses										
1	MC802CE	Environmental Science	2	-	-	2	30	70	3	-
2	MC803PY	Essence of Indian Traditional Knowledge	2	-	-	2	30	70	3	-
3	HS101EG	English	2	-	-	2	30	70	3	2
4	BS201MT	Mathematics-I	3	1	-	4	30	70	3	4
5	BS204CH	Engineering Chemistry	3	1	-	4	30	70	3	4
Practical/ Laboratory Courses										
6	HS151EG	English Lab	-	-	2	2	25	50	3	1
7	BS252CH	Chemistry Lab	-	-	3	3	25	50	3	1.5
8	ES352ME	Workshop / Practice	-	-	6	6	50	50	3	3
Total			12	02	11	25	250	500		15.5

HS: Humanities and Social Sciences BS: Basic Science ES: Engineering Science
 MC: Mandatory Course PC: Professional Core PE: Professional Elective
 L: Lecture T: Tutorial P: Practical D: Drawing
 CIE: Continuous Internal Evaluation SEE: Semester End Evaluation (Univ. Exam) EE: Electrical Engg.

Note:

- Each contact hour is a clock hour.
- The duration of the practical class is two hours, however it can be extended wherever necessary, to enable the student to complete the experiment.


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SCHEME OF INSTRUCTION & EXAMINATION

B.E. (All Branches) II - Semester

(Group A – ECE, IT, ME, PE, AE)

S.No.	Course Code	Course Title	Scheme of Instructions				Scheme of Examination			Credits
			L	T	P / D	Contact Hours/Week	CIE	SEE	Duration in Hours	
Theory Course										
1	MC112CE	Environmental Science	2	-	-	2	30	70	3	-
2	MC113PY	Essence of Indian Traditional Knowledge	2	-	-	2	30	70	3	-
3	HS101EG	English	2	-	-	2	30	70	3	2
4	BS103MT	Mathematics-II	3	1	-	4	30	70	3	4
5	BS105CH	Chemistry	3	1	-	4	30	70	3	4
6	ES107CS	Programming for Problem Solving	3	-	-	3	30	70	3	3
Practical / Laboratory Course										
7	HS151EG	English Lab			2	2	25	50	3	1
8	BS153CH	Chemistry Lab			3	3	25	50	3	1.5
9	ES155CS	Programming for Problem Solving Lab			4	4	25	50	3	2
10	ES157ME	Workshop / Manufacturing Process	1	-	4	5	50	50	3	3
		Total	16	02	13	31	305	620		20.5

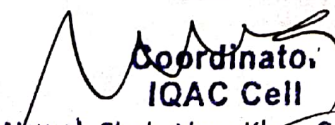
HS: Humanities and Social Sciences BS: Basic Science ES: Engineering Science
MC: Mandatory Course

L: Lectures T: Tutorials P: Practical D: Drawing
CIE: Continuous Internal Evaluation SEE: Semester End Examination (Univ. Exam)


PY: Philosophy EG: English MT: Mathematics CH: Chemistry
CE: Civil Engineering, CS: Computer Science and Engineering, ME: Mechanical Engineering.

Note:

- Each contact hour is a Clock Hour.
- The students have to undergo a Summer Internship of Rural Agriculture Work Experience (RAW) of one week duration after II-Semester and credits will be awarded in VII semester after evaluation.
- Rural Agriculture Work Experience helps the students primarily to understand the rural situations, status of Agricultural Technologies adopted by farmers and village development plans and to develop skills & attitude of working with farm families for overall development in rural area.
- The main objectives of RAW component are:
 - To make the students familiar with socio-economic conditions of the farmers.
 - To develop communication skills in students using extension teaching methods in transfer of Technology.


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SCHEME OF INSTRUCTION & EXAMINATION
B.E. (Electrical and Electronics Engineering) III – SEMESTER


S. No	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration In Hrs	
Theory Courses										
1	ES302CE	Engineering Mechanics	3	1	-	4	30	70	3	4
2	BS205MT	Mathematics – III	3	1	-	4	30	70	3	4
3	PC401EE	Electrical Circuit Analysis	3	-	-	3	30	70	3	3
4	PC402EE	Electromagnetic Fields	3	-	-	3	30	70	3	3
5	PC403EE	Electrical Machines – I	3	1	-	4	30	70	3	4
6	PC403EC	Analog Electronic Circuits	3	-	-	3	30	70	3	3
Practical / Laboratory Courses										
7	PC451EE	Electrical Circuits Lab	-	-	2	2	25	50	3	1
8	PC452EE	Computer Aided Electrical Drawing Lab	-	-	2	2	25	50	3	1
9	PC453EC	Analog Electronic Circuits Lab	-	-	2	2	25	50	3	1
Total			18	3	6	27	255	570	-	24

HS: Humanities and Social Sciences BS: Basic Science ES: Engineering Science
 MC: Mandatory Course PC: Professional Core PE: Professional Elective
 L: Lecture T: Tutorial P: Practical D: Drawing
 CIE: Continuous Internal Evaluation SEE: Semester End Evaluation (Univ. Exam) EE: Electrical Engg.

Note:

- Each contact hour is a clock hour.
- The duration of the practical class is two hours, however it can be extended wherever necessary, to enable the student to complete the experiment.


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SCHEME OF INSTRUCTION & EXAMINATION
B.E. (Electrical and Electronics Engineering) IV – SEMESTER

S. No	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration In Hrs	
Theory Courses										
1	HS102EG	Effective Technical Communication in English	2	-	-	2	30	70	3	2
2	PC408EE	Power Systems – I	3	-	-	3	30	70	3	3
3	ES305ME	Energy Sciences and Engineering	2	-	-	2	30	70	3	2
4	PC409EE	Electrical Machines – II	3	1	-	4	30	70	3	4
5	PC410EE	Digital Electronics and Logic Design	3	-	-	3	30	70	3	3
6	PC411EE	Power Electronics	3	-	-	3	30	70	3	3
Practical / Laboratory Courses										
7	PC455EE	Electrical Machines Lab – I	-	-	2	2	25	50	3	1
8	PC456EE	Power Electronics Lab	-	-	2	2	25	50	3	1
9	PC457EE	Digital Electronics and Logic Design Lab	-	-	2	2	25	50	3	1
Total			16	01	06	23	330	570	-	20

HS: Humanities and Social Sciences BS: Basic Science ES: Engineering Science
 MC: Mandatory Course PC: Professional Core PE: Professional Elective
 L: Lecture T: Tutorial P: Practical D: Drawing
 CIE: Continuous Internal Evaluation SEE: Semester End Evaluation (Univ. Exam) EE: Electrical Engg.

Note:

- Each contact hour is a clock hour.
- The duration of the practical class is two hours, however it can be extended wherever necessary, to enable the student to complete the experiment.

Coordinator
IQAC Cell

Nawab Shah Alam Khan College of
 Engineering and Technology
 Hyderabad.



PRINCIPAL

Nawab Shah Alam Khan
College of Engineering & Technology
 New Malakpet, Hyderabad-500024

FACULTY OF ENGINEERING
Scheme of Instructions and Examination
(AICTE Model Curriculum for the Academic Year 2020-21)

and
Syllabi
B.E. V and VI Semester
of
Four Year Degree Programme
in

Electrical and Electronics Engineering

(With effect from the academic year 2020 - 21)

(As approved in the faculty meeting held on XX-XX-2020)



Issued by
Dean, Faculty of Engineering
Osmania University, Hyderabad – 500 007
2020

Coordinator
IQAC Cell

Nawab Shah Alam Khan-College of
Engineering and Technology
Hyderabad,

PRINCIPAL

Nawab Shah Alam Khan
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New Malakpet, Hyderabad-500024.

SCHEME OF INSTRUCTION & EXAMINATION
B.E. (Electrical and Electronics Engineering) V – SEMESTER

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	
Theory Courses										
1	PC235EE	Electrical Machines – II	3	1	-	4	30	70	3	4
2	PC236EE	Power Systems – I	3	-	-	3	30	70	3	3
3	PC237EE	Linear Control Systems	3	-	-	3	30	70	3	3
4	PC238EE	Microprocessors and Microcontrollers	3	-	-	3	30	70	3	3
5	PC239EE	Signals and Systems	3	-	-	3	30	70	3	3
6	PE1__EE	Professional Elective - I	3	-	-	3	30	70	3	3
Practical/ Laboratory Courses										
7	PC263EE	Electrical Circuits Lab	-	-	2	2	25	50	3	1
8	PC264EE	Control Systems Lab	-	-	2	2	25	50	3	1
9	PC265EE	Power Electronics Lab	-	-	2	2	25	50	3	1
			18	01	06	25	255	570	-	22

Professional Elective – I		
1.	PE101EE	Electric Distribution System
2.	PE102EE	Renewable Energy Sources
3.	PE103EE	Hybrid Electric Vehicles

HS: Humanities and Social Sciences
 MC: Mandatory Course
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 EE: Electrical Engineering,

BS: Basic Science ES: Engineering Science
 PC: Professional Core PE: Professional Elective
 P: Practical D: Drawing
 SEE: Semester End Evaluation (Univ. Exam)

Note:

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Principal
PRINCIPAL
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