1.2.2 Percentage of Programs in Which Choice Based Credit System (CBCS)/Elective Course System Has Been Implemented (Current Year Data)

Name of all programs	**Whether adopting elective course system (yes/No)**	**Programme Code**	**Year of implementation of CBCS / elective course system**
Civil Engineering	YES	01	2016-17
Electrical and Electronics Engineering	YES	02	2011-12
Power Electronics	YES	43	2012-13
Mechanical Engineering	YES	03	2010-11
Machine Design	YES	15	2012-13
Electronics and Communication Engineering	YES	04	2010-11
Very Large Scale Integration	YES	57	2012-13
Computer Science and Engineering	YES	05	2011-12
Computer Science and Engineering(M.Tech)	YES	58	2012-13
Master of Business Administration	YES	1E	2010-11

PRINCIPAL
PRINCIPAL
Ramachandra College of Engineering
VATLUR (V), ELURU - 534 007
West Godavari District

COURSE STRUCTURE AND SYLLABUS

For

CIVIL ENGINEERING

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Year - I Semester

S. No.	Subjects	L	T	P	Credits
1-HS	English – I	4	--	--	3
2-BS	Mathematics - I	4	--	--	3
3-ES	Engineering Chemistry	4	--	--	3
4-BS	Engineering Mechanics	4	2	--	3
5-BS	Computer Programming	4	--	--	3
6-ES	Environmental Studies	4	--	--	3
7-HS	Engineering /Applied Chemistry Laboratory	--	--	3	2
8-BS	English - Communication Skills Lab - I	--	--	3	2
9-ES	Computer Programming Lab	--	--	3	2
	Total Credits				**24**

I Year - II Semester

S. No.	Subjects	L	T	P	Credits
1-HS	English – II	4	--	--	3
2-BS	Mathematics – II (Mathematical Methods)	4	--	--	3
3-BS	Mathematics – III	4	--	--	3
4-ES	Engineering Physics	4	--	--	3
5-HS	Elements of Mechanical Engineering	4	--	--	3
6-ES	Engineering Drawing	4	--	--	3
7-BS	English - Communication Skills Lab - II	--	--	3	2
8-HS	Engineering /Applied Physics Lab	--	--	3	2
9-ES	Engineering / Applied Physics – Virtual Labs - Assignments	--	--	2	--
10	Engg. Workshop & IT Workshop	--	--	3	2
	Total Credits				**24**

II Year - I Semester

S. No.	Subjects	L	T	P	Credits
1	Probability & Statistics	4	--	--	3
2	Basic Electrical & Electronics Engineering	4	--	--	3
3	Strength of Materials-I	4	--	--	3
4	Building Materials & Construction	4	--	--	3
5	Surveying	4	--	--	3
6	Fluid Mechanics	4	--	--	3
7	Survey Field Work - I	--	--	3	2
8	Strength of Materials Lab	--	--	3	2
MC	Professional Ethics & Human Values	--	3	--	--
	Total Credits				**22**

II Year - II Semester

S. No.	Subjects	L	T	P	Credits
1	Building Planning & Drawing	4	--	--	3
2	Strength of Materials - II	4	--	--	3
3	Hydraulics & Hydraulic Machinery	4	--	--	3
4	Concrete Technology	4	--	--	3
5	Structural Analysis - I	4	--	--	3
6	Transportation Engineering - I	4	--	--	3
7	FM & HM Lab	--	--	3	2
8	Survey Field Work - II	--	--	3	2
MC	Managerial Economics & Financial Analysis	2	--	--	--
	Total Credits				**22**

III Year - I Semester

S. No.	Subjects	L	T	P	Credits
1	Management Science	4	--	--	3
2	Engineering Geology	4	--	--	3
3	Structural Analysis -II	4	--	--	3
4	Design & Drawing of Reinforced Concrete Structures	4	2	--	3
5	Transportation Engineering - II	4	--	--	3
6	Concrete Technology Lab	--	--	3	2
7	Geology Lab	--	--	3	2
8	Transportation Engineering Lab	--	--	3	2
	Total Credits				**21**

III Year - II Semester

S. No.	Subjects	L	T	P	Credits
1	Design & Drawing of Steel Structures	4	2	--	3
2	Geotechnical Engineering - I	4	--	--	3
3	Environmental Engineering -I	4	--	--	3
4	Water Resource Engineering -I	4	--	--	3
5	**OPEN ELECTIVE** i. Electronic Instrumentation ii. Data Base Management Systems iii. Alternative Energy Sources iv. Waste water Management v. Fundamentals of Liquefied Natural Gas vi. Green Fuel Technologies	4	--	--	3
6	Geotechnical Engineering Lab	--	--	3	2
7	Environmental Engineering Lab	--	--	3	2
8	Computer Aided Engineering Lab	--	--	3	2
	Total Credits				**21**

IV Year - I Semester

S. No.	Subjects	L	T	P	Credits
1	Environmental Engineering - II	4	--	--	3
2	Water Resource Engineering - II	4	--	--	3
3	Geotechnical Engineering - II	4	--	--	3
4	Remote Sensing & GIS Applications	4	--	--	3
5	**Elective I** i. Finite Element Methods ii. Ground Improvement Techniques iii. Air Pollution & Control iv. Urban Hydrology v. Traffic Engineering	4	--	--	3
6	**Elective II** i. Advanced Structural Engineering ii. Advanced Foundation Engineering iii. Environmental Impact Assessment & Management iv. Ground Water Development v. Pavement Analysis and Design	4	--	--	3
7	IPR & Patents	--	2	--	--
8	GIS & CAD Lab	--	--	2	2
9	Irrigation Design & Drawing	--	--	2	2
	Total Credits				**22**

IV Year - II Semester

S. No.	Subjects	L	T	P	Credits
1	Estimation Specification & Contracts	4	--	--	3
2	Construction Technology & Management	4	--	--	3
3	Prestressed Concrete	4	--	--	3
4	**Elective III** i. Bridge Engineering ii. Soil Dynamics and Foundations iii. Solid and Hazardous Waste Management iv. Water Resources Systems Planning v. Urban Transportation Planning Engg	4	--	--	3
5	Seminar on Internship Project	--	3	--	2
6	Project	--	--	--	10
	Total Credits				**24**

Total Course Credits = 48+44 + 42 + 46 = 180

COURSE STRUCTURE AND SYLLABUS

For

ELECTRICAL AND ELECTRONICS ENGINEERING

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Year – I Semester

S. No	Subjects	L	T	P	Credits
1-HS	English – I	4	--	--	3
2-BS	Mathematics - I	4	--	--	3
3-ES	Applied Chemistry	4	--	--	3
4-BS	Engineering Mechanics	4	--	--	3
5-BS	Computer Programming	4	--	--	3
6-ES	Environmental Studies	4	--	--	3
7-HS	Applied / Engineering Chemistry Laboratory	--	--	3	2
8-BS	English- Communication Skills Laboratory - I	--	--	3	2
9-ES	Computer Programming Laboratory	--	--	3	2
	Total Credits				**24**

I Year – II Semester

S. No	Subjects	L	T	P	Credits
1-HS	English – II	4	--	--	3
2-BS	Mathematics – II (Mathematical Methods)	4	--	--	3
3-BS	Mathematics – III	4	--	--	3
4-ES	Applied Physics	4	--	--	3
5	Electrical Circuit Analysis - I	4	--	--	3
6-ES	Engineering Drawing	4	--	--	3
7-BS	English - Communication Skills Laboratory - II	--	--	3	2
8-HS	Applied / Engineering Physics Laboratory	--	--	3	2
9-ES	Applied / Engineering Physics – Virtual Labs - Assignments	--	--	2	--
10	Engg.Workshop & IT Workshop	--	--	3	2
	Total Credits				**24**

II Year – I Semester

S. No	Subjects	L	T	P	Credits
1	Electrical Circuit Analysis - II	4	--	--	3
2	Electrical Machines-I	4	--	--	3
3	Basic Electronics and Devices	4	--	--	3
4	Electro Magnetic Fields	4	--	--	3
5	Thermal and Hydro Prime Movers	4	--	--	3
6	Managerial Economics & Financial Analysis	4	--	--	3
7	Thermal and Hydro Laboratory	--	--	3	2
8	Electrical Circuits Laboratory	--	--	3	2
	Total Credits				**22**

II Year – II Semester

S. No	Subjects	L	T	P	Credits
1	Electrical Measurements	4	--	--	3
2	Electrical Machines-II	4	--	--	3
3	Switching Theory and Logic Design	4	--	--	3
4	Control Systems	4	--	--	3
5	Power Systems-I	4	--	--	3
6	Management Science	4	--	--	3
7	Electrical Machines -I Laboratory	--	--	3	2
8	Electronic Devices & Circuits Laboratory	--	--	3	2
	Total Credits				**22**

III Year – I Semester

S. No	Subjects	L	T	P	Credits
1	Power Systems-II	4	--	--	3
2	Renewable Energy Sources	4	--	--	3
3	Signals and Systems	4	--	--	3
4	Pulse & Digital Circuits	4	--	--	3
5	Power Electronics	4	--	--	3
6	Electrical Machines-II Laboratory	--	--	3	2
7	Control Systems Laboratory	--	--	3	2
8	Electrical Measurements Laboratory	--	--	3	2
9-MC	IPR & Patents	--	2	--	--
	Total Credits				**21**

III Year – II Semester

S. No	Subjects	L	T	P	Credits
1	Power Electronic Controllers & Drives	4	--	--	3
2	Power System Analysis	4	--	--	3
3	Micro Processors and Micro controllers	4	--	--	3
4	Data Structures	4	--	--	3
5	Open Elective 1. Unix and Shell Programming 2. OOPS Through JAVA 3. VLSI Design 4. Robotics 5. Neural Networks &Fuzzy Logic 6. Energy Audit and Conservation& Management	4	--	--	3
6	Power Electronics Laboratory	--	--	3	2
7	Microprocessors & Microcontrollers Laboratory	--	--	3	2
8	Data Structures Laboratory	--	--	3	2
9-MC	Professional Ethics & Human Values	--	3	--	--
	Total Credits				**21**

IV Year – I Semester

S. No	Subjects	L	T	P	Credits
1	Utilization of Electrical Energy	4	--	--	3
2	Linear IC Applications	4	--	--	3
3	Power System Operation & Control	4	--	--	3
4	Switchgear and Protection	4	--	--	3
5	**Elective – I:** 1. Electrical Machine Modeling and Analysis 2. Advanced Control Systems 3. Programmable Logic Controllers& Applications 4. Instrumentation	4	--	--	3
6	**Elective – II:** 1. Optimization Techniques 2. Electric Power Quality 3. Special Electrical Machines	4	--	--	3
7	Electrical Simulation Laboratory	--	--	2	2
8	Power Systems & Simulation Laboratory	--	--	2	2
	Total Credits				**22**

IV Year - II Semester

S. No	Subjects	L	T	P	Credits
1	Digital Control Systems	4	--	--	3
2	HVDC Transmission	4	--	--	3
3	Electrical Distribution Systems	4	--	--	3
4	**Elective – III:** 1. High Voltage Engineering 2. Flexible Alternating Current Transmission Systems 3. Power System Reforms	4	--	--	3
5	Seminar	--	3	--	2
6	Project	--	--	--	10
	Total Credits				**24**

COURSE STRUCTURE

For

MECHANICAL ENGINEERING

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Year - I Semester

S. No.	Subjects	L	T	P	Credits
1-HS	English – I	4	--	--	3
2-BS	Mathematics - I	4	--	--	3
3-ES	Engineering Chemistry	4	--	--	3
4-BS	Engineering Mechanics	4	--	--	3
5-BS	Computer Programming	4	--	--	3
6-ES	Environmental Studies	4	--	--	3
7-HS	Engineering/Applied Chemistry Laboratory	--	--	3	2
8-BS	English - Communication Skills Lab - I	--	--	3	2
9-ES	C Programming Lab	--	--	3	2
	Total Credits				**24**

I Year - II Semester

S. No.	Subjects	L	T	P	Credits
1-HS	English – II	4	--	--	3
2-BS	Mathematics – II (Mathematical Methods)	4	--	--	3
3-BS	Mathematics – III	4	--	--	3
4-ES	Engineering Physics	4	--	--	3
5-HS	Basic Electrical and Electronics Engineering	4	--	--	3
6-ES	Engineering Drawing	4	--	--	3
7-BS	English - Communication Skills Lab - II	--	--	3	2
8-HS	Engineering /Applied Physics Lab	--	--	3	2
9-ES	Engineering /Applied Physics – Virtual Labs - Assignments	--	--	2	--
10	Engg.Workshop & IT Workshop	--	--	3	2
	Total Credits				**24**

II Year - I Semester

S. No.	Subjects	L	T	P	Credits
1	Metallurgy & Materials Science	4	--	--	3
2	Mechanics of Solids	4	--	--	3
3	Thermodynamics	4	--	--	3
4	Managerial Economics & Financial Analysis	4	--	--	3
5	Fluid Mechanics & Hydraulic Machines	4	--	--	3
6	Computer Aided Engineering Drawing Practice	3	3	--	3
7	Electrical & Electronics Engg. Lab	--	--	3	2
8	Mechanics of Solids & Metallurgy Lab	--	--	3	2
	Total Credits				**22**

II Year - II Semester

S. No.	Subjects	L	T	P	Credits
1	Kinematics of Machinery	4	--	--	3
2	Thermal Engineering -I	4	--	--	3
3	Production Technology	4	--	--	3
4	Design of Machine Members -I	4	--	--	3
5	Machine Drawing	3	3	--	3
6	Industrial Engineering and Management	4	--	--	3
7	Fluid Mechanics & Hydraulic Machinery Lab	--	--	3	2
8	Production Technology Lab	--	--	3	2
	Total Credits				**22**

III Year - I Semester

S. No.	Subjects	L	T	P	Credits
1	Dynamics of Machinery	4	--	--	3
2	Metal Cutting & Machine Tools	4	--	--	3
3	Design of Machine Members–II	4	--	--	3
4	Operations Research	4	--	--	3
5	Thermal Engineering -II	4	--	--	3
6	Theory of Machines Lab	--	--	3	2
7	Machine Tools Lab	--	--	3	2
8	Thermal Engineering Lab	--	--	3	2
9	IPR & Patents	--	2	--	--
	Total Credits				**21**

III YEAR - II Semester

S. No.	Subjects	L	T	P	Credits
1	Metrology	4	--	--	3
2	Instrumentation & Control Systems	4	--	--	3
3	Refrigeration & Air-conditioning	4	--	--	3
4	Heat Transfer	4	--	--	3
5	**OPEN ELECTIVE** 1. Entrepreneurship 2. Data Base Management System 3. Waste Water Management 4. Computer Graphics 5. Robotics 6. Green Engineering Systems	4	--	--	3
6	Heat Transfer Lab	--	--	3	2
7	Metrology & Instrumentation Lab	--	--	3	2
8	Computational Fluid Dynamics Lab	--	--	3	2
9MC	Professional Ethics & Human Values	--	3	--	--
	Total Credits				**21**

IV Year - I Semester

S. NO	Subjects	L	T	P	Credits
1	Mechatronics	4	--	--	3
2	CAD/CAM	4	--	--	3
3	Finite Element Methods	4	--	--	3
4	Power Plant Engineering	4	--	--	3
5	**Elective I** 1. Computational Fluid Dynamics 2. Condition Monitoring 3. Additive Manufacturing	4	--	--	3
6	**Elective II** 1. Advanced Materials 2. Design for Manufacture 3. Gas Dynamics & Jet Propulsion	4	--	--	3
7	CAD/CAM Lab	--	--	2	2
8	Mechatronics Lab	--	--	2	2
	Total Credits				**22**

IV Year - II Semester

S. No.	Subjects	L	T	P	Credits
1	Production Planning and Control	4	--	--	3
T 2	Unconventional Machining Processes	4	--	--	3
3	Automobile Engineering	4	--	--	3
4	**Elective III** 1. Thermal Equipment Design 2. Non Destructive Evaluation 3. Quality and Reliability Engineering	4	--	--	3
5	Seminar	--	3	--	2
6	Project	--	--	--	10
	Total Credits				**24**

Total Course Credits = 48+44 + 42 + 46 = 180

COURSE STRUCTURE AND SYLLABUS

For

ELECTRONICS AND COMMUNICATION ENGINEERING

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Year - I Semester

S.No.	Subjects	L	T	P	Credits
1-HS	English – I	4	--	--	3
2-BS	Mathematics - I	4	--	--	3
3-ES	Mathematics -II (Numerical Methods and Complex Variables)	4	--	--	3
4-BS	Applied Physics	4	--	--	3
5-ES	Computer Programming	4	--	--	3
6-ES	Engineering Drawing	1	--	3	3
7-HS	English - Communication Skills Lab -1	--	--	3	2
8-BS	Applied / Engineering Physics Laboratory	--	--	3	2
9-BS	Applied / Engineering Physics – Virtual Labs - Assignments	--	--	2	--
10-ES	Engineering Workshop& IT Workshop	--	--	3	2
	Total Credits				**24**

I Year - II Semester

S.No.	Subjects	L	T	P	Credits
1-HS	English – II	4	--	--	3
2-BS	Mathematics -III	4	--	--	3
3-BS	Applied Chemistry	4	--	--	3
4-ES	Electrical and Mechanical Technology	4	--	--	3
5-HS	Environmental Studies	4	--	--	3
6-ES	Data Structures	4	--	--	3
7-BS	Applied / Engineering Chemistry Laboratory	--	--	3	2
8-HS	English - Communication Skills Lab -2	--	--	3	2
9-ES	Computer Programming Lab	--	--	3	2
	Total Credits				**24**

II Year - I Semester

S.No.	Subjects	L	T	P	Credits
1	Electronic Devices and Circuits	4	--	--	3
2	Switching Theory and Logic Design	4	--	--	3
3	Signals and Systems	4	--	--	3
4	Network Analysis	4	--	--	3
5	Random Variables and Stochastic Process	4	--	--	3
6	Managerial Economics & Financial Analysis	4	--	--	3
7	Electronic Devices and Circuits Lab	--	--	3	2
8	Networks & Electrical Technology Lab	--	--	3	2
	Total Credits				**22**

II Year - II Semester

S.No.	Subjects	L	T	P	Credits
1	Electronic Circuit Analysis	4	--	--	3
2	Control Systems	4	--	--	3
3	Electromagnetic Waves and Transmission Lines	4	--	--	3
4	Analog Communications	4	--	--	3
5	Pulse and Digital Circuits	4	--	--	3
6	Management Science	4	--	--	3
7	Electronic Circuit Analysis Lab	--	--	3	2
8	Analog Communications Lab	--	--	3	2
	Total Credits				**22**

III Year - I Semester

S.No.	Subjects	L	T	P	Credits
1	Computer Architecture and Organization	4	--	--	3
2	Linear I C Applications	4	--	--	3
3	Digital I C Applications	4	--	--	3
4	Digital Communications	4	--	--	3
5	Antenna and Wave Propagation	4	--	--	3
6	Pulse and Digital Circuits Lab	--	--	3	2
7	Linear I C Applications Lab	--	--	3	2
8	Digital I C Applications Lab	--	--	3	2
MC	Professional Ethics & Human Values	--	3	--	--
	Total Credits				**21**

III Year - II Semester

S.No.	Subjects	L	T	P	Credits
1	Micro Processors & Micro Controllers	4	--	--	3
2	Micro Wave Engineering	4	--	--	3
3	VLSI Design	4	--	--	3
4	Digital Signal Processing	4	--	--	3
5	OPEN ELECTIVE 1. OOPs through Java 2. Data Mining 3. Industrial Robotics 4. Power Electronics 5. Bio-Medical Engineering 6.Artificial Neural Networks	4	--	--	3
6	Micro Processors & Micro Controllers Lab	--	--	3	2
7	VLSI Lab	--	--	3	2
8	Digital Communications Lab	--	--	3	2
MC	IPR & Patents	--	2	--	--
	Total Credits				**21**

IV Year - I Semester

S.No.	Subjects	L	T	P	Credits
1	Radar Systems	4	--	--	3
2	Digital Image Processing	4	--	--	3
3	Computer Networks	4	--	--	3
4	Optical Communications	4	--	--	3
5	Elective I 1. TV Engineering 2. Electronic Switching Systems 3. System Design through Verilog	4	--	--	3
6	Elective II 1.Embedded Systems 2. Analog IC Design 3.Network Security & Cryptography	4	--	--	3
7	Micro Wave Engineering & Optical Lab	--	--	2	2
8	Digital Signal Processing Lab	--	--	2	2
	Total Credits				**22**

IV Year - II Semester

S.No.	Subjects	L	T	P	Credits
1	Cellular Mobile Communications	4	--	--	3
2	Electronic Measurements and Instrumentation	4	--	--	3
3	Satellite Communications	4	--	--	3
4	**Elective III** 1.Wireless sensors & Networks 2. Digital IC Design 3. Operating Systems	4	--	--	3
5	Seminar	--	3	--	2
6	Project	--	--	--	10
	Total Credits				**24**

Total Course Credits = 48+44 + 42 + 46 = 180

COURSE STRUCTURE AND SYLLABUS

For

COMPUTER SCIENCE AND ENGINEERING

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Year - I Semester

S. No.	Subjects	L	T	P	Credits
1-HS	English – I	4	--	--	3
2-BS	Mathematics - I	4	--	--	3
3-BS	Mathematics – II (Mathematical Methods)	4	--	--	3
4-BS	Applied Physics	4	--	--	3
5	Computer Programming	4	--	--	3
6-ES	Engineering Drawing	4	--	--	3
7-HS	English - Communication Skills Lab - 1	--	--	3	2
8-BS	Applied / Engineering Physics Lab	--	--	3	2
9-ES	Applied / Engineering Physics – Virtual Labs – Assignments	--	--	2	--
10	Computer Programming Lab	--	--	3	2
	Total Credits				**24**

I Year - II SEMESTER

S. No.	Subjects	L	T	P	Credits
1-HS	English – II	4	--	--	3
2-BS	Mathematics - III	4	--	--	3
3-BS	Applied Chemistry	4	--	--	3
4	Object Oriented Programming through C++	4	--	--	3
5-HS	Environmental Studies	4	--	--	3
6-ES	Engineering Mechanics	4	--	--	3
7-BS	Applied / Engineering Chemistry Laboratory	--	--	3	2
8-HS	English - Communication Skills Lab – 2	--	--	3	2
9	Object Oriented Programming Lab	--	--	3	2
	Total Credits				**24**

II Year - I Semester

S. No.	Subjects	L	T	P	Credits
1-HS	Statistics with R Programming	4	--	--	3
2	Mathematical Foundations of Computer Science	4	--	--	3
3	Digital Logic Design	4	--	--	3
4	Python Programming	4	--	--	3
5	Data Structures through C++	4	--	--	3
6	Computer Graphics	4	--	--	3
7	Data Structures through C++Lab	--	--	3	2
8	Python Programming Lab	--	--	3	2
	Total Credits				**22**

II Year - II Semester

S. No.	Subjects	L	T	P	Credits
1	Software Engineering	4	--	--	3
2	Java Programming	4	--	--	3
3	Advanced Data Structures	4	--	--	3
4	Computer Organization	4	--	--	3
5	Formal Languages and Automata Theory	4	--	--	3
6	Principles of Programming Languages	4	--	--	3
7	Advanced Data Structures Lab	--	--	3	2
8	Java Programming Lab	--	--	3	2
	Total Credits				**22**

III Year - I Semester

S. No.	Subjects	L	T	P	Credits
1	Compiler Design	4	--	--	3
2	Unix Programming	4	--	--	3
3	Object Oriented Analysis and Design using UML	4	--	--	3
4	Database Management Systems	4	--	--	3
5	Operating Systems	4	--	--	3
6	Unified Modeling Lab	--	--	3	2
7	Operating System & Linux Programming Lab	--	--	3	2
8	Database Management System Lab	--	--	3	2
MC	Professional Ethics & Human Values	--	3	--	--
	Total Credits				**21**

III Year - II Semester

S. No.	Subjects	L	T	P	Credits
1	Computer Networks	4	2	--	3
2	Data Warehousing and Mining	4	--	--	3
3	Design and Analysis of Algorithms	4	--	--	3
4	Software Testing Methodologies	4	--	--	3
5	**Open Elective:** i. Artificial Intelligence ii. Internet of Things iii Cyber Security iv.Digital Signal Processing v.Embbeded Systems vi. Robotics	4	--	--	3
6	Network Programming Lab	--	--	3	2
7	Software Testing Lab	--	--	3	2
8	Data Warehousing and Mining Lab	--	--	3	2
9	IPR & Patents	--	2	--	--
	Total Credits				**21**

IV Year - I Semester

S. No.	Subjects	L	T	P	Credits
1	Cryptography and Network Security	4	--	--	3
2	Software Architecture & Design Patterns	4	--	--	3
3	Web Technologies	4	--	--	3
4- HS	Managerial Economics and Financial Analysis	4	--	--	3
5	**Elective-I** i. Big Data Analytics ii. Information Retrieval Systems iii. Mobile Computing	4	--	--	3
6	**Elective-II** i. Cloud Computing ii. Software Project Management iii. Scripting Languages	4	--	--	3
7	Software Architecture& Design Patterns Lab	--	--	3	2
8	Web Technologies Lab	--	--	3	2
	Total Credits				**22**

IV Year - II Semester

S. No.	Subjects	L	T	P	Credits
1	Distributed Systems	4	--	--	3
2- HS	Management Science	4	--	--	3
3	Machine Learning	4	--	--	3
4	**Elective-III** i.Concurrent and Parallel Programming ii.Artificial Neural Networks iii. Operations Research	4	--	--	3
5	Seminar	--	3	--	2
6	Project	--	--	--	10
	Total Credits				**24**

Total Course Credits = 48+44 + 42 + 46 = 180

ACADEMIC REGULATIONS & COURSE STRUCTURE

For

MBA (Regular)

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

JAWAHARLAL NEHRU TENHNOLOGICAL UNIVERSITY, KAKINADA: KAKINADA

School of Management Studies

Course Structure MBA (Regular) 2016-2017

(Effective for the students admitted into first year from the academic year 2016-2017)

Semester - I

Subject	Title		Credits
C-101	Principles of Management		
C-102	Managerial Economics		
C-103	Accounting for Managers		
C-104	Managerial Communication & Soft skills		
C-105	Business Environment		
C-106	Quantitative Analysis for Business Decision		
C-107	IT – LAB		

Semester - II

Subject	Title		Credits
C-201	Financial Management		
C-202	Human Resource Management		
C-203	Marketing Management		
C-204	Production and Operations Management		
C-205	Business Research Methods		
C-206	Organizational Behavior		
C-207	Mini Project * Seminar on Mini Project		

Semester - III

Subject	Title		Credits
C-301	Strategic Management		
C -302	Legal Aspects of Business		
C -303	Business Ethics & Corporate Governance		
E -301	Elective – 1		
E-302	Elective – 2		
E-303	Elective – 3		
E-304	Elective – 4		

Semester - IV

Subject	Title		Credits
C -401	Logistic and Supply Chain Management		
C -402	Entrepreneurship Development		
E-401	Elective – 5		
E-402	Elective – 6		
E-403	Elective – 7		
E-404	Elective – 8		
	Major Project & Comprehensive Viva	Grade	
Total Marks / Credits			

Elective: The student has to choose any **ONE** Specialization from the following areas in the beginning of III Semester

III SEMESTER

HR

S. no	SUBJECT TITLE
1	Leadership Management
2	Compensation and Reward Management
3	Performance Management
4	Strategic Human Resource Management

FINANCE

S. no	SUBJECT TITLE
1	Security Analysis & Portfolio Management
2	Banking and Insurance Management
3	Advance Management Accounting
4	Strategic Financial Management

MARKETING

S. no	SUBJECT TITLE
1	Consumer Behavior
2	Retail Management
3	Customer Relationship Management
4	Strategic Marketing Management

SYSTEMS

S. no	SUBJECT TITLE
1	E-Business
2	RDBMS
3	Web Designing
4	System Analysis & Design

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ACADEMIC REGULATIONS & COURSE STRUCTURE

For

POWER ELECTRONICS (PE)
POWER AND INDUSTRIAL DRIVES (P&ID)
POWER ELECTRONICS AND ELECTRICALDRIVES (PE &ED)
POWER ELECTRONICS AND DRIVES (PE&D)
POWER ELECTRONICS AND SYSTEMS (PE&S)
ELECTRICAL MACHINES AND DRIVES (EM&D)

(Applicable for batches admitted from 2016-2017)

University Updates

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

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I Semester

S. No.	Subject	L	P	Credits
1	Electrical Machine Modeling & Analysis	4	--	3
2	Analysis of Power Electronic Converters	4	--	3
3	Power Electronic Control of DC Drives	4	--	3
4	Flexible AC Transmission Systems	4	--	3
5	**Elective – I** i. Modern Control Theory ii. Power Quality ii. Optimization Techniques	4	--	3
6	**Elective – II** i. Energy Auditing, Conservation and Management ii. Artificial Intelligence Techniques iii. HVDC Transmission	4	--	3
7	Simulation Laboratory	--	4	2
Total Credits				**20**

II Semester

S. No.	Subject	L	P	Credits
1	Switched Mode Power Conversion	4	--	3
2	Power Electronic Control of AC Drives	4	--	3
3	Digital Controllers	4	--	3
4	Custom Power devices	4	--	3
5	**Elective – III** i. Renewable Energy Systems ii. Reactive Power Compensation & Management iii. Electrical Distribution Systems	4	--	3
6	**Elective – IV** i. Smart Grid Technologies ii. Special Machines iii Programmable Logic Controllers & Applications	4	--	3
7	Power Converters & Drives Laboratory	--	4	2
Total Credits				**20**

University Updates

III Semester

S. No.	Subject	L	P	Credits
1	Comprehensive Viva-Voce	**--**	**--**	2
2	Seminar – I	--	--	2
3	Project Work Part - I	--	--	16
Total Credits				**20**

IV Semester

S. No.	Subject	L	P	Credits
1	Seminar – II	--	--	2
2	Project Work Part - II	--	--	18
Total Credits				**20**

University Updates

ACADEMIC REGULATIONS & COURSE STRUCTURE

For

MACHINE DESIGN

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Semester

S.No.	Subject	L	P	C
1	Computational Methods in Engineering	4	--	3
2	Advanced Mechanics of Solids	4	--	3
3	Advanced Mechanisms	4	--	3
4	Mechanical Vibrations	4	--	3
5	**Elective – I** 1. Design of Automobile Systems 2. Product Design 3. Geometric Modeling 4. Non Destructive Evaluation	4	--	3
6	**Elective – II** 1. Fracture Mechanics 2. Gear Engineering 3. Design for Manufacturing & Assembly 4. Continuum Mechanics	4	--	3
7	Machine Dynamics Lab	--	3	2
Total Credits				**20**

II Semester

S.No.	Subject	L	P	C
1	Optimization and Reliability	4	--	3
2	Experimental Stress Analysis	4	--	3
3	Finite Element Method	4	--	3
4	Design with advanced Materials	4	--	3
5	Elective – III 1. Tribology 2. Signal Analysis and Condition Monitoring 3. Computational Fluid Dynamics 4. Design Synthesis	4	--	3
6	Elective-IV 1. Pressure Vessel Design 2. Mechanics of Composite Materials 3. Mechatronics 4. Theory of Plasticity	4	--	3
7	Design Practice Lab	--	3	2
Total Credits				**20**

III Semester

S. No.	Subject	L	P	Credits
1	Comprehensive Viva-Voce	**--**	**--**	2
2	Seminar – I	--	--	2
3	Project Work Part - I	--	--	16
Total Credits				**20**

IV Semester

S. No.	Subject	L	P	Credits
1	Seminar – II	--	--	2
2	Project Work Part - II	--	--	18
Total Credits				**20**

ACADEMIC REGULATIONS & COURSE STRUCTURE

For

VLSI, VLSID, VLSISD

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Semester

S. No.	Name of the Subject	L	P	C
1	Digital System Design	4	-	3
2	VLSI Technology and Design	4	-	3
3	CMOS Analog IC Design	4	-	3
4	CMOS Digital IC Design	4	-	3
5	**Elective I** 1. Digital Design using HDL 2. Advanced Operating Systems 3 Soft Computing Techniques 4. Cyber Security	4	-	3
6	**Elective II** 1. CPLD and FPGA Architectures and Applications 2. Advanced Computer Architecture 3. Hardware Software Co-Design	4	-	3
7	Front end VLSI Design Laboratory	-	3	2
Total Credits				**20**

II Semester

S. No.	Name of the Subject	L	P	C
1	CMOS Mixed Signal Circuit Design	4	-	3
2	Embedded System Design	4	-	3
3	Low Power VLSI Design	4	-	3
4	Design For Testability	4	-	3
5	**Elective III** 1. CAD for VLSI 2. DSP Processors & Architectures 3. VLSI Signal Processing	4	-	3
6	**Elective IV** 1. System on Chip Design 2. Optimization Techniques in VLSI Design 3. Semiconductor Memory Design and Testing	4	-	3
7	1. Back end VLSI Design Laboratory	-	3	2
Total Credits				**20**

III Semester

S. No.	Subject	L	P	Credits
1	Comprehensive Viva-Voce	**--**	**--**	2
2	Seminar – I	--	--	2
3	Project Work Part – I	--	--	16
Total Credits				**20**

IV Semester

S. No.	Subject	L	P	Credits
1	Seminar – II	--	--	2
2	Project Work Part - II	--	--	18
Total Credits				**20**

ACADEMIC REGULATIONS & COURSE STRUCTURE

For

COMPUTER SCIENCE & ENGINEERING

(Applicable for batches admitted from 2016-2017)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

I Semester

S.No.	SUBJECT	L	P	C
1	ADVANCED DATA STRUCTURES AND ALGORITHM ANALYSIS	4	--	3
2	MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	4	--	3
3	COMPUTER ORGANIZATION AND ARCHITECTURE	4	--	3
4	DATABASE MANAGEMENT SYSTEMS	4	--	3
5	ADVANCED OPERATING SYSTEMS	4	--	3
6	DATA WAREHOUSING AND DATA MINING	4	--	3
7	CSE LAB 1	--	3	2
Total Credits				**20**

II Semester

S.No.	SUBJECT	L	P	C
1	CYBER SECURITY	4	--	3
2	COMPUTER NETWORKS	4	--	3
3	BIG DATA ANALYTICS	4	--	3
4	ADVANCED UNIX PROGRAMMING	4	--	3
5	**Elective – 1** 1. SOFTWARE ENGINEERING 2. ARTIFICIAL INTELLIGENCE 3. COMPILER DESIGN 4. MACHINE LEARNING	4	--	3
6	**Elective – 2** 1. IMAGE PROCESSING 2. PARALLEL ALGORITHMS 3. CLOUD COMPUTING 4. MOBILE COMPUTING	4	--	3
7	CSE LAB 2	--	3	2
Total Credits				**20**

III Semester

S. No.	Subject	L	P	Credits
1	Comprehensive Viva-Voce	**--**	**--**	2
2	Seminar – I	--	--	2
3	Project Work Part - I	--	--	16
Total Credits				**20**

IV Semester

S. No.	Subject	L	P	Credits
1	Seminar – II	--	--	2
2	Project Work Part - II	--	--	18
Total Credits				**20**

ACADEMIC REGULATIONS
COURSE STRUCTURE
AND
DETAILED SYLLABUS

CIVIL ENGINEERING

For

B.Tech., FOUR YEAR DEGREE COURSE

(Applicable for the batches admitted from 2013-14)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
KAKINADA – 533003, ANDHRA PRADESH, INDIA.

COURSE STRUCTURE

I Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	English – I	3+1*	--	3
2	Mathematics - I	3+1*	--	3
3	Engineering Chemistry	3+1*	--	3
4	Engineering Mechanics	3+1*	--	3
5	Environmental Studies	3+1*	--	3
6	Computer Programming	3+1*	--	3
7	Engineering Chemistry Laboratory	--	3	2
8	English – Communication Skills Lab - I	--	3	2
9	C Programming Lab	--	3	2
Total Credits				**24**

I Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	English - II	3+1*	--	3
2	Mathematics – II (Mathematical Methods)	3+1*	--	3
3	Mathematics – III	3+1*	--	3
4	Engineering Physics	3+1*	--	3
5	Professional Ethics and Human Values	3+1*	--	3
6	Engineering Drawing	1	3	3
7	English-Communication Skills Lab - II	--	3	2
8	Engineering Physics Laboratory	--	3	2
9	Engineering Physics – Virtual Labs - Assignments	--	2	--
10	Engineering Workshop & IT Workshop	--	3	2
Total Credits				**24**

II Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	Electrical & Electronics Engineering	3+1*	--	3
2	Probability & Statistics	3+1*	--	3
3	Strength of Materials-I	3+1*	--	3
4	Building Materials and Construction	3+1*	--	3
5	Surveying	3+1*	--	3
6	Fluid Mechanics	3+1*	--	3
7	Surveying Field work-I	--	3	2
8	Strength of Materials Lab	--	3	2
Total Credits				**22**

II Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	Building Planning & Drawing	3+1*	--	3
2	Managerial Economics and Financial Analysis	3+1*	--	3
3	Strength of Materials- II	3+1*	--	3
4	Hydraulics and Hydraulic Machinery	3+1*	--	3
5	Concrete Technology	3+1*	--	3
6	Structural Analysis - I	3+1*	--	3
7	Fluid Mechanics and Hydraulic Machinery Lab	--	3	2
8	Concrete Technology Lab	--	3	2
9	Surveying Field work-II	--	3	2
Total Credits				**24**

III Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	Engineering Geology	3+1*	--	3
2	Structural Analysis – II	3+1*	--	3
3	Design and Drawing of Reinforced Concrete Structures	3+1*	--	3
4	Geotechnical Engineering – I	3+1*	--	3
5	Transportation Engineering – I	3+1*	--	3
6	IPR & Patents	3+1*	--	2
7	Geotechnical Engineering Lab	--	3	2
8	Engineering Geology Lab	--	3	2
Total Credits				**21**

III Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	Design and Drawing of Steel Structures	3+1*	--	3
2	Geotechnical Engineering – II	3+1*	--	3
3	Water Resources Engineering–I	3+1*	--	3
4	Environmental Engineering – I	3+1*	--	3
5	Transportation Engineering – II	3+1*	--	3
6	**OPEN ELECTIVE**	3+1*	--	3
7	Computer Aided Engineering Drawing	--	3	2
8	Transportation Engineering Lab	--	3	2
Total Credits				**22**

IV Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	Environmental Engineering – II	3+1*	--	3
2	Prestressed Concrete	3+1*	--	3
3	Construction Technology and Management	3+1*	--	3
4	Water Resources Engineering–II	3+1*	--	3
5	Remote Sensing and GIS Applications	3+1*	--	3
6	**ELECTIVE - I**	3+1*	--	3
7	Environmental Engineering Lab	--	3	2
8	GIS & CAD Lab	--	3	2
Total Credits				**22**

IV Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	Estimating, Specifications & Contracts	3+1*	--	3
2	**ELECTIVE –II**	3+1*	--	3
3	**ELECTIVE – III**	3+1*	--	3
4	**ELECTIVE – IV**	3+1*	--	3
5	Project Work			9
Total Credits				**21**

OPEN ELECTIVE:

a) Environmental Pollution and Control
b) Disaster Management
c) Industrial Water & Waste Water Management
d) Architecture and Town Planning
e) Finite Element Method
f) Green Technologies

Elective-I:

a) Ground Improvement Techniques
b) Air Pollution and Control
c) Matrix methods of Structural Analysis
d) Urban Hydrology
e) Advanced Surveying
f) Interior Designs and Decorations

Elective-II:

a. Engineering with Geo-synthetics
b. Environmental Impact Assessment and Management
c. Advanced Structural Engineering
d. Ground Water Development and Management
e. Traffic Engineering
f. Infrastructure Management

Elective-III:

a) Advanced foundation Engineering
b) Solid waste Management
c) Earthquake Resistant Design
d) Water Shed Management
e) Pavement Analysis and Design
f) Green Buildings

Elective-IV:

a) Soil Dynamics and Machine Foundations
b) Environmental and Industrial Hygiene
c) Repair and Rehabilitation of Structures
d) Water Resources System Planning and Management
e) Urban Transportation Planning
f) Safety Engineering
g) Bridge Engineering

ACADEMIC REGULATIONS
COURSE STRUCTURE
AND
DETAILED SYLLABUS

ELECTRICAL AND ELECTRONICS ENGINEERING

For

B.Tech., FOUR YEAR DEGREE COURSE

(Applicable for the batches admitted from 2013-14)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

KAKINADA – 533003, ANDHRA PRADESH, INDIA.

COURSE STRUCTURE

I Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	English - I	3+1	--	3
2	Mathematics - I	3+1	--	3
3	Mathematics – II (Mathematical Methods)	3+1	--	3
4	Engineering Physics	3+1	--	3
5	Professional Ethics and Human Values	3+1	--	3
6	Engineering Drawing	3+1	--	3
7	English – Communication Skills Lab - I	--	3	2
8	Engineering Physics Laboratory	--	3	2
9	Engineering Physics – Virtual Labs - Assignments	--	2	--
10	Engineering Workshop & IT Workshop	--	3	2
Total Credits				**24**

I Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	English – II	3+1	--	3
2	Mathematics – III	3+1	--	3
3	Engineering Chemistry	3+1	--	3
4	Engineering Mechanics	3+1	--	3
5	Electrical Circuit Analysis - I	3+1	--	3
6	Computer Programming	3+1	--	3
7	Engineering Chemistry Lab	--	3	2
8	English – Communication Skills Lab - II	--	3	2
9	C Programming lab	--	3	2
Total Credits				**24**

II Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	Electrical Circuit Analysis-II	3+1	--	3
2	Thermal and Hydro Prime movers	3+1	--	3
3	Basic Electronics And Devices	3+1	--	3

4	Complex Variables and Statistical Methods	3+1	--	3
5	Electro Magnetic Fields	3+1	--	3
6	Electrical Machines-I	3+1	--	3
7	Thermal and Hydro Lab	--	3	2
8	Electrical Circuits Lab	--	3	2
Total Credits				**22**

II Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	Environmental studies	3+1	--	3
2	Switching Theory and Logic Design	3+1	--	3
3	Pulse & Digital Circuits	3+1	--	3
4	Power Systems-I	3+1	--	3
5	Electrical Machines-II	3+1	--	3
6	Control Systems	3+1	--	3
7	Electrical Machines -I Lab	--	3	2
8	Electronic Devices & Circuits Lab	--	3	2
Total Credits				**22**

III Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	Managerial Economics and Financial Analysis	3+1	--	3
2	Electrical Measurements	3+1	--	3
3	Power Systems-II	3+1	--	3
4	Electrical Machines-III	3+1	--	3
5	Power Electronics	3+1	--	3
6	Linear & Digital IC Applications	3+1	--	3
7	Electrical Machines-II Lab	--	3	2
8	Control Systems Lab	--	3	2
9	IPR & Patents	3+1		2
Total Credits				**24**

III Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	Switchgear and Protection	3+1	--	3

2	Microprocessors & Microcontrollers	3+1	--	3
3	Utilization of Electrical Energy	3+1	--	3
4	Power System Analysis	3+1	--	3
5	Power Semiconductor Drives	3+1	--	3
6	Management Science	3+1	--	3
7	Power Electronics Lab	--	3	2
8	Electrical Measurements Lab	--	3	2
Total Credits				**22**

IV Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	Renewable Energy Sources and Systems	3+1	-	3
2	HVAC & DC Transmission	3+1	-	3
3	Power System Operation & Control	3+1	-	3
4	**Open Elective**	3+1	-	3
5	**Elective – I**	3+1	-	3
6	Microprocessors & Microcontrollers Lab	-	3	2
7	Electrical Simulation Lab	-	3	2
8	Power systems lab		3	2
Total Credits				**21**

IV Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	Digital Control Systems	3+1	-	3
2	**Elective – II**	3+1	-	3
3	**Elective – III**	3+1	-	3
4	**Elective – IV**	3+1	-	3
5	Project	-	-	9
Total Credits				**21**

Open Elective:

1. Energy Audit, Conservation and Management
2. Instrumentation
3. Non Conventional Sources of Energy
4. Optimization Techniques

Elective – I:

1. VLSI Design
2. Electrical Distribution Systems
3. Optimization Techniques

Elective – II:

1. Advanced Control Systems
2. Extra High Voltage Transmission
3. Special Electrical Machines

Elective – III:

1. Electric Power Quality
2. Digital Signal Processing
3. FACTS: Flexible Alternating Current Transmission Systems.

Elective-IV:

1. OOPS Through Java
2. UNIX and Shell Programming
3. AI Techniques
4. Power System Reforms
5. Systems Engineering

ACADEMIC REGULATIONS
COURSE STRUCTURE
AND
DETAILED SYLLABUS

MECHANICAL ENGINEERING

For

B.Tech., FOUR YEAR DEGREE COURSE

(Applicable for the batches admitted from 2013-14)

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

KAKINADA – 533003, ANDHRA PRADESH, INDIA.

COURSE STRUCTURE

I Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	English – I	3+1	--	3
2	Mathematics - I	3+1	--	3
3	Engineering Chemistry	3+1	--	3
4	Engineering Mechanics	3+1	--	3
5	Computer Programming	3+1	--	3
6	Environmental Studies	3+1	--	3
7	Engineering Chemistry Laboratory	--	3	2
8	English - Communication Skills Lab - I	--	3	2
9	C Programming Lab	--	3	2
Total Credits				**24**

I Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	English – II	3+1	--	3
2	Mathematics – II (Mathematical Methods)	3+1	--	3
3	Mathematics – III	3+1	--	3
4	Engineering Physics	3+1	--	3
5	Professional Ethics and Human Values	3+1	--	3
6	Engineering Drawing	3+1	--	3
7	English - Communication Skills Lab - II	--	3	2
8	Engineering Physics Lab	--	3	2
9	Engineering Physics – Virtual Labs - Assignments	--	2	--
10	Engg.Workshop & IT Workshop	--	3	2
Total Credits				**24**

II Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	Metallurgy & Materials Science	3+1*	--	3
2	Mechanics of Solids	3+1*	--	3

3	Thermodynamics	3+1*	--	3
4	Managerial Economics & Financial Analysis	3+1*	--	3
5	Basic Electrical & Electronics Engineering	3+1*	--	3
6	Computer aided Engineering Drawing Practice	3+1*	--	3
7	Basic Electrical & Electronics Engg. Lab	--	3	2
8	Mechanics of Solids & Metallurgy lab	--	3	2
Total Credits				**22**

II Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	Kinematics of Machinery	3+1*	--	3
2	Thermal Engineering -I	3+1*	--	3
3	Production Technology	3+1*	--	3
4	Fluid Mechanics & Hydraulic machinery	3+1*	--	3
5	Machine Drawing	3+1*	--	3
6	Fluid mechanics & Hydraulic machinery Lab	--	3	2
7	Production Technology Lab	--	3	2
8	Thermal Engineering Lab	--	3	2
Total Credits				**21**

III Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	Dynamics of Machinery	3+1*		3
2	Metal Cutting & Machine Tools	3+1*		3
3	Design of Machine Members–I	3+1*		3
4	Instrumentation & Control Systems	3+1*		3
5	Thermal Engineering -II	3+1*		3
6	Metrology	3+1*		3
7	Metrology & Instrumentation Lab		3	2
8	Machine Tools Lab		3	2
9	IPR & Patents		3	2
Total Credits				**24**

III Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	Operations Research	3+1*		3
2	Interactive Computer Graphics	3+1*		3
3	Design of Machine Members– II	3+1*		3
4	Robotics	3+1*		3
5	Heat Transfer	3+1*		3
6	Industrial Engineering Management	3+1*		3
7	**Departmental Elective – I**	3+1*		3
8	Heat Transfer Lab		3	2
Total Credits				23

IV Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	Automobile Engineering	3+1*		3
2	CAD/CAM	3+1*		3
3	Finite Element Methods	3+1*		3
4	Unconventional Machining Processes	3+1*		3
5	**Open Elective**	3+1*		3
6	**Departmental Elective – II**	3+1*		3
7	Simulation Lab		3	2
8	Design/Fabrication Project		2	1
Total Credits				**21**

IV Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	Production Planning and Control	3+1*		3
2	Green Engineering Systems	3+1*		3
3	**Departmental Elective – III**	3+1*		3
4	**Departmental Elective – IV**	3+1*		3
5	Project Work			9
Total Credits				**21**

OPEN ELECTIVE:

1. MEMS
2. Nanotechnology

Departmental Elective -I:

1. Refrigeration & Air-conditioning
2. Computational Fluid Dynamics
3. Condition Monitoring
4. Rapid Prototyping

Departmental Elective -II:

1. Material Characterization Techniques
2. Design for Manufacture
3. Automation in Manufacturing
4. Industrial Hydraulics & Pneumatics

Departmental Elective -III:

1. Experimental Stress Analysis
2. Mechatronics
3. Advanced Materials
4. Power Plant Engineering

Departmental Elective -IV:

1. Non Destructive Evaluation
2. Advanced Optimization Techniques
3. Gas Dynamics & Jet Propulsion
4. Quality and Reliability Engineering

COURSE STRUCTURE

I Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	English – I	3	--	3
2	Mathematics - I	3+1	--	3
3	Mathematics – II (Mathematical Methods)	3+1	--	3
4	Engineering Physics	3+1	--	3
5	Professional Ethics and Human Values	3+1	--	3
6	Engineering Drawing	1+3	--	3
7	English - Communication Skills Lab -1	--	3	2
8	Engineering Physics Laboratory	--	3	2
9	Engineering Physics – Virtual Labs - Assignments	--	2	--
10	Engineering Workshop& IT Workshop	--	3	2
Total Credits				**24**

I Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	English – II	3	--	3
2	Mathematics – III	3+1	--	3
3	Engineering Chemistry	3+1	--	3
4	Engineering Mechanics	3+1	--	3
5	Computer Programming	3+1	--	3
6	Network Analysis	3+1	--	3
7	Engineering Chemistry Laboratory	--	3	2
8	English - Communication Skills Lab -2	--	3	2
9	Computer Programming Lab	--	3	2
Total Credits				**24**

II Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	Managerial Economics and Financial Analysis	3+1	--	3
2	Electronic Devices and Circuits	3+1	--	3
3	Data Structures	3+1	--	3
4	Environmental Studies	3	--	3
5	Signals & Systems	3+1	--	3
6	Electrical Technology	3+1	--	3
7	Electronic Devices and Circuits Lab	--	3	2
8	Networks &Electrical Technology Lab	--	3	2
Total Credits				**22**

II Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	Electronic Circuit Analysis	3+1	--	3
2	Management Science	3+1	--	3
3	Random Variables & Stochastic Processes	3+1	--	3
4	Switching Theory & Logic Design	3+1	--	3
5	EM Waves and Transmission Lines	3+1	--	3
6	Analog Communications	3+1	--	3
7	Electronic Circuit Analysis Lab	--	3	2
8	Analog Communications Lab	--	3	2
Total Credits				**22**

III Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	Pulse & Digital Circuits	3+1	-	3
2	Linear IC Applications	3+1	-	3
3	Control Systems	3+1	-	3
4	Digital System Design & Digital IC Applications	3+1	-	3
5	Antennas and Wave Propagation	3+1	-	3
6	Pulse & Digital Circuits Lab		3	2
7	LIC Applications Lab	-	3	2
8	Digital System Design & DICA Lab		3	2
9	IPR& Patents	3		2
Total Credits				**23**

III Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	Microprocessors and Microcontrollers	3+1	-	3
2	Digital Signal Processing	3+1	-	3
3	Digital Communications	3+1	-	3
4	Microwave Engineering	3+1	-	3
5	**Open Elective**	3+1	-	3
6	Microprocessors and Microcontrollers Lab	-	3	2
7	Digital Communications Lab	-	3	2
8	Digital Signal Processing Lab		3	2
9	Seminar		2	1
Total Credits				**22**

OPEN ELECTIVES

1.Bio Medical Engineering
2.Fuzzy & Neural Networks

IV Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	VLSI Design	3+1	-	3
2	Computer Networks	3+1	-	3
3	Digital Image Processing	3+1	-	3
4	Computer Architecture & Organization	3+1	-	3
5	**Elective – I** 1. Electronic Switching Systems 2. Analog IC Design 3. Object Oriented Programming & O S 4. Radar Systems 5. Advanced Computer Architecture	3+1	-	3
6	**Elective – II** 1. Optical Communication 2. Digital IC Design 3. Speech Processing 4. Artificial Neural Network & Fuzzy Logic 5. Network Security & Cryptography	3+1	-	3
7	V L S I Lab	-	3	2
8	Microwave Engineering Lab	-	3	2
Total Credits				**22**

IV Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	Cellular Mobile Communication	3+1		3
2	Electronic Measurements and Instrumentation	3+1		3
3	**Elective III** 1. Satellite Communication 2. Mixed signal Design 3. Embedded systems 4. RF Circuit Design 5. Cloud Computing	3+1		3
4	**Elective IV** 1.Wireless Sensors and Networks 2.System on Chip 3.Low Power IC Design 4.Bio-Medical Instrumentation 5.EMI/EMC	3+1		3
5	Project & Seminar			9
Total Credits				**21**

ACADEMIC REGULATIONS
COURSE STRUCTURE
AND
DETAILED SYLLABUS

COMPUTER SCIENCE AND ENGINEERING

For

COMPUTER SCIENCE AND ENGINEERING FOUR DEGREE COURSE

(Applicable for batches admitted from 2013-2014)

COURSE STRUCTURE

I Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	English – I	3+1	--	3
2	Mathematics - I	3+1	--	3
3	Engineering Chemistry	3+1	--	3
4	Engineering Mechanics	3+1	--	3
5	Computer Programming	3+1	--	3
6	Environmental Studies	3+1	--	3
7	Engineering Chemistry Laboratory	--	3	2
8	English - Communication Skills Lab - I	--	3	2
9	C Programming Lab	--	3	2
Total Credits				**24**

I Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	English – II	3+1	--	3
2	Mathematics – II (Mathematical Methods)	3+1	--	3
3	Mathematics – III	3+1	--	3
4	Engineering Physics	3+1	--	3
5	Professional Ethics and Human Values	3+1	--	3
6	Engineering Drawing	3+1	--	3
7	English - Communication Skills Lab - II	--	3	2
8	Engineering Physics Lab	--	3	2
9	Engineering Physics – Virtual Labs - Assignments	--	2	--
10	Engg.Workshop & IT Workshop	--	3	2
Total Credits				**24**

II Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	Managerial Economics and Financial Analysis	4	--	3
2	Object Oriented Programming through C++	4	--	3
3	Mathematical Foundations of Computer Science	4	--	3
4	Digital Logic Design	4	--	3
5	Data Structures	4	--	3
6	Object Oriented Programming Lab	--	3	2
7	Data Structures Lab	--	3	2
8	Digital Logic Design Lab	--	3	2
9	Seminar	--	--	1
Total Credits				**22**

II Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	Probability and statistics	4	--	3
2	Java Programming	4	--	3
3	Advanced Data Structures	4	--	3
4	Computer Organization	4	--	3
5	Formal Languages and Automata Theory	4	--	3
6	Advanced Data Structures Lab	--	3	2
7	Java Programming Lab	--	3	2
8	Free Open Source Software(FOSS) Lab	--	3	2
Total Credits				**21**

III Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	Compiler Design	4	-	3
2	Data Communication	4	-	3
3	Principles of Programming Languages	4	-	3
4	Database Management Systems	4	-	3
5	Operating Systems	4	-	3
6	Compiler Design Lab	-	3	2
7	Operating System Lab	-	3	2
8	Database Management Systems Lab		3	2
9	Linux Programming Lab	-	3	2
10	IPR and Patents- 1	2	-	-
11	Seminar	--	--	1
Total Credits				**24**

III Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	Computer Networks	4	-	3
2	Data Ware housing and Mining	4	-	3
3	Design and Analysis of Algorithms	4	-	3
4	Software Engineering	4	-	3
5	Web Technologies	4	-	3
6	Computer Networks Lab	-	3	2
7	Software Engineering Lab	-	3	2
8	Web Technologies Lab	-	3	2
9	IPR and Patents- II	2	--	--
Total Credits				**21**

IV Year – I SEMESTER

S. No.	Subject	T	P	Credits
1	Cryptography and Network Security	4	-	3
2	UML & Design Patterns	4	-	3
3	Mobile Computing	4	-	3
4	**Elective –I**	4	-	3
5	**Elective – II**	4	-	3
6	UML & Design Patterns Lab	-	3	2
7	Mobile Application Development Lab	-	3	2

8	Software Testing Lab	-	3	2
9	Hadoop & BigData Lab	-	3	2
Total Credits				**23**

IV Year – II SEMESTER

S. No.	Subject	T	P	Credits
1	**Elective – III**	4	-	3
2	**Elective – IV**	4	-	3
3	Distributed Systems	4	-	3
4	Management Science	4	-	3
5	Project	-	-	9
Total Credits				**21**

Elective – I:
i) Software Testing Methodologies
ii) Simulation Modeling
iii) Information Retrieval Systems
iv) Artificial Intelligence
v) Multimedia Computing
vi) High Performance Computing

Elective – II:
i. Digital Forensics
ii. Hadoop and Big Data
iii. Software Project Management
iv. Machine Learning
v. Advanced Databases

Elective – III:
i) Human Computer Interaction
ii) Advanced Operating Systems
iii) Mobile Adhoc & Sensor Networks
iv) Pattern Recognition
v) Digital Image Processing
vi) Micro processers and Multi Core Systems

Elective-IV:
i) Embedded and Real Time Systems
ii) Neural Networks & Soft Computing
iii) Social Networks and the Semantic Web
iv)Cloud Computing

ACADEMIC REGULATIONS
COURSE STRUCTURE
AND
DETAILED SYLLABUS

For

MASTER OF BUSINESS ADMINISTRATION

JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY KAKINADA

KAKINADA - 533 003, Andhra Pradesh, India

Course Structure MBA (Regular) 2013-2014

(Effective for the students admitted into first year from the academic year 2013-2014)

I SEMESTER

Subject	Title	Marks	Credits
1	Management Theory & Organization Behavior	100	3
2	Managerial Economics	100	3
3	Accounting for Managers	100	3
4	Managerial Communication & Soft Skills	100	3
5	Business Environment	100	3
6	Quantitative Analysis for Business Decision	100	3
7	IT – LAB	100	2

SEMESTER - II

Subject	Title	Marks	Credits
1	Financial Management	100	3
2	Human Resource Management	100	3
3	Marketing Management	100	3
4	Production and Operations Management	100	3
5	Business Research Methods	100	3
6	Business Ethics and Corporate Governance	100	3
7	Mini Project+Seminar on Mini Project	50+50	2+2

SEMESTER - III

Subject	Title	Marks	Credits
1	Strategic Management	100	3
2	Legal Aspects of Business	100	3
3	Retail Management	100	3
4	Elective –I	100	3
5	Elective –II	100	3
6	Elective –I	100	3
7	Elective –II	100	3

SEMESTER - IV

Subject	Title	Marks	Credits
1	Logistic and Supply Chain Management	100	**3**
2	Entrepreneurship Development	100	3
3	Elective –III	100	3
4	Elective –IV	100	3
5	Elective –III	100	3
6	Elective – IV	100	3
7	Major Project & Comprehensive Viva	Grade	8
	Total Marks / Credits	**2700**	**90**

Dual Electives:

The elective papers will be offered in the areas of Marketing, Finance, Human Resource Management (HRM), and Systems. The students should choose any **Two** of the following **elective areas** in the beginning of the third semester of MBA. Specialization will be offered subject to a minimum of 20 students.

Marketing (Elective-I)

I. Product Management
II. Promotion and Distribution Management
III. Services Marketing
IV. Consumer Behavior

Finance (Elective-II)

I. Investment Management
II. Banking and Insurance
III. International Financial Management
IV. Financial Risk Management

HRM (Elective-III)

I. Compensation and Performance Management
II. Management of Industrial Relations
III. Global Human Resource Management
IV. Management of Change and Development

Systems (Elective-IV)

I. E-Business
II. Enterprise Resource Planning
III. Information Systems Audit & Control
IV Software Project Management

ACADEMIC REGULATIONS
COURSE STRUCTURE
AND
DETAILED SYLLABUS

For
M.Tech: EEE

Common Specializations:

I.	**Power Electronics**
II.	**Power Industrial Drives**
III.	**Power and Industrial Drives**
IV.	**Power Electronics and Electrical Drives**
V.	**Power Electronics and Drives**
VI.	**Power Electronics and systems**
VII.	**Electrical Machines and Drives**

JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY KAKINADA
KAKINADA - 533 003, Andhra Pradesh, India

COURSE STRUCTURE

I SEMESTER

S.No	Name of the Subject	L	P	C
1	Electrical Machine Modeling & Analysis	4	—	3
2	Analysis of Power Electronic Converters	4	—	3
3	Electric Drives - I	4	—	3
4	Flexible AC Transmission Systems	4	—	3
5	Elective – I Modern Control Theory Power Quality Optimization Techniques	4	—	3
6	Elective – II Energy Auditing, Conservation and Management Artificial Intelligence Techniques HVDC Transmission	4	—	3
7	Systems Simulation Lab	—	4	2
	Total			**20**

II SEMESTER

1	Switched Mode Power Conversion	4	—	3
2	Electric Drives- II	4	—	3
3	Digital Controllers	4	—	3
4	Custom Power devices	4	—	3
5	Elective – III Renewable Energy Systems Reactive Power Compensation & Management Electrical Distribution Systems	4	—	3
6	Elective – IV Smart Grid Special Machines Programmable Logic Controllers & Applications	4	—	3
7	Power Converters & Drives Lab	—	4	2
	Total			**20**

ACADEMIC REGULATIONS
COURSE STRUCTURE
AND
DETAILED SYLLABUS

For

M.Tech: MEC

Specialization :

MACHINE DESIGN

Common Specializations:

I.	**Thermal Engineering**
II.	**CAD/CAM**
III.	**Machine Design**
IV.	**Computer Aided Design and Manufacture**
V.	**Advanced Manufacturing Systems**
VI.	**Computer Aided Analysis & Design**
VII.	**Mechanical Engineering Design**

JAWAHARLALNEHRU TECHNOLOGYUNIVERSITYKAKINADA

KAKINADA - 533 003, Andhra Pradesh, India

COURSESTRUCTURE

I SEMESTER

S.No	Name of the Subject	L	P	C
1	COMPUTATIONAL METHODS IN ENGINEERING	4	0	3
2	ADVANCED MECHANICS OF SOLIDS	4	0	3
3	ADVANCED MECHANISMS	4	0	3
4	MECHANICAL VIBRATIONS	4	0	3
5	DESIGNWITHADVANCEDMATERIALS	4	0	3
6	ELECTIVE – I DESIGN OF AUTOMOBILE SYSTEMS PRODUCT DESIGN GEOMETRIC MODELLING NON DESTRUCTIVE EVALUATION	4	0	3
7	MACHINE DYNAMICS LAB	0	4	2
	Total			**20**

II SEMESTER

1	OPTIMIZATION AND RELIABILITY	4	0	3
2	EXPERIMENTAL STRESS ANALYSIS	4	0	3
3	FINITE ELEMENT METHOD	4	0	3
4	ELECTIVE – II FRACTURE MECHANICS GEAR ENGINEERING DESIGN FOR MANUFACTURING CONTINUUM MECHANICS	4	0	3
5	ELECTIVE - III TRIBOLOGY SIGNAL ANALYSIS AND CONDITION MONITORING COMPUTATIONAL FLUID DYNAMICS DESIGN SYNTHESIS	4	0	3
6	ELECTIVE-IV PRESSURE VESSEL DESIGN MECHANICS OF COMPOSITE MATERIALS	4	0	3

	MECHATRONICS THEORY OF PLASTICITY			
7	DESIGN PRACTICE LAB	0	6	4
	Total			**22**

III SEMESTER

1	SEMINAR - I	0	3	2
2	COMPREHENSIVE VIVA VOCE			2
3	PROJECT - PART I			14
	Total			**18**

IV SEMESTER

1	Seminar – II	0	3	2
2	PROJECT PART II & VIVA VOCE			18
	Total			**20**

ACADEMIC REGULATIONS
COURSE STRUCTURE
AND
DETAILED SYLLABUS

For

ECE BRANCH

COMMON FOR

1. VLSI
2. VLSI Design
3. VLSI System Design
4. VLSI & MICRO ELECTRONICS

JAWAHARLALNEHRUTECHNOLOGYUNIVERSITYKAKINADA

KAKINADA - 533 003, Andhra Pradesh, India

DEPARTMENTOFELECTRONICSAND COMMUNICATION ENGINEERING

Specialization: VLSI/ VLSI Design/ VLSI System Design/ VLSI & Micro Electronics

COURSESTRUCTURE

I SEMESTER

S.No	Name of the Subject	L	P	C
1	VLSI Technology and Design	4	-	3
2	CMOS Analog IC Design	4	-	3
3	CPLD and FPGAArchitecturesand Applications	4	-	3
4	CMOS Digital IC Design	4	-	3
5	**Elective I** Digital System Design Advanced Operating Systems Soft Computing Techniques	4	-	3
6	Elective II Digital Design using HDL Advanced Computer Architecture Hardware Software Co-Design	4	-	3
7	**Laboratory** VLSI Laboratory-I	-	3	2
	TOTAL			**20**

II SEMESTER

1	Low Power VLSI Design	4	-	3
2	CMOS Mixed Signal Circuit Design	4	-	3
3	CAD for VLSI	4	-	3
4	Design For Testability	4	-	3
5	Elective III Scripting Languages DigitalSignalProcessors&Architectures VLSI Signal Processing	4	-	3
6	**Elective IV** System on Chip Design	4	-	3

	Optimization Techniques in VLSI Design SemiconductorMemoryDesignand Testing			
7	**Laboratory** VLSI Laboratory-II	-	3	2
	TOTAL			**20**

IV –SEMESTER

1	Seminar	—	—	2
2	Project (Continued)	—	—	18
	Total		**20**	

III – SEMESTER

1	Seminar	—	—	2
2	Project	—	—	18
	Total			**20**

The project will be evaluated at the end of the IV Semester

ACADEMIC REGULATIONS
COURSE STRUCTURE
AND
DETAILED SYLLABUS

For

COMPUTER SCIENCE ENGINEERING BRANCH

COMPUTER SCIENCE & ENGINEERING

JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY KAKINADA

KAKINADA - 533 003, Andhra Pradesh, India

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

Specialization: COMPUTER SCIENCE & ENGINEERING

COURSE STRUCTURE

I SEMESTER

S.NO	SUBJECT	L	P	C
1	ADVANCED DATA STRUCTURES AND ALGORITHM ANALYSIS	4	-	3
2	MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE	4	-	3
3	COMPUTER ORGANIZATION AND ARCHITECTURE	4	-	3
4	DATABASE MANAGEMENT SYSTEMS	4	-	3
5	OPERATING SYSTEMS	4	-	3
6	SOFTWARE ENGINEERING	4	-	3
7	CSE LAB I	-	3	2
	TOTAL			**20**

II SEMESTER

1	INFORMATION SECURITY	4	-	3
2	COMPUTER NETWORKS	4	-	3
3	DATA WAREHOUSING AND DATA MINING	4	-	3
4	**ELECTIVE 1** MOBILE COMPUTING COMPILER DESIGN HUMAN COMPUTER INTERACTION	4	-	3
5	**ELECTIVE 2** IMAGE PROCESSING SOFT COMPUTING OBJECT ORIENTED ANALYSIS AND DESIGN	4	-	3
6	**ELECTIVE 3** ADVANCED UNIX PROGRAMMING BIO INFORMATICS CLOUD COMPUTING	4	-	3
7	CSE LAB2		3	2
	TOTAL			**20**

III SEMESTER

S.NO.	SUBJECT	L	P	C
1	COMPREHENSIVE VIVA	—	—	2
2	SEMINAR-I	—	—	2
3	PROJECT WORK PART - I	—	—	16
	TOTAL			**20**

IV SEMESTER

S.NO.	SUBJECT	L	P	C
1	SEMINAR-II	—	—	2
2	PROJECT WORK PART - II	—	—	18
	TOTAL			**20**

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R-10 - EEE

IV YEAR **I SEMESTER**

S. No.	Subject	T	P	Credits
1	Computer Organization	4	-	4
2	High Voltage Engineering	4	-	4
3	Switch Gear & Protection	4	-	4
4	Power System Operation & Control	4	-	4
5	Open Elective	4	-	4
6	Elective – I	4	-	4
7	Microprocessors & Microcontrollers Lab	-	3	2
8	Electrical Simulation Lab	-	3	2
	Total			**28**

IV YEAR **II SEMESTER**

S. No.	Subject	T	P	Credits
1	Digital Control Systems	4	-	4
2	Elective – II	4	-	4
3	Elective – III	4	-	4
4	Elective – IV	4	-	4
5	Project	-	-	12
	Total			**28**

Open Elective:

1. Energy Audit, Conservation and Management (for all branches)
2. Instrumentation (for all branches)
3. Non Conventional Sources of Energy (except EEE branch students)
4. Optimization Techniques (except EEE branch students)

Elective – I:

1. VLSI Design
2. Electrical Distribution Systems
3. Optimization Techniques

Elective – II:

1. Advanced Control Systems
2. Extra High Voltage Transmission
3. Special Electrical Machines

Elective – III:

1. Non Conventional Sources of Energy
2. Digital Signal Processing
3. FACTS: Flexible Alternating Current Transmission Systems.

Elective-IV:

1. OOPS through Java
2. UNIX and Shell Programming
3. AI Techniques

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R-10-ME

IV YEAR I SEMESTER

S. No.	Subject	T	P	Credits
1	Refrigeration & Air Conditioning	4	-	4
2	CAD/CAM	4	-	4
3	Alternative Sources of Energy	4	-	4
4	Unconventional Machining Processes	4	-	4
5	Open Elective	4	-	4
6	Departmental Elective – I	4	-	4
7	Simulation Lab	-	3	2
8	Advanced Communication skills Lab	-	3	2
	Total			**28**

IV YEAR II SEMESTER

S. No.	Subject	T	P	Credits
1	Interactive Computer Graphics	4	-	4
2	Departmental Elective – II	4	-	4
3	Departmental Elective – III	4	-	4
4	Departmental Elective – IV	4	-	4
5	Project Work			12
	Total			**28**

DEPARTMENTAL ELECTIVE- I
1. Automobile Engineering
2. Computational Fluid Dynamics
3. Condition Monitoring
4. Rapid Prototyping

DEPARTMENTAL ELECTIVE- II
1. Metal Corrosion
2. Nanotechnology
3. Automation in Manufacturing
4. Industrial Hydraulics & Pneumatics

DEPARTMENTAL ELECTIVE- III
1. Non Destructive Evaluation
2. DBMS
3. Advanced Materials
4. Power Plant Engineering

DEPARTMENTAL ELECTIVE- IV
1. Production Planning and Control
2. Advanced Optimization Techniques
3. Gas Dynamics & Jet Propulsion
4. Quality and Reliability Engineering

OPEN ELECTIVE
1. MEMS
2. Industrial Robotics(Except for Mechanical Students)

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S. No.	Subject	T	P	Credits
1	Interactive Computer Graphics	4	-	4
2	Departmental Elective – II	4	-	4
3	Departmental Elective – III	4	-	4
4	Departmental Elective – IV	4	-	4
5	Project Work			12
	Total			**28**

DEPARTMENTAL ELECTIVE- I	DEPARTMENTAL ELECTIVE- II
1. Automobile Engineering	1. Metal Corrosion
2. Computational Fluid Dynamics	2. Nanotechnology
3. Condition Monitoring	3. Automation in Manufacturing
4. Rapid Prototyping	4. Industrial Hydraulics & Pneumatics
DEPARTMENTAL ELECTIVE- III	**DEPARTMENTAL ELECTIVE- IV**
1. Non Destructive Evaluation	1. Production Planning and Control
2. DBMS	2. Advanced Optimization Techniques
3. Advanced Materials	3. Gas Dynamics & Jet Propulsion
4. Power Plant Engineering	4. Quality and Reliability Engineering

OPEN ELECTIVE

1. MEMS
2. Industrial Robotics(Except for Mechanical Students)

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA
(R10) IV Year B.Tech Electronics and Communication Engineering-I & II sem
w.e.f 2010-2011 academic year

COURSE STRUCTURE

IV **I**

s.no	Subject	T	P	Credits
1	OPTICALCOMMUNICATIONS	4	-	4
2	EMBEDDED SYSTEMS	4	-	4
3	DIGITAL IMAGE PROCESSING	4	-	4
4	RADAR SYSTEMS	4	-	4
5	Telecommunication Switching System	4	-	4
6	DIGITAL SIGNAL PROCESSING LAB	-	3	2
7	MICROWAVE AND OPTICALCOMMUNICATIONS LAB	-	3	2
	Total	20	6	24

IV **II**

s.no	Subject	T	P	Credits
1	CELLULAR AND MOBILE COMMUNICATIONS	4	-	4
2	SATELLITE COMMUNICATIONS	4	-	4
3	OPERATING SYSTEMS	4	-	4
4	TELEVISION ENGINEERING	4	-	4
	Total	16	0	16

w.e.f. 2010-2011 academic year

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY: KAKINADA
KAKINADA-533003, Andhra Pradesh (India)

COMPUTER SCIENCE AND ENGINEERING

COURSE STRUCTURE

IV B.Tech I Semester				
S.No	**Subject**	**P**	**C**	**Credits**
1	Cryptography and Network Security			4
2	UML & Design Patterns			4
3	Data Ware Housing and Data Mining			4
4	Mobile Computing			4
5	**Open Elective** i. MATLAB ii.Web Services iii. Open Source Software iv.Cyber Laws			4
6	**Elective –I:** i. Computer Forensics ii. Cloud Computing iii. Software Project Management iv. Machine Learning v. Distributed Databases			4
7	UML & Design Patterns Lab			2
8	Mobile Application Development Lab			2

(i) LinearLayout

(ii) RelativeLayout

(iii) TableLayout

(iv) GridView layout

13. Write an Android application program that converts the temperature in Celsius to Fahrenheit.

14. Write an Android application program that demonstrates intent in mobile application development.

w.e.f. 2010-2011 academic year

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KAKINADA-533003, Andhra Pradesh (India)

COMPUTER SCIENCE AND ENGINEERING

COURSE STRUCTURE

IV B.Tech II Semester				
S.No	**Subject**	**P**	**C**	**Credits**
1	**Elective –II** i) Human Computer Interaction ii) Advanced Operating Systems			4

	iii) Mobile Adhoc & Sensor Networks iv)Pattern Recognition v) Digital Image Processing			
2	**Elective –III** i) Embedded and Real Time Systems ii) Simulation and Modeling iii)Information Retrieval Systems iv) Artificial Intelligence v) Multimedia & Application Development			4
3	**Elective –IV** i) Software Testing Methodologies ii) Neural Networks & Soft Computing iii)Social Networks and the Semantic Web iv) Parallel Computing v) E- Commerce			4
4	Distributed Systems			4
5	Project			12

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

IV Year B. Tech. Computer Science and Engineering – II Sem.

HUMAN COMPUTER INTERACTION

UNIT I: Introduction: Importance of user Interface, definition, importance of good design. Benefits of good design. A brief history of Screen design