

# **K.S.R.M COLLEGE OF ENGINEERING**

**(AUTONOMOUS)**

## **INDEX**

### **NEW COURSES OFFERED**

**A.Y 2020-21**

<b>S.NO</b>	<b>PROGRAMME NAME</b>
<b>1</b>	<b>Department of Civil Engineering</b>
<b>2</b>	<b>Department of Electrical &amp; Electronics Engineering</b>
<b>3</b>	<b>Department of Mechanical Engineering</b>
<b>4</b>	<b>Department of Electronics and Communication Engineering</b>
<b>5</b>	<b>Department of Computer Science Engineering</b>
<b>6</b>	<b>Department of Humanities and Sciences</b>



# K.S.R.M. COLLEGE OF ENGINEERING

(UGC-AUTONOMOUS)

Kadapa, Andhra Pradesh, India- 516 003

Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu.

An ISO 14001:2004 & 9001: 2015 Certified Institution

## Department of Civil Engineering

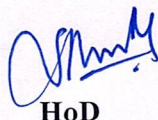
### New courses offered under R18UG regulations, AY 2020-2021

#### Fifth Semester

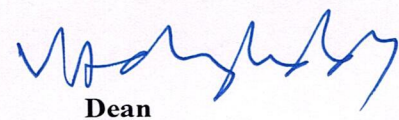
Course Code	Course Title
1801501	Solid Mechanics – 2
1801502	Hydraulic Machinery
1801503	Structural Analysis - 1
1801505	Environmental Engineering
1801506	Transportation Engineering
1801507	Advanced Structural Analysis by Matrix Methods
1801509	Ground Improvement Techniques
1801511	Highway Construction and Management
1801512	Railway Engineering
1801513	Surface Hydrology
1801514	Geotechnical Engineering Lab
1801515	Transportation Engineering Laboratory

#### Sixth Semester

Course Code	Course Title
1801602	Concrete Technology
1801603	Structural Analysis-2
1801604	Design of Reinforced Concrete Structures – 1
1801607	Advanced Concrete Structures
1801608	Design of Structural Systems (Tall Buildings)
1801609	Airport Planning and Design
1801610	Port and Harbour Engineering
1801611	Environmental Laws and Policy
1801612	Urban Hydrology and Hydraulics
1801614	Concrete Technology Lab
1801615	Foundation Engineering Lab



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Head  
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(Autonomous)  
KADAPA - 516 003. (A.P.)

(Academics)

**Regulations for UG Program in Engineering (R18 UG)**  
**(Effective from 2018-19 for regular students and 2019-20**  
**for lateral entry students)**

**B. Tech (R18) Syllabus**  
**Civil Engineering**



**Kandula Srinivasa Reddy Memorial College of**  
**Engineering (Autonomous)**

**Kadapa-516005. AP**

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**(An ISO 9001-2008 Certified Institution)**

## UG Programs in Civil Engineering (R18 UG)

### Curriculum

#### 1<sup>st</sup> Semester

Subject Code	Subject Category	Subject Title	L	T	P	IM	EM	CR
1821101	BSC	Mathematics – 1	3	1	0	30	70	4
1823102	BSC	Engineering Chemistry	3	1	0	30	70	4
1824103	HSMC	English	2	0	0	30	70	2
1805104	ESC	Programming for Problem Solving	3	0	0	30	70	3
1823107	BSC	Chemistry Lab	0	0	3	50	50	1.5
1805108	ESC	Programming for Problem Solving Lab	0	0	4	50	50	2
1824109	HSMC	English Lab	0	0	2	50	50	1
<b>Total</b>			<b>11</b>	<b>2</b>	<b>9</b>	<b>270</b>	<b>430</b>	<b>17.5</b>

#### 2<sup>nd</sup> Semester

Subject Code	Subject Category	Subject Title	L	T	P	IM	EM	CR
1821201	BSC	Mathematics – 2	3	1	0	30	70	4
1822202	BSC	Engineering Physics	3	1	0	30	70	4
1802205	ESC	Basic Electrical Engineering	3	1	0	30	70	4
1803207	ESC	Engineering Graphics and Design	1	0	4	50	50	3
1822208	BSC	Engineering Physics Lab	0	0	3	50	50	1.5
1802209	ESC	Basic Electrical Engineering Lab	0	0	2	50	50	1
1803211	ESC	Workshop and Manufacturing Practice	1	0	4	50	50	3
<b>Total</b>			<b>11</b>	<b>3</b>	<b>13</b>	<b>290</b>	<b>410</b>	<b>20.5</b>

#### 3<sup>rd</sup> Semester

Subject Code	Subject Category	Subject Title	L	T	P	IM	EM	CR
1823301	BSC	Biology for Engineers	2	0	0	30	70	2
1821302	BSC	Numerical Methods, Probability & Statistics	2	1	0	30	70	3
1803303	ESC	Basic Mechanical Engineering	2	1	0	30	70	3
1801304	PCC	Engineering Mechanics	3	1	0	30	70	4
1801305	PCC	Surveying and Geomatics	2	1	0	30	70	3
1801306	PCC	Building Materials and Construction	2	1	0	30	70	3
1801307	PCC	Computer Aided Civil Engineering Drawing Lab	0	0	4	50	50	2
1801308	PCC	Surveying and Geomatics Lab	0	0	2	50	50	1
1801309	PCC	Civil Engineering Workshop	0	0	2	50	50	1
<b>Total</b>			<b>13</b>	<b>5</b>	<b>8</b>	<b>330</b>	<b>570</b>	<b>22</b>

#### 4<sup>th</sup> Semester

Subject Code	Subject Category	Subject Title	L	T	P	IM	EM	CR
1825401	OEC I	Managerial Economics & Financial Analysis	3	0	0	30	70	3
1824402	HSMC	Effective Technical Communication	2	1	0	30	70	3
1801403	PCC	Engineering Geology	2	0	0	30	70	2

1801404	PCC	Fluid Mechanics	3	1	0	30	70	4
1801405	PCC	Solid Mechanics – 1	3	1	0	30	70	4
1801406	PCC	Disaster Preparedness & Planning Management	2	0	0	30	70	2
18994M1	MC 1	Environmental Studies	2	0	0	30	0	0
1801407	PCC	Engineering Geology Lab	0	0	2	50	50	1
1801408	PCC	Fluid Mechanics Lab	0	0	3	50	50	1.5
1801409	PCC	Solid Mechanics Lab	0	0	3	50	50	1.5
		<b>Total</b>	<b>17</b>	<b>3</b>	<b>8</b>	<b>360</b>	<b>570</b>	<b>22</b>

#### 5<sup>th</sup> Semester

Subject Code	Subject Category	Subject Title	L	T	P	IM	EM	CR
18995M1	MC 2	Human Values and Professional Ethics	2	0	0	30	0	0
1801501	PCC	Solid Mechanics – 2	2	1	0	30	70	3
1801502	PCC	Hydraulic Machinery	2	0	0	30	70	2
1801503	PCC	Structural Analysis – 1	2	1	0	30	70	3
1801504	PCC	Geotechnical Engineering	2	1	0	30	70	3
1801505	PCC	Environmental Engineering	2	0	0	30	70	2
1801506	PCC	Transportation Engineering	2	0	0	30	70	2
PEC 1	PEC 1	RS & GIS	2	0	0	30	70	2
1801514	PCC	Geotechnical Engineering Lab	0	0	2	50	50	1
1801515	PCC	Transportation Engineering Lab	0	0	2	50	50	1
1801516	PCC	Environmental Engineering Lab	0	0	2	50	50	1
1801517	PROJ	Socially Relevant Project	0	0	0	100	0	2
		<b>Total</b>	<b>16</b>	<b>3</b>	<b>6</b>	<b>490</b>	<b>640</b>	<b>22</b>

#### 6<sup>th</sup> Semester

Subject Code	Subject Category	Subject Title	L	T	P	IM	EM	CR
1814601	ESC	Basic Electronics and Sensor Technology	2	0	0	30	70	2
1801602	PCC	Concrete Technology	2	0	0	30	70	2
1801603	PCC	Structural Analysis – 2	2	1	0	30	70	3
1801604	PCC	Design of Reinforced Concrete Structures – 1	2	1	0	30	70	3
1801605	PCC	Foundation Engineering	2	0	0	30	70	2
1801606	PCC	Water Resources Engineering – 1	2	1	0	30	70	3
PEC 2	PEC 2	Port and Harbour Engineering	2	0	0	30	70	2
1814613	ESC	Basic Electronics and Sensor Technology Lab	0	0	2	50	50	1
1801614	PCC	Concrete Technology Lab	0	0	2	50	50	1
1801615	PCC	Foundation Engineering Lab	0	0	2	50	50	1
1801616	PROJ	Internship	0	0	0	100	0	2
		<b>Total</b>	<b>14</b>	<b>3</b>	<b>6</b>	<b>460</b>	<b>640</b>	<b>22</b>

#### 7<sup>th</sup> Semester

Subject Code	Subject Category	Subject Title	L	T	P	IM	EM	CR
1801701	PCC	Engineering Economics, Estimation & Costing	2	0	0	30	70	2

1801702	PCC	Design of Reinforced Concrete Structures – 2	2	1	0	30	70	3
1801703	PCC	Design of Steel Structures	2	0	0	30	70	2
1801704	PCC	Water Resources Engineering – 2	2	0	0	30	70	2
1801705	PCC	Sanitary Engineering & Solid Waste Management	2	0	0	30	70	2
PEC 3	PEC 3		2	0	0	30	70	2
OEC 2	OEC 2		3	0	0	30	70	3
OEC 3	OEC 3		3	0	0	30	70	3
1801715	PROJ	Project – 1 (Project work, seminar and internship in industry or at appropriate work place)	0	0	12	100	0	3
<b>Total</b>			<b>18</b>	<b>1</b>	<b>12</b>	<b>340</b>	<b>560</b>	<b>22</b>

### 8<sup>th</sup> Semester

Subject Code	Subject Category	Subject Title	L	T	P	IM	EM	CR
1899801	MC 3	Organisational Behaviour	2	0	0	30	0	0
1801802	PCC	Repairs & Rehabilitation of Structures	2	0	0	30	70	2
PEC 4	PEC 4		2	0	0	30	70	2
OEC 4	OEC 4		3	0	0	30	70	3
1801809	PROJ	Project – 2 (Continued from 7 <sup>th</sup> Semester, Project work, seminar and internship in industry or at appropriate work place)	0	0	12	50	50	5
<b>Total</b>			<b>9</b>	<b>0</b>	<b>12</b>	<b>170</b>	<b>260</b>	<b>12</b>

### Professional Elective Courses

Subject	PEC 1	PEC 2	PEC 3	PEC 4
<b>Structural Engineering</b>	1. Pre-stressed Concrete	1. Advanced Concrete Structures 2. Design of Structural Systems (Tall Buildings)	1. Advanced Structural Analysis by Matrix Methods	1. Bridge Engineering 2. Finite Element Methods
<b>Geotechnical Engineering</b>	1. Ground Improvement Techniques 2. RS & GIS		1. Advanced Foundation Engineering 2. Soil Dynamics & Machine Foundation	1. Environmental Geo-Technology
<b>Transportation Engineering</b>	1. Highway Construction and Management 2. Railway Engineering	1. Airport Planning and Design 2. Port and Harbour Engineering	1. Intelligent Transportation Systems	1. Urban Transportation Planning.
<b>Construction</b>			1. Construction	


<b>Engineering &amp; Management</b>			Project Planning & Systems	
<b>Environmental Engineering</b>		1. Environmental Laws and Policy	1. Environmental Impact Assessment	
<b>Hydraulics, Hydrology &amp; Water Resources Engineering</b>	1. Surface Hydrology	1. Urban Hydrology and Hydraulics	1. Integrated Watershed Management	1. Design and Drawing of Irrigation Structures

### List of Professional Elective Subjects for R18 Curriculum

- 1801508 - Prestressed Concrete
- 1801509 - Ground Improvement Techniques
- 1801510 - RS & GIS
- 1801511 - Highway Construction and Management
- 1801512 - Railway Engineering
- 1801513 - Surface Hydrology
- 1801607 - Advanced Concrete Structures
- 1801608 - Design of Structural Systems (Tall Buildings)
- 1801609 - Airport Planning and Design
- 1801610 - Port and Harbour Engineering
- 1801611 - Environmental Laws and Policy
- 1801612 - Urban Hydrology and Hydraulics
- 1801706 - Advanced Structural Analysis by Matrix Methods
- 1801707 - Advanced Foundation Engineering
- 1801708 - Soil Dynamics & Machine Foundation
- 1801709 - Intelligent Transportation Systems
- 1801710 - Construction Project Planning & Systems
- 1801711 - Environmental Impact Assessment
- 1801712 - Integrated Watershed Management
- 1801803 - Bridge Engineering
- 1801804 - Finite Element Methods
- 1801805 - Environmental Geo-Technology
- 1801806 - Urban Transportation Planning
- 1801807 - Design and Drawing of Irrigation Structures

### List of Open Elective Subjects for R18 Curriculum

- 18OE101 - Engineering Mechanics
- 18OE102 - Surveying
- 18OE103 - Building Technology
- 18OE104 - Estimating and Costing
- 18OE105 - Water Supply Engineering
- 18OE106 - Construction Practice and Management
- 18OE107 - Disaster Preparedness
- 18OE108 - Rehabilitation of Structures

  
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**List of Honours Subjects for R18 Curriculum**

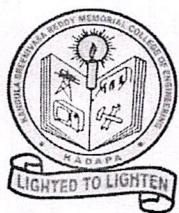
- 1892101 - Highway Construction and Management
- 1892102 - Railway Engineering
- 1892103 - Ground Improvement Techniques
- 1892104 - Airport Planning and Design
- 1892105 - Advanced Foundation Engineering
- 1892106 - Soil Dynamics & Machine Foundation
- 1892107 - Construction Project Planning & Systems
- 1892108 - Environmental Geo-Technology Construction Practice and Management



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Department of Electrical and Electronics Engineering

New Courses Offered Under R18UG

Academic Year 2020-2021

## V Semester

S.No	Name of the Subject	Subject Code
1	Energy Auditing & Demand Side Management	1802505
2	Electrical Machine Design	1802506
3	Advanced Control Systems	1802507
4	Instrumentation	1802508
5	Energy Conversion Systems	1802509
6	Socially Relevant Projects	1802513

## VI Semester

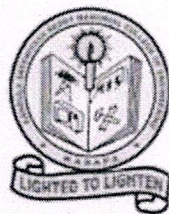
S.No	Name of the Subject	Subject Code
1	Power System Deregulation	1802604
3	PLC & its Applications	1802606
5	Electric & Hybrid Vehicles	1802608
6	Internet of Things Lab	1802611
7	Internship	1802612
8	Fundamentals of Control Systems (OE-I)	18OE201
9	MATLAB Programming (OE-I)	18OE202

Head of the Department

Dean of Academics

HEAD  
Department of Electrical &  
Electronics Engineering  
K.S.R.M. College of Engineering  
Cuddapah - 516 003

**ACADEMIC REGULATIONS  
COURSE STRUCTURE  
AND  
DETAILED SYLLABI  
OF  
ELECTRICAL AND ELECTRONICS ENGINEERING  
FOR  
B.TECH REGULAR FOUR YEAR DEGREE PROGRAM  
(For the batches admitted from 2018-2019)  
&  
FOR B.TECH LATERAL ENTRY PROGRAM  
(For the batches admitted from 2019-2020)**



**Kandula Srinivasa Reddy Memorial College of Engineering  
(Autonomous)**

**Kadapa 516005 AP**

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## Detailed Course Structure & Syllabus

### B. Tech - I Semester (Theory - 4, Lab - 3)

S. No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	1821101	Mathematics-I	BSC	3	1	0	30	70	4
2	1823102	Engineering Chemistry	BSC	3	1	0	30	70	4
3	1824103	English	HSMC	2	0	0	30	70	2
4	1805104	Programming for Problem Solving	ESC	3	0	0	30	70	3
5	1823107	Chemistry Lab	BSC	0	0	3	50	50	1.5
6	1805108	Programming for Problem Solving Lab	ESC	0	0	4	50	50	2
7	1824109	English Lab	HSMC	0	0	2	50	50	1
<b>Total</b>				11	02	09	270	430	17.5

### B. Tech - II Semester (Theory - 4, Lab - 3)

S. No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	1821201	Mathematics-II	BSC	3	1	0	30	70	4
2	1822203	Engineering Physics	BSC	3	1	0	30	70	4
3	1802206	Basic Electrical Engineering	ESC	3	1	0	30	70	4
4	1803207	Engineering Graphics & Design	ESC	1	0	4	50	50	3
5	1822208	Engineering Physics Lab	BSC	0	0	3	50	50	1.5
6	1802210	Basic Electrical Engineering Lab	ESC	0	0	2	50	50	1
7	1803211	Workshop on Manufacturing Practices	ESC	1	0	4	50	50	3
<b>Total</b>				11	03	13	290	410	20.5

*A. V. S. Rao*  
HEAD

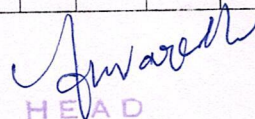
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**B. Tech – III Semester (Theory - 6, Lab - 3)**

S. No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	1823301	Biology for Engineers	BSC	2	0	0	30	70	2
2	1814302	Electronics Devices & Circuits	PCC	3	0	0	30	70	3
3	1802303	Electrical Circuit Analysis	PCC	3	1	0	30	70	4
4	1802304	Electromagnetic Fields	PCC	3	0	0	30	70	3
5	1802305	Electrical Machines - I	PCC	3	1	0	30	70	4
6	1802306	Power Systems - I	PCC	3	0	0	30	70	3
7	1802307	Electrical Circuit Analysis Lab	PCC	0	0	2	50	50	1
8	1814308	Electronics Devices & Circuits Lab	PCC	0	0	2	50	50	1
9	1824309	Soft Skills Lab	HSMC	0	0	2	50	50	1
<b>Total</b>				17	02	06	330	570	22

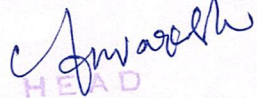
**B. Tech – IV Semester (Theory - 6, Lab - 3)**

S. No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	1821401	Mathematics - III	BSC	3	0	0	30	70	3
2	1814402	Digital System Design	PCC	3	0	0	30	70	3
3	1802403	Electrical Measurements	PCC	3	0	0	30	70	3
4	1802404	Control Systems	PCC	3	0	0	30	70	3
5	1802405	Electrical Machines - II	PCC	3	0	0	30	70	3
6	1802406	Power Systems - II	PCC	3	0	0	30	70	3
7	1802407	Electrical Measurements Lab	PCC	0	0	2	50	50	1
8	1802408	Electrical Machines - I Lab	PCC	0	0	2	50	50	1
9	1805409	Python Programming Lab	ESC	0	0	4	50	50	2
10	18994M1	Environmental Science	MC	2	0	0	30	00	0
<b>Total</b>				20	00	08	360	570	22

  
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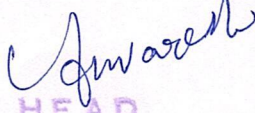
B. Tech – V Semester (Theory - 5, Lab - 3)

S. No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	1804501	Microprocessors & Microcontrollers	PCC	3	0	0	30	70	3
2	1814502	Linear Digital IC Applications	PCC	3	0	0	30	70	3
3	1802503	Power Electronics	PCC	3	0	0	30	70	3
4	1802504	Power System Operation & Control	PCC	3	0	0	30	70	3
		<b>Professional Elective-I (PE-I)</b>							
	1802505	Energy Auditing & Demand Side Management	PEC	3	0	0	30	70	3
5	1802506	Electrical Machine Design	PEC	3	0	0	30	70	3
	1802507	Advanced Control Systems	PEC	3	0	0	30	70	3
	1802508	Instrumentation	PEC	3	0	0	30	70	3
	1802509	Energy Conversion Systems	PEC	3	0	0	30	70	3
6	1802510	Electrical Machines - II Lab	PCC	0	0	3	50	50	1.5
7	1802511	Control Systems & Simulation Lab	PCC	0	0	3	50	50	1.5
8	1824514	Advanced English Communication Lab	HS MC	0	0	4	50	50	2
10	1802513	Socially Relevant Projects (60 hrs/Semester)	PROJ	-	-	-	100	-	2
Total				15	01	08	400	500	22

  
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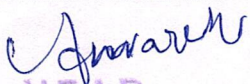
B. Tech – VI Semester (Theory - 5, Lab - 3)

S. No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	1824601	Management Science	HSMC	3	0	0	30	70	3
2	1802602	Power Semiconductor Drives	PCC	3	0	0	30	70	3
3	1802603	Switchgear & Protection	PCC	3	0	0	30	70	3
		<b>Professional Elective -II (PE -II)</b>							
	1802604	Power System Deregulation	PEC	3	0	0	30	70	3
	1802605	High Voltage DC Transmission	PEC	3	0	0	30	70	3
4	1802606	PLC & its Applications	PEC	3	0	0	30	70	3
	1802607	Signals & Systems	PEC	3	0	0	30	70	3
	1802608	Electric & Hybrid Vehicles	PEC	3	0	0	30	70	3
5	--	<b>Open Elective - I (OE-I)</b>	OEC	3	0	0	30	70	3
6	1802609	Power Electronics & Simulation Lab	PCC	0	0	3	50	50	1.5
7	1802610	Power Systems - I Lab	PCC	0	0	3	50	50	1.5
8	1802611	Internet of Things Lab	PCC	0	0	4	50	50	2
9	1802612	Internship	PROJ	0	0	0	100	00	2
10	18996M2	Constitution of India	MC	2	0	0	30	--	--
<b>Total</b>				17	00	10	430	500	22

  
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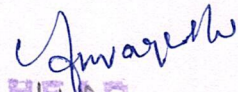
B. Tech – VII Semester (Theory - 5, Lab - 3, Project - I Stage)

S. No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	1825701	Project Management	HSMC	3	0	0	30	70	3
2	1802702	Utilization of Electrical Power	PCC	3	0	0	30	70	3
3		<b>Professional Elective -III (PE - III)</b>							
	1802703	Flexible AC Transmission System	PEC	3	0	0	30	70	3
	1802704	Power Quality	PEC	3	0	0	30	70	3
	1802705	Digital Control Systems	PEC	3	0	0	30	70	3
	1802706	Digital Signal Processing	PEC	3	0	0	30	70	3
	1802707	Smart Grid	PEC	3	0	0	30	70	3
4	--	<b>Open Elective - II (OE-II)</b>	PEC	3	0	0	30	70	3
5	--	<b>Open Elective - III (OE-III)</b>	PEC	3	0	0	30	70	3
6	1802708	Labview Programming	ESC	0	0	3	50	50	1.5
7	1802709	Power Systems -II Lab	PCC	0	0	3	50	50	1.5
8	1824710	Effective Technical Communication Skills Lab	HSMC	0	0	2	50	50	1
8	1802711	Project Stage - I	PROJ	0	0	6	100	00	3
9	18997M3	Universal Human Values	MC	2	0	0	30	00	0
Total				19	00	14	380	450	22

  
**HEAD**  
 Department of Electrical &  
 Electronics Engineering  
 K.S.R.M. College of Engineering  
 Cuddapah - 516 003

**Department of Electrical & Electronics Engineering**  
**List of Open Electives Offering to Other Branches (R18UG)**

S. No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
		Open Elective Course - I (OEC-I)							
1	18OE201	Fundamentals of Control Systems	OEC	3	0	0	30	70	3
2	18OE202	MATLAB Programming	OEC	3	0	0	30	70	3
		Open Elective Course – II (OEC-II)							
3	18OE203	Energy Conversion Systems	OEC	3	0	0	30	70	3
4	18OE204	Internet of Things	OEC	3	0	0	30	70	3
		Open Elective Course - III (OEC-III)							
5	18OE205	Intelligent Control Techniques	OEC	3	0	0	30	70	3
6	18OE206	Electrical System Estimation & Costing	OEC	3	0	0	30	70	3
		Open Elective Course - IV (OEC-IV)							
7	18OE207	Basics of Power Electronics	OEC	3	0	0	30	70	3
8	18OE208	System Reliability Concepts	OEC	3	0	0	30	70	3

  
**HEAD**  
 Department of Electrical &  
 Electronics Engineering  
 K.S.R.M. College of Engineering  
 Cuddapah - 516 003



# K.S.R.M. COLLEGE OF ENGINEERING

(UGC-AUTONOMOUS)

Kadapa, Andhra Pradesh, India- 516 003

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## DEPARTMENT OF MECHANICAL ENGINEERING

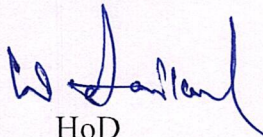
### New Courses Offered Under R20UG Regulations A.Y 2020-21

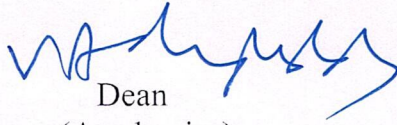
#### FIRST SEMESTER

Course code	Course Title
20EW105	Engineering Workshop

#### SECOND SEMESTER

Course code	Course Title
2003204	Material Science
2003205	Engineering Drawing
2003206	Engineering Drawing Lab
2003209	Material Science Lab

  
HoD  
Professor & head  
Department of Mechanical Engineering  
K.S.R.M. College of Engineering  
KADAPA - 516 003.

  
Dean  
(Academics)

**Regulations, Curriculum and Syllabus for  
UG Programs in Engineering (R20UG)  
(Effective from 2020-21 for Regular students and from 2021-22 for Lateral Entry students)**

**MECHANICAL ENGINEERING**



**Kandula Srinivasa Reddy Memorial College of Engineering  
(Autonomous)  
Kadapa 516005, AP  
(Approved by AICTE, Affiliated to JNTUA, Ananthapuramu, Accredited by NAAC)  
(An ISO 9001-2008 Certified Institution)**

## MECHANICAL ENGINEERING

### Course Structure

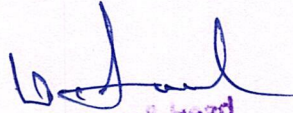
#### I Semester

S.No	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	2021101	Linear Algebra and Calculus	BS	3	0	0	40	60	3
2	2023102	Chemistry	BS	3	0	0	40	60	3
3	2005103	C-Programming & Data Structures	ES	3	0	0	40	60	3
4	2014104	Basic Electrical & Electronics Engineering	ES	3	0	0	40	60	3
5	20EW105	Engineering Workshop	ES	0	0	3	40	60	1.5
6	2005106	IT Workshop	ES	0	0	3	40	60	1.5
7	2023107	Chemistry Lab	BS	0	0	3	40	60	1.5
8	2005108	C-Programming & Data Structures Lab	ES	0	0	3	40	60	1.5
9	2014109	Basic Electrical & Electronics Engineering Lab	ES	0	0	3	40	60	1.5
<b>Total</b>				<b>12</b>	<b>0</b>	<b>15</b>	<b>360</b>	<b>540</b>	<b>19.5</b>

L - Lecture, T - Tutorial, P - Practical

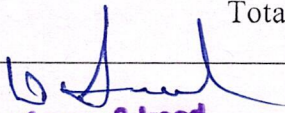
#### II Semester

S.No	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	2021201	Differential Equations and Vector Calculus	BS	3	0	0	40	60	3
2	20AP202	Applied Physics	BS	3	0	0	40	60	3
3	2024203	Communicative English	HS	3	0	0	40	60	3
4	2005204	Material Science	ES	3	0	0	40	60	3
5	2003205	Engineering Drawing	ES	1	0	2	40	60	2
6	2003206	Engineering Drawing Lab	ES	0	0	2	40	60	1
7	20AP207	Applied Physics Lab	BS	0	0	3	40	60	1.5
8	2024208	Communicative English Lab	HS	0	0	3	40	60	1.5
9	2005209	Material Science Lab	ES	0	0	3	40	60	1.5
10	20MC211	Universal Human Values	MC	3	0	0	30	00	0.0
<b>Total</b>				<b>16</b>	<b>0</b>	<b>13</b>	<b>390</b>	<b>540</b>	<b>19.5</b>

  
Professor & head  
Department of Mechanical Engineering  
K.S.R.M. College of Engineering  
KADAPA - 516 003.

Semester III [Second year]

S. N O	Course Code	Subject code	Course Title	Hours per week			IM	EM	Total contact hours	credits
				L	T	P				
1	BSC 301	1823301	Biology for Engineers	3	0	0	30	70	3	3
2	BSC	1821302	Numerical methods, probability and statics	2	0	0	30	70	2	2
3	ESC 301	1801303	Engineering Mechanics	3	0	0	30	70	3	3
4	PCC-ME	1803304	Manufacturing Process	3	0	0	30	70	3	3
5	PCC-ME	1803305	Strength of materials	3	0	0	30	70	3	3
6	PCC-ME	1803306	Material science and engineering	3	0	0	30	70	3	3
7	PCC-ME	1803307	Thermodynamics	3	0	0	30	70	3	3
8	PCC	1803308	Material science, Mechanics of solids Lab	0	0	3	50	50	3	1
9	PCC	1803309	Manufacturing technology Lab	0	0	3	50	50	3	1
									Total credits	22
									Total Hours	26

  
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**Department of Mechanical Engineering**  
**K.S.R.M. College of Engineering**  
**KADAPA - 516 003.**

**Semester IV (Second Year)**

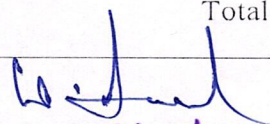
S. N O	Course Code	Subject code	Course Title	Hours per week			IM	EM	Total contact hours	credits
				L	T	P				
1	PCC-ME	1803401	Applied Thermodynamics	3	0	0	30	70	3	3
2	PCC-ME	1803402	Fluid Mechanics & Fluid Machinery	3	0	0	30	70	3	3
3	PCC-ME	1803403	Kinematics of Machinery	3	0	0	30	70	3	3
4	ESC	1814404	Basic Electronic Engineering	3	1	0	30	70	4	4
5	PCC-ME	1803405	Instrumentation and control systems	3	0	0	30	70	3	3
6	PCC-ME	1803406	Computer Aided Machine Drawing	1	0	2	50	50	3	2
7	ESC	1803407	Basic Electronics & MOF Lab	0	0	3	50	50	3	1.5
8	MC-I	18994M1	Environmental Science	2	0	0	30	0	2	0
9	PCC – ME	1803408	Seminar/Industrial Training	0	0	1	100	0	1	1
10	HMSC-	1824409	Advanced English communication Lab	0	0	3	50	50	03	1.5
									Total credits	22
									Total Hours	27

  
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**Department of Mechanical Engineering**  
**K.S.R.M. College of Engineering**  
**KADAPA - 516 003.**

S. N O	Course Code	Subject code	Course Title	Hours per week			IM	EM	Total contact hours	credits
				L	T	P				
1	PCC	1803701	CAD/CAM	3	1	0	30	70	3	3
2	PCC	1803702	Finite Element Methods	3	0	0	30	70	3	2
		1803703	Quality engineering & management	3	0	0	30	70	3	2
3	PEC- III	1803704	Production and operation management (Professional Elective-III)	3	0	0	30	70	3	3
		1803705	Rapid prototyping	3	0	0	30	70	3	3
		1803706	Mechatronics	3	0	0	30	70	3	3
		1803707	Flexible manufacturing systems	3	0	0	30	70	3	3
		1803708	Computer Graphics	3	0	0	30	70	3	3
		1803709	Industrial safety	3	0	0	30	70	3	3
4	OEC- II	180E303	Industrial safety & management	3	0	0	30	70	3	3
	OEC- II	180E304	Smart materials	3	0	0	30	70	3	3
5	OEC -III	180E305	Quantitative analysis for business decisions	3	0	0	30	70	3	3
	OEC -III	180E306	Entrepreneurship	3	0	0	30	70	3	3
6	PCC- ME 703	1803714	Metrology Lab	0	0	3	30	70	3	1.5
7	PCC ME704	1803715	Instrumentation & Control Systems Lab	0	0	3	50	50	3	1.5
8	Project-III	1803716	Minor Project	0	0	5	100	00	5	3
09	AUII	1803717	Introduction to ANSYS	0	0	2	50	0	2	0
									Total credits	22

Semester VII (Fourth Year)  
Semester VIII(Fourth Year)

S. N O	Course Code	Subject code	Course Title	Hours per week			IM	EM	Total contact hours	credits
				L	T	P				
1	PEC- IV	1803801	Refrigeration and air conditioning  (Professional Elective-IV)	3	0	0	30	70	3	3
		1803802	Modern manufacturing Methods	3	0	0	30	70	3	3
		1803803	Composite & Nano materials	3	0	0	30	70	3	3
		1803804	Introduction to Expert systems	3	0	0	30	70	3	3
		1803805	Computer Aided Process Planning	3	0	0	30	70	3	3
		1803806	Reliability in engineering	3	0	0	30	70	3	3
2	OEC -IV	1803807	Total quality management	3	0	0	30	70	3	3
		1803808	Introduction to IC engines	3	0	0	30	70	3	3
3	ProjectIV	1803813	Major Project	0	0	12	50	50	12	5
4	Seminar-II	1803814	Seminar-II	0	0	1	100	0	01	1
									Total credits	12
									Total Hours	19

  
Professor & head  
Department of Mechanical Engineering  
K.S.R.M. College of Engineering  
KADAPA - 516 003.



# K.S.R.M. COLLEGE OF ENGINEERING

(UGC-AUTONOMOUS)

Kadapa, Andhra Pradesh, India- 516 003

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## DEPARTMENT OF MECHANICAL ENGINEERING

### New Courses Offered Under R18UG Regulations A.Y 2020-21

#### FIFTH SEMESTER

S.No	Course Code	Course Title
1.	1803506	Automobile Engineering
2.	1803507	Mechanical behavior of metals
3.	1803508	Renewable technologies
4.	1803509	Supply Chain Management
5.	1803510	Manufacturing Methods in Precision Engineering
6.	1803511	Design for Manufacturing

#### SIXTH SEMESTER

S.No	Course Code	Course Title
1.	1803605	Gas turbine and jet propulsion systems
2.	1803606	Computer aided process planning
3.	1803607	Concurrent Engineering
4.	1803608	Introduction to Artificial Intelligence & Expert systems
5.	1803609	Virtual Reality Systems
6.	1803610	Autotronics

HoD

Professor & head  
Department of Mechanical Engineering  
K.S.R.M. College of Engineering  
KADAPA - 516 003.

Dean  
(Academics)

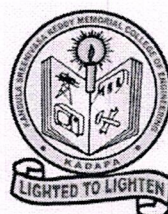
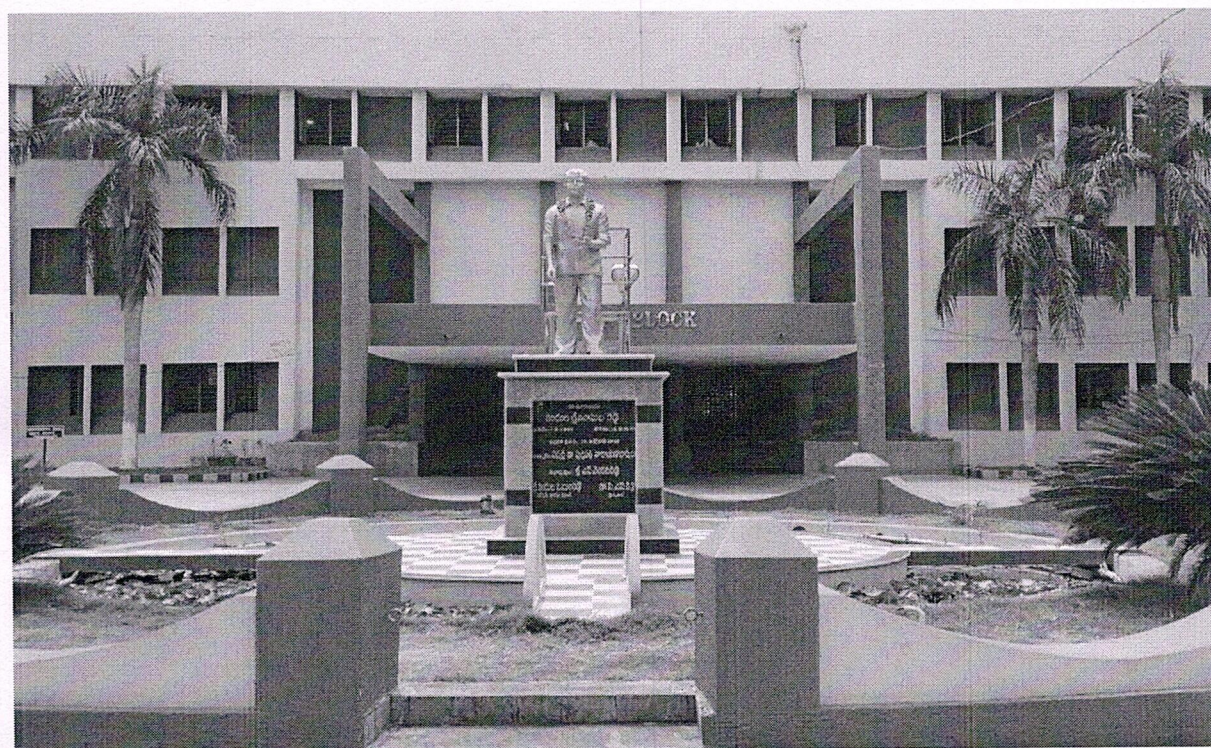


**DEPARTMENT OF  
MECHANICAL ENGINEERING**

**COURSE STRUCTURE AND SYLLABUS  
FOR**

**B.Tech ME (I Sem - VIII Sem) (R18 Regulations)**

**(Effective from 2018-19 for Regular students and from 2019-20 for Later Entry students)**

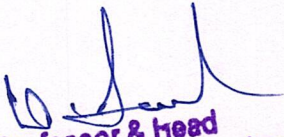


**KANDULA SREENIVASA REDDY MEMORIAL COLLEGE OF ENGINEERING  
(AUTONOMOUS)  
KADAPA - 516005, AP**

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(An ISO 9001-2008 Certified Institution)**

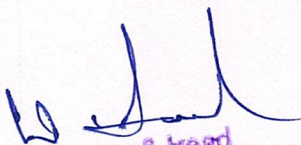
### V Semester

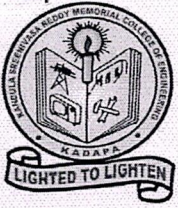
Subject Code	Subject Category	Course Name	L	T	P	IM	EM	CR
1803501	PCC	Heat Transfer	3	0	0	30	70	3
1803502	PCC	DME-I	3	0	0	30	70	3
1803503	PCC	Metrology	3	0	0	30	70	2
1803504	PCC	Dynamics of Machinery	3	0	0	30	70	3
1825505	HSMC	Managerial Economics	3	0	0	30	70	3
1803506	PEC-I	1. Automobile Engineering (Professional Elective-I)	3	0	0	30	70	3
1803507	PEC-I	2. Mechanical Behavior of Metals	3	0	0	30	70	3
1803508	PEC-I	3. Renew Enable Technologies	3	0	0	30	70	3
1803509	PEC-I	4. Supply Chain Management	3	0	0	30	70	3
1803510	PEC-I	5. Manufacturing Methods in Precision Engineering	3	0	0	30	70	3
1803511	PEC-I	6. Design for Manufacturing	3	0	0	30	70	3
1803512	AU1	Additive Manufacturing	0	0	3	30	--	0
1803513	PCC	Mechanical Engg Lab (Thermal -I)	0	0	3	50	50	1.5
1803514	PCC	Mechanical Engg Lab (CAD Lab)	0	0	3	50	50	1.5
1803515	Project-I	Socially Relevant Project	0	0	0	50	50	2
		<b>TOTAL</b>						<b>22</b>

  
**Professor & head**  
**Department of Mechanical Engineering**  
**K.S.R.M. College of Engineering**  
**KADAPA - 516 003.**

## VI Semester

Subject Code	Subject Category	Course Name	L	T	P	IM	EM	CR
1803601	PCC	Machine tools	3	0	0	30	70	3
1803602	PCC	DME-II	3	0	0	30	70	3
1803603	PCC	Operations Research	3	0	0	30	70	3
1803604	PCC	Power Plant Engineering	3	0	0	30	70	2
1803605	PEC- II	Gas Turbine and Jet propulsion systems	3	0	0	30	70	3
1803606	PEC- II	Computer aided Process planning	3	0	0	30	70	3
1803607	PEC- II	Concurrent Engineering	3	0	0	30	70	3
1803608	PEC- II	Introduction to Artificial Intelligence & Expert systems	3	0	0	30	70	3
1803609	PEC- II	Virtual Reality Systems	3	0	0	30	70	3
1803610	PEC- II	Autotronics	3	0	0	30	70	3
18OE301	OEC-I	Energy Systems Engineering	3	0	0	30	70	3
18OE302	OEC-I	Robotics And Application In Manufacturing	3	0	0	30	70	3
1803613	PCC	Machine tools Lab	0	0	3	50	50	1.5
1803614	PCC	Heat Transfer Lab	0	0	3	50	50	1.5
1803615	Project-II	Internship	0	0	0	100	0	2
1825616	MC-II	Organizational Behaviour	2	0	0	30	0	0
1824617	HSMC AU II	Professional Ethics and soft skills	2	0	--	30	--	0
		<b>TOTAL</b>						<b>22</b>

  
 Professor & head  
 Department of Mechanical Engineering  
 K.S.R.M. College of Engineering  
 KADAPA - 516 003.



# K.S.R.M. COLLEGE OF ENGINEERING (UGC-AUTONOMOUS)

Kadapa, Andhra Pradesh, India- 516 003

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## Department of Electronics and Communication Engineering

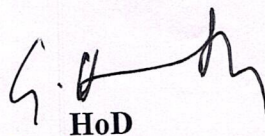
### New courses offered under R18UG regulations, AY 2020-2021

#### Fifth Semester

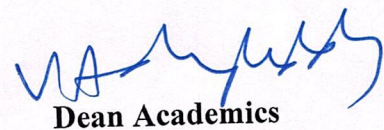
Course Code	Course Title
1804501	Microprocessors & Microcontrollers
1804502	Digital Signal Processing
1804505	Digital IC Applications
1804507	Microprocessors & Microcontrollers Lab
1804508	Analog and Digital IC Lab
1804509	Socially Relevant Project

#### Sixth Semester

Course Code	Course Title
1804601	Embedded Systems
1804603	Microwave Engineering
1804605	Data structures and Algorithms
1804606	Digital Signal Processors & Architectures
1804507	Analog IC Design
1804508	Introduction to MEMS
1804613	Internship

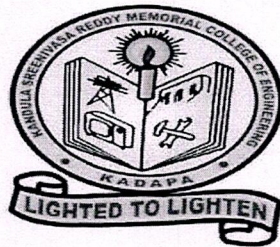
  
HoD

Professor & H.O.D.  
Department of E.C.E.  
K.S.R.M. College of Engineering  
KADAPA - 516 003

  
Dean Academics

**Regulations for UG Program in Engineering (R20UG)**  
(Effective from 2020-21 for regular students and lateral entry students)

**B. Tech. III & IV Semester (R20) Syllabus**  
**Electronics and Communication Engineering**



**Kandula Srinivasa Reddy Memorial College of Engineering**  
**(Autonomous)**

Kadapa-516003. AP

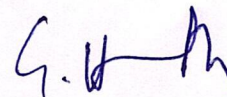
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### I Semester

S. No.	Subject Code	Subject	Category	L	T	P	IM	EM	Credits
1	1821101	Mathematics - I	BSC	3	1	0	30	70	4
2	1822102	Engineering Physics	BSC	3	1	0	30	70	4
3	1802103	Basic Electrical Engineering	ESC	3	1	0	30	70	4
4	1803107	Engineering Graphics & Design	ESC	1	0	4	50	50	3
5	1822108	Engineering Physics Lab	BSC	0	0	3	50	50	1.5
6	1802109	Basic Electrical Engineering Lab	ESC	0	0	2	50	50	1
7	1803110	Workshop and Manufacturing Practices	ESC	1	0	4	50	50	3
		Total:							20.5

### II Semester

S. No.	Subject Code	Subject	Category	L	T	P	IM	EM	Credits
1	1821201	Mathematics - II	BSC	3	1	0	30	70	4
2	1823202	Engineering Chemistry	BSC	3	1	0	30	70	4
3	1824203	English	HSMC	2	0	0	30	70	2
4	1805204	Programming for Problem Solving	ESC	3	0	0	50	50	3
5	1823207	Chemistry Lab	BSC	0	0	3	50	50	1.5
6	1805208	Programming for Problem Solving Lab	ESC	0	0	4	50	50	2
7	1824209	English Lab	HSMC	0	0	2	50	50	1
		Total:							17.5



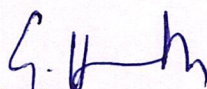
Professor & H.O.D.  
Department of E.C.E.  
K.S.E.M. College of Engineering  
KADAPA-516 093

### III Semester

S. No.	Subject Code	Subject	Category	L	T	P	IM	EM	Credits
1	1821301	Mathematics – III	BSC	3	1	0	30	70	4
2	1825307	Managerial Economics and Financial Analysis	HSMC	3	0	0	30	70	3
3	1804303	Electronic Devices and Circuits	EC	3	0	0	30	70	3
4	1804304	Digital System Design	EC	3	0	0	30	70	3
5	1804305	Signals And Systems	EC	3	0	0	30	70	3
6	1804306	Network Theory	EC	3	0	0	30	70	3
7	1805307	Python Programming	ESC	0	0	3	50	50	1.5
8	1804308	Electronic Devices and Circuits Lab	EC	0	0	3	50	50	1.5
9	18993M1	Environmental Science	MC	2	0	0	30		0
		Total:							22

### IV Semester

S. No.	Subject Code	Subject	Category	L	T	P	IM	EM	Credits	
1	1823401	Biology for Engineers	BSC	2	0	0	30	70	2	
2	1804402	Probability Theory and Stochastic Processes	EC	3	0	0	30	70	3	
3	1804403	Analog and Digital Circuits	EC	3	0	0	30	70	3	
4	1804404	Control Systems	EC	3	0	0	30	70	3	
5	1804405	Linear IC Applications	EC	3	0	0	30	70	3	
6	1804406	Electromagnetic Theory and Transmission lines	EC	3	0	0	30	70	3	
7	1804407	LABVIEW Programming Lab	ESC		0	0	3	50	50	1.5
8	1804408	Analog and Digital Circuits Lab	EC		0	0	3	50	50	1.5
9	1824410	Advanced English Communication Skills lab	HS		0	0	4	50	50	2

  
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Total:

22

**V Semester**

S. No.	Subject Code	Subject	Category	L	T	P	IM	EM	Credits
1	1804501	Microprocessors & Microcontrollers	EC	3	0	0	30	70	3
2	1804502	Digital Signal Processing	EC	3	0	0	30	70	3
3	1804503	Computer Organization	EC	2	0	0	30	70	2
4	1804504	Analog Communication	EC	3	0	0	30	70	3
5	1804505	Digital IC Applications	EC	3	0	0	30	70	3
6	1804506	Antennas and Wave Propagation	EC	3	0	0	30	70	3
7	1804507	Microprocessors & Microcontrollers Lab	EC	0	0	3	50	50	1.5
8	1804508	Analog and Digital IC Lab	EC	0	0	3	50	50	1.5
9	1804509	Socially Relevant Project	PR			4	100		2
		Total:							22

**VI Semester**

S. No.	Subject Code	Subject	Category	L	T	P	IM	EM	Credits
1	1804601	Embedded Systems	EC	3	0	0	30	70	3
2	1804602	Digital Communication	EC	3	0	0	30	70	3
3	1804603	Microwave Engineering	EC	3	0	0	30	70	3
		<b>Professional Elective I</b>							
4	1804604	Fiber-Optic Communication	PE	3	0	0	30	70	3
5	1804605	Data structures and Algorithms	PE	3	0	0	30	70	3
6	1804606	Digital Signal Processors & Architectures	PE	3	0	0	30	70	3
7	1804607	Analog IC Design	PE	3	0	0	30	70	3
8	1804608	Introduction to MEMS	PE	3	0	0	30	70	3

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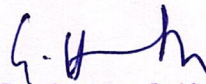
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9		Open Elective I	OE	3	0	0	30	70	3
10	1804609	Analog and digital communication Lab	EC	0	0	3	50	50	1.5
11	1804610	Digital Signal Processing Lab	EC	0	0	3	50	50	1.5
12	1804611	Micro Wave & Optical Communication Lab	EC	0	0	4	50	50	2
13	18996M1	Organizational Behaviour	MC	3	0	0	30		0
14	1804613	Internship	PR				100		2
		Total:							22

### VII Semester

S. No.	Subject Code	Subject	Category	L	T	P	IM	EM	Credits
1	1804701	Internet Of Things	EC	3	0	0	30	70	3
2	1804702	Electronic Measurements & Instrumentation	EC	3	0	0	30	70	3
		<b>Professional Elective II</b>							
3	1804703	Information Theory & Coding	PE	3	0	0	30	70	3
4	1804704	Real Time Operating Systems	PE	3	0	0	30	70	3
5	1804705	Scientific Computing	PE	3	0	0	30	70	3
6	1804706	CMOS Design	PE	3	0	0	30	70	3
7	1804707	Electromagnetic Interference & Compatibility	PE	3	0	0	30	70	3
		<b>Professional Elective III</b>							
8	1804708	Radar and Satellite Communication	PE	3	0	0	30	70	3
9	1804709	Computer System Architecture	PE	3	0	0	30	70	3
10	1804710	Digital Image & Video processing	PE	3	0	0	30	70	3
11	1804711	Digital IC Design	PE	3	0	0	30	70	3
12	1804712	Cognitive Radio	PE	3	0	0	30	70	3

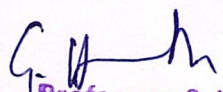
  
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13		<b>Open Elective II</b>	OE	3	0	0	30	70	3
14		<b>Open Elective III</b>	OE	3	0	0	30	70	3
15	1804713	IOT Lab	EC	0	0	2	50	50	1
16	1804714	Project Stage-I	PR	0	0	6	100	0	3
17	1824715	Human Values and Professional Ethics	MC	3	0	0	30	0	0
		<b>Total:</b>							<b>22</b>

### VIII Semester

S. No.	Subject Code	Subject	Category	L	T	P	IM	EM	Credits
		<b>Professional Elective IV</b>							
1	1804801	Wireless Communication	PE	3	0	0	30	70	3
2	1804802	SoC Architecture	PE	3	0	0	30	70	3
3	1804803	Speech Processing	PE	3	0	0	30	70	3
4	1804804	Low Power VLSI	PE	3	0	0	30	70	3
5	1804805	RF System Design	PE	3	0	0	30	70	3
		<b>Open Elective IV</b>	OE	3	0	0	30	70	3
6	1804806	Technical Seminar	PR	0	0	2	100	0	1
7	1804807	Project Stage-II	PR	0	0	10	50	50	5
		<b>Total:</b>							<b>12</b>

<b>Course Title</b>	<b>MATHEMATICS – I</b>					<b>B. Tech. ECE I Sem</b>		
<b>Course Code</b>	<b>Category</b>	<b>Hours/Week</b>			<b>Credits</b>	<b>Maximum Marks</b>		
1821101	BSC	L	T	P	C	Continuous	End	Total

  
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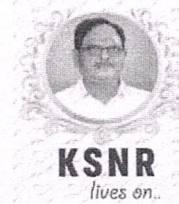
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## Department of Computer Science & Engineering New Courses Offered under R18UG Regulations, AY 2020-21

### R18UG – V Semester

S.no	Course Code	Course Title
1	1805504	Software Engineering
2	1805505	Human Computer interaction (PEC – 1)
3	1805506	Multimedia Systems (PEC – 1)
4	1805507	Distributed Systems (PEC – 1)
5	1805509	Constitution of India
6	1805510	Database lab
7	1805511	Web Technologies
8	1805512	Advanced English and Communications Skills lab
9	1805513	Socially Relevant Project

### R18UG – VI Semester

S.no	Course Code	Course Title
1	1805601	Internet of Things
2	1805602	Data Mining
3	1805605	Mobile Adhoc Networks (PEC – 2)
4	18OE501	Data Structures (OE-1)
5	18OE502	Database Management Systems (OE-1)
6	1805609	Internet of Things Lab
7	1805610	Mobile Application Development Lab

HoD/CSE

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Professor & HOD CSE

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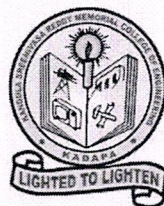
**DEPARTMENT OF  
COMPUTER SCIENCE AND ENGINEERING**

**COURSE STRUCTURE AND SYLLABUS**

**FOR**

**B.Tech CSE (I Sem - VIII Sem) (R18 Regulations)**

**(Effective from 2018-19 for Regular students and from 2019-20 for  
Later Entry students)**



**KANDULA SREENIVASA REDDY MEMORIAL COLLEGE OF  
ENGINEERING (AUTONOMOUS)**

**KADAPA - 516005, AP**

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## COMPUTER SCIENCE AND ENGINEERING

### I Semester

Subject Code	Subject Category	Course Name	L	T	P	IM	EM	CR
1821101	BSC	Mathematics – I	3	1	0	30	70	4
1822104	BSC	Engineering Physics	3	1	0	30	70	4
1802103	ESC	Basic Electrical Engineering	3	1	0	30	70	4
1803107	ESC	Engineering Graphics & Design	1	0	4	50	50	3
1822108	BSC	Engineering Physics Lab	0	0	3	50	50	1.5
1802109	ESC	Basic Electrical Engineering Lab	0	0	2	50	50	1
1803110	ESC	Workshop and Manufacturing Practices	1	0	4	50	50	3
		<b>TOTAL</b>	<b>11</b>	<b>3</b>	<b>13</b>	<b>290</b>	<b>410</b>	<b>20.5</b>

### II Semester

Subject Code	Subject Category	Course Name	L	T	P	IM	EM	CR
1821201	BSC	Mathematics – II	3	1	0	30	70	4
1823202	BSC	Engineering Chemistry	3	1	0	30	70	4
1824203	HSMC	English	2	0	0	30	70	2
1805204	ESC	Programming for Problem Solving	3	0	0	30	70	3
1823207	BSC	Chemistry Lab	0	0	3	50	50	1.5
1805208	ESC	Programming for Problem Solving Lab	0	0	4	50	50	2
1824209	HSMC	English Lab	0	0	2	50	50	1
		<b>TOTAL</b>	<b>11</b>	<b>2</b>	<b>9</b>	<b>270</b>	<b>430</b>	<b>17.5</b>



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### III Semester

Subject Code	Subject Category	Course Name	L	T	P	IM	EM	CR
18993M1	MC	Environmental Science (Mandatory Course-1)	2	0	0	30	--	0
1804302	PN	Basics of Electronics Engineering	3	0	0	30	70	3
1805303	PCC	Data Structures	3	0	0	30	70	3
1805304	PCC	Discrete Mathematics	3	0	0	30	70	3
1805305	PCC	Digital Logic Design	3	0	0	30	70	3
1805306	PCC	Python Programming	3	0	0	30	70	3
1825307	HSMC	Managerial Economics and Financial Accounting	3	0	0	30	70	3
1814311	PN	Basics of Electronics Engineering Lab	0	0	2	50	50	1
1805309	PCC	Data Structures Lab	0	0	3	50	50	1.5
1805310	PCC	Python Programming Lab	0	0	3	50	50	1.5
<b>TOTAL</b>			<b>20</b>	<b>0</b>	<b>8</b>	<b>360</b>	<b>570</b>	<b>22</b>

### IV SEMESTER

Subject Code	Subject Category	Course Name	L	T	P	IM	EM	CR
1823401	BSC	Biology for Engineers	2	0	0	30	70	2
1821402	BSC	Probability & Statistics	3	0	0	30	70	3
1805403	PCC	Computer Organization	3	0	0	30	70	3
1805404	PCC	Operating Systems	3	0	0	30	70	3
1805405	PCC	Design and Analysis of Algorithms	3	0	0	30	70	3
1805406	PCC	Java Programming	3	0	0	30	70	3
1805407	PCC	Formal Languages and Automata Theory	3	0	0	30	70	3
1805408	PCC	Java Programming lab	0	0	2	50	50	1
1805410	PCC	Operating Systems Lab	0	0	2	50	50	1
<b>TOTAL</b>			<b>20</b>	<b>0</b>	<b>4</b>	<b>310</b>	<b>590</b>	<b>22</b>



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**V SEMESTER**

Subject Code	Subject Category	Course Name	L	T	P	IM	EM	CR
1805501	PCC	Web Technologies	2	0	0	30	70	2
1805502	PCC	Data Base Management Systems	3	0	0	30	70	3
1805503	PCC	Computer Networks	3	0	0	30	70	3
1805504	PCC	Software Engineering	3	0	0	30	70	3
1805505	PEC	<b>Professional Elective-1</b>	3	0	0	30	70	3
1805506		1. Human Computer Interaction						
1805507		2. Multimedia Systems						
1805508	PCC	3. Distributed Systems	3	0	0	30	70	3
1825509	PCC	Compiler Design	2	-	-	30	--	0
1805510	PCC	Constitution of India	0	0	2	50	50	1
1805511	PCC	Databases Lab	0	0	2	50	50	1
1824512	HSC	Web Technologies Lab	0	0	2	50	50	1
1805513	Project	Advanced English and Communications Skills lab	0	0	4	100	--	2
		Socially Relevant Project	0	0	4	100	--	2
		<b>TOTAL</b>	<b>19</b>	<b>0</b>	<b>10</b>	<b>460</b>	<b>570</b>	<b>22</b>

**VI SEMESTER**

Subject Code	Subject Category	Course Name	L	T	P	IM	EM	CR
1805601	PCC	Internet of Things	3	0	0	30	70	3
1805602	PCC	Data Mining	3	0	0	30	70	3
1805603	PEC	<b>Professional Elective-2</b>	3	0	0	30	70	3
1805604		1. Artificial Intelligence						
1805605		2. Software Testing						
180E501	OEC	<b>Open Elective-1</b>	3	0	0	30	70	3
180E502		1. Data Structures						
1825609	HSC	2. Database Management Systems	3	0	0	30	70	3
1805608	PCC	Management Science	3	0	0	30	70	3
1805609	PCC	Mobile Application Development	3	0	0	30	70	3
1805610	PCC	Internet of Things Lab	0	0	2	50	50	1
1805611	Project	Mobile Application Development Lab	0	0	2	50	50	1
		Internship	--	--	--	100	--	2
		<b>TOTAL</b>	<b>18</b>	<b>0</b>	<b>04</b>	<b>380</b>	<b>520</b>	<b>22</b>



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### VII SEMESTER

Subject Code	Subject Category	Course Name	L	T	P	IM	EM	CR
1805701	PCC	Machine Learning	3	0	0	30	70	3
1805702	PCC	Big Data Technologies	3	0	0	30	70	3
1805703 1805704 1805705	PEC	<b>Professional Elective-3</b> 1. Computer Graphics 2. Design Patterns 3. Cloud Computing	3	0	0	30	70	3
180E503 180E504	OEC	<b>Open Elective-2</b> 1. Python Programming 2. Computer Networks	3	0	0	30	70	3
180E505 180E506	OEC	<b>Open Elective-3</b> 1. Web Technologies 2. Operating Systems	3	0	0	30	70	3
1805710	PCC	Big Data Technologies Lab	0	0	2	50	50	1
1805711	PCC	Machine Learning Lab	0	0	2	50	50	1
1805712	Project	Technical Seminar	0	0	2	100	--	1
1805713	Project	Project-I	0	0	8	100	--	4
<b>TOTAL</b>			<b>15</b>	<b>0</b>	<b>14</b>	<b>450</b>	<b>450</b>	<b>22</b>

### VIII SEMESTER

Subject Code	Subject Category	Subject Title	L	T	P	IM	EM	CR
1805801 1805802 1805803	PEC	<b>Professional Elective-4</b> 1. Cyber Security 2. Object Oriented Analysis & Design 3. Deep Learning	3	0	0	30	70	3
180E507 180E508	OEC	<b>Open Elective-4</b> 1. Software Engineering 2. Cloud Computing	3	0	0	30	70	3
1805806	Project	Project-II	0	0	12	50	50	6
<b>TOTAL</b>			<b>6</b>	<b>0</b>	<b>12</b>	<b>110</b>	<b>190</b>	<b>12</b>



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## Department of Computer Science & Engineering New Courses Offered under R20UG Regulations, AY 2020-2021

### R20UG – I Semester

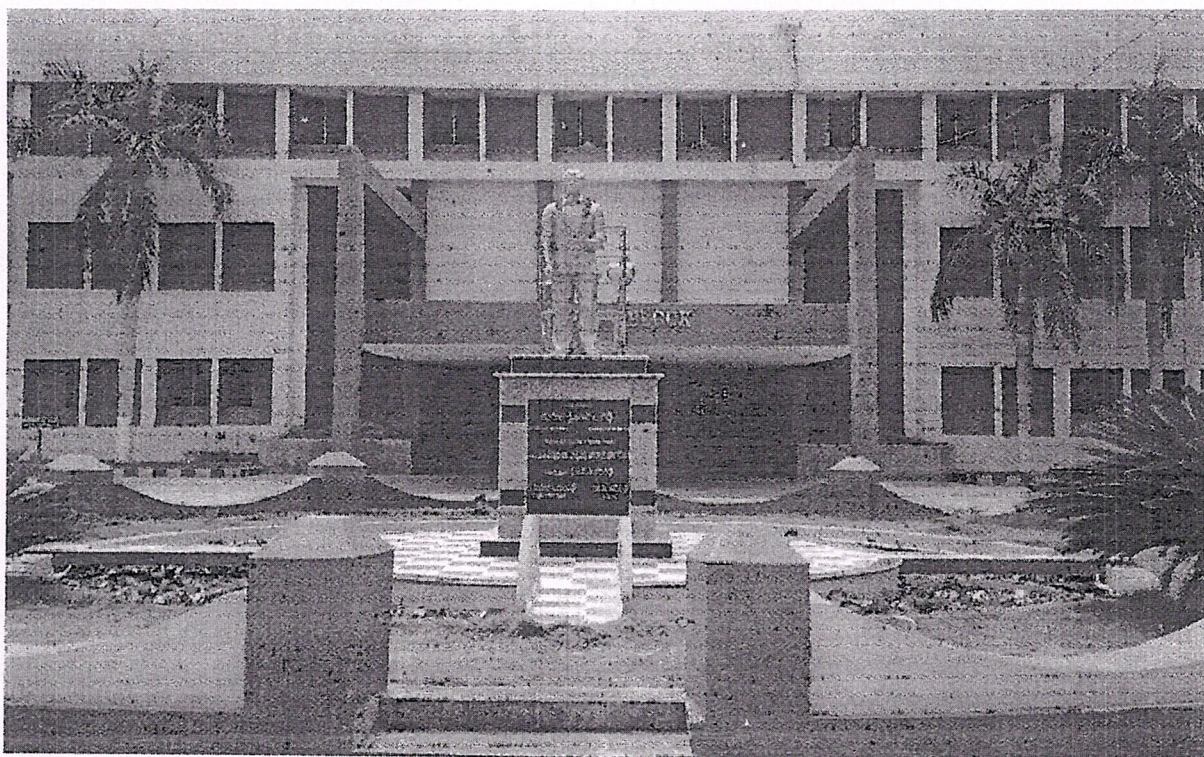
S.no	Course Code	Course Title
1	2005103	C - Programming & Data Structures
2	2005108	C - Programming & Data Structures Lab

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**UG Programs in Engineering (R20UG)  
Curriculum and Syllabus for  
I - VIII Sem B.Tech**

**Department of Computer Science and Engineering**



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Semester-0(Theory-8, Lab-7) Induction Program

S.No	Course Name	Category	L	T	P	C
1	Physical Activities-Sports, Yoga & Meditation, plantation	MC	0	0	6	0
2	Career Counseling	MC	2	0	2	0
3	Orientation to all branches-career options, tools etc.	ESC	3	0	0	0
4	Orientation on admitted branch-corresponding labs, tools & platforms	EC	2	0	3	0
5	Proficiency Modules & Productivity Tools	ES	2	1	2	0
6	Assessment on basic aptitude and mathematical skills	MC	2	0	3	0
7	Remedial Training in foundation courses	MC	2	1	2	0
8	Human values & Professional ethics	MC	3	0	0	0
9	Communication skills-focus on listening, speaking, reading, writing skills	BS	2	1	2	0
10	Concepts of programming	ES	2	0	2	0

L-Lecture, T-Tutorial, P-Practical

I Semester (Theory- 5, Labs-04)

S.No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	2021101	Linear Algebra and Calculus	BSC	3	0	0	40	60	3
2	2023102	Chemistry	BSC	3	0	0	40	60	3
3	2005103	C-Programming & Data Structure	ESC	3	0	0	40	60	3
4	2014104	Basic Electrical & Electronics Engineering	ESC	3	0	0	40	60	3
5	20EW105	Engineering Workshop	ESC	0	0	3	40	60	1.5
6	2005106	IT Workshop	ESC	0	0	3	40	60	1.5
7	2023107	Chemistry Lab	BSC	0	0	3	40	60	1.5
8	2005108	C-Programming & Data Structures Lab	ESC	0	0	3	40	60	1.5
9	2014109	Basic Electrical & Electronics Engineering Lab	ESC	0	0	3	40	60	1.5
<b>Total</b>				<b>12</b>	<b>00</b>	<b>15</b>	<b>360</b>	<b>540</b>	<b>19.5</b>

*Dr. V. Lokeshwara Reddy*

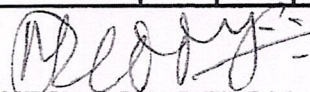
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II Semester (Theory-05, Lab-04)

S.No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	2021201	Differential Equations & Vector Calculus	BSC	3	0	0	40	60	3
2	20AP202	Applied Physics	BSC	3	0	0	40	60	3
3	2024203	Communicative English	HS MC	3	0	0	40	60	3
4	2005204	Python Programming	ESC	3	0	0	40	60	3
5	2003205	Engineering Drawing	ESC	1	0	2	40	60	2
6	2003206	Engineering Drawing Lab	ESC	0	0	2	40	60	1
7	20AP207	Applied Physics Lab	BSC	0	0	3	40	60	1.5
8	2024208	Communicative English Lab	HS MC	0	0	3	40	60	1.5
9	2005209	Python Programming Lab	ESC	0	0	3	40	60	1.5
10	20MC210	Environmental Science	MC	3	0	0	40	00	0.0
<b>Total</b>				<b>16</b>	<b>00</b>	<b>13</b>	<b>390</b>	<b>540</b>	<b>19.5</b>

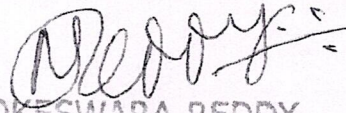
III Semester (Theory-05, Lab-03)

S.No.	Subject Code	SUBJECT	SC	L	T	P	IM	E M	CR
1	2024301	Business Economics and Accounting for Engineers	HSM C	3	0	0	40	60	3
2	2005302	Advanced Data Structures	PCC	3	0	0	40	60	3
3	2005303	Formal Languages & Automata Theory	PCC	3	0	0	40	60	3
4	2005304	Object Oriented Programming through JAVA	PCC	3	0	0	40	60	3
5	2005305	Data Base Management Systems	PCC	3	0	0	40	60	3
6	2005306	Advanced Data Structures Lab	PCC	0	0	3	40	60	1.5
7	2005307	JAVA Lab	PCC	0	0	3	40	60	1.5
8	2005308	Data Base Management Systems Lab	PCC	0	0	3	40	60	1.5
9	2005309	Skill Oriented Course Exploring Data Analysis with R/ NASSCOM Courses	SC	0	0	4	40	60	2.0
<b>Total</b>				<b>15</b>	<b>00</b>	<b>13</b>	<b>400</b>	<b>540</b>	<b>21.5</b>

  
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IV Semester (Theory-05, Lab-03)

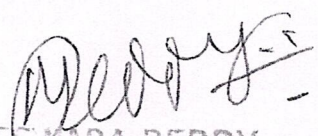
S.No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	2005401	Principles of Operating Systems	PCC	3	0	0	40	60	3
2	2005402	Computer Organization	PCC	3	0	0	40	60	3
3	2004403	Microprocessors & Microcontrollers	ESC	3	0	0	40	60	3
4	2005404	Digital Logic Circuits & Design	PCC	3	0	0	40	60	3
5	2021405	Probability Theory & Statistical Methods	BSC	3	0	0	40	60	3
6	2014406	Microprocessors & Microcontrollers Lab	ESC	0	0	3	40	60	1.5
7	2005407	Principles of Operating Systems Lab	PCC	0	0	3	40	60	1.5
8	2005408	Digital Logic Design Lab	PCC	0	0	3	40	60	1.5
9	2005409	Skill Oriented Course Advanced Python Programming/ NASSCOM Courses	SC	0	0	4	40	60	2.0
10	2024410	Universal Human Values	HSMC	3	0	0	40	60	3.0
<b>Total</b>				<b>18</b>	<b>00</b>	<b>13</b>	<b>400</b>	<b>600</b>	<b>24.5</b>



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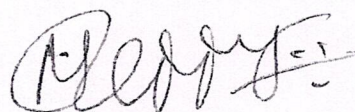
V Semester (Theory-05, Lab-02)

S.No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	2005501	Software Engineering	PCC	3	0	0	40	60	3
2	2005502	Design and Analysis of Algorithms	PCC	3	0	0	40	60	3
3	2005503	Computer Networks	PCC	3	0	0	40	60	3
		Open Elective Course-I(OEC-I)							
4	20OE501	Data Structures	OEC	3	0	0	40	60	3
	20OE502	Database Management Systems	OEC	3	0	0	40	60	3
		Professional Elective Course -I (PEC-I)							
5	2005504	Web Technologies	PEC	3	0	0	40	60	3
	2005505	Multimedia Systems	PEC	3	0	0	40	60	3
	2005506	Distributed Systems	PEC	3	0	0	40	60	3
6	2005507	DAA Lab	PCC	0	0	3	40	60	1.5
7	2005508	Professional Elective Course -I Lab	PCC	0	0	3	40	60	1.5
8	20245SC	Soft Skill Oriented Course Advanced English & Communication Lab/Professional Communication Lab	SC	0	0	4	40	60	2.0
9	2005510	Community Service Project	PROJ	0	0	0	100		1.5
10	20MC509	Constitution of India	MC	2	0	0	40	00	00
<b>Total</b>				<b>17</b>	<b>00</b>	<b>10</b>	<b>420</b>	<b>480</b>	<b>21.5</b>

  
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VI Semester (Theory-05, Lab-03)

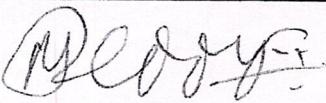
S.No.	Subject Code	SUBJECT	SC	L	T	P	IM	E M	CR
1	2005601	Internet of Things	PCC	3	0	0	40	60	3
2	2005602	Data Mining	PCC	3	0	0	40	60	3
3	2005603	Cryptography & Network Security	PCC	3	0	0	40	60	3
		Open Elective Course -II(OEC-II)							
4	20OE503	Java Programming	OEC	3	0	0	40	60	3
	20OE504	Web Designing	OEC	3	0	0	40	60	3
		Professional Elective Course – II (PEC-II)							
5	2005604	Artificial Intelligence	PEC	3	0	0	40	60	3
	2005605	Software Testing	PEC	3	0	0	40	60	3
	2005606	Adhoc & Sensor Networks	PEC	3	0	0	40	60	3
6	2005607	IOT Lab	PCC	0	0	3	40	60	1.5
7	2005608	Data Mining Lab	PCC	0	0	3	40	60	1.5
8	2005609	Network Security Lab	PCC	0	0	3	40	60	1.5
9	2005610	Skill Oriented Course Mobile Application Development/ NASSCOM Courses	SC	0	0	4	40	60	2.0
10	20MC612	Management Organizational Behavior	MC	2	0	0	40	00	00
<b>Total</b>				<b>17</b>	<b>00</b>	<b>13</b>	<b>440</b>	<b>540</b>	<b>21.5</b>



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VII Semester (Theory-06)

S.No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
		Professional Elective Course-III (PEC-III)							
1	2005701	Compiler Design	PEC	3	0	0	40	60	3
	2005702	Computer Graphics	PEC	3	0	0	40	60	3
	2005703	Cyber Security	PEC	3	0	0	40	60	3
		Professional Elective Course-IV (PEC-IV)							
2	2005704	Machine Learning	PEC	3	0	0	40	60	3
	2005705	Object Oriented Analysis & Design	PEC	3	0	0	40	60	3
	2005706	Natural Language Processing	PEC	3	0	0	40	60	3
		Professional Elective Course-V (PEC-V)							
3	2005707	Cloud Computing	PEC	3	0	0	40	60	3
	2005708	Deep Learning	PEC	3	0	0	40	60	3
	2005709	Computer Vision	PEC	3	0	0	40	60	3
		Open Elective Course-III(OEC-III)							
4	20OE505	Operating System	OEC	3	0	0	40	60	3
	20OE506	R Programming	OEC	3	0	0	40	60	3
		Open Elective Course-IV(OEC-IV)							
5	20OE508	Python Programming	OEC	3	0	0	40	60	3
	20OE509	Cloud Computing	OEC	3	0	0	40	60	3
		Humanities & Social Science Elective							
6	2006701	Human Resource Development	HSM C	3	0	0	40	60	3
	2006702	Digital Marketing	HSM C	3	0	0	40	60	3
	2006703	Project Management	HSM C	3	0	0	40	60	3
7	2005710	Skill Oriented Course Big Data Technologies/ NASSCOM Courses	SC	0	0	4	40	60	2
8	2005711	Internship	INT	0	0	0	100	0	3
<b>Total</b>				<b>18</b>	<b>00</b>	<b>4</b>	<b>380</b>	<b>420</b>	<b>23</b>

  
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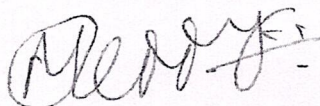


VIII Semester

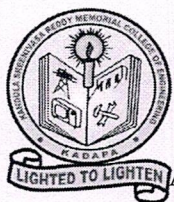
S.No	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	2005801	Major Project/ Internship (6Months)	PROJ	0	0	24	40	60	12
Total									12

Structure of the Undergraduate Engineering Program:

S.No.	Category	Code	Credits	APSCHE Suggested Credits
1	Humanities & Social Sciences including Management Sciences	HSMC	10.5	10
2	Basic Science Courses	BSC	18	21
3	Engineering Science Courses	ESC	24	24
4	Professional Core Courses	PCC	54	51
5	Open Elective Courses	OEC	12	12
6	Professional Elective Courses	PEC	15	15
7	Internship & Project Work	PROJ	16.5	17
8	Mandatory Courses	MC	03	Non-Credit
9	Skill Oriented Courses	SC	10	10
	Total Credits		163	160



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# K.S.R.M. COLLEGE OF ENGINEERING

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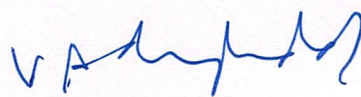
## Department of Humanities & Sciences

### New courses offered under R20UG Regulations in AY.2020-21

#### Semester- I & II

S.No	Name of the subject	Subject Code
1	Communicative English	2024103/2024203 CE,EEE,ECE/ME,CSE
2	Linear Algebra and Calculus	2021101 All Branches
3	Differential Equations and Vector Calculus	2021201 All Branches
4	Chemistry	2023102/2023202 CSE/EEE,ECE
5	Chemistry Lab	2023107/2023207 CSE/EEE,ECE
6	Engineering Chemistry	20EC102/20EC202 ME/CE
7	Engineering Chemistry Lab	20EC107/20EC207 ME/CE
8	Applied Physics	20AP102/20AP202 EEE,ECE/CSE
9	Applied Physics Lab	20AP107/20AP207 EEE,ECE/CSE
10	Engineering Physics	20EP102/20EP202 CE/ME
11	Engineering Physics Lab	20EP107/20EP207 CE/ME

  
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Dean Academics

**Department of Civil Engineering  
R20UG - Curriculum**

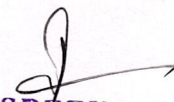
**B. Tech. - I Semester**

Course code	Category	Course Title	Hours / Week			IM	EM	CR
			L	T	P			
2021101	BSC	Linear Algebra and Calculus	3	0	0	40	60	3
20EP102	BSC	Engineering Physics	3	0	0	40	60	3
2024103	HSMC	Communicative English	3	0	0	40	60	3
2014104	ESC	Basic Electrical & Electronics Engineering	3	0	0	40	60	3
2003105	ESC	Engineering Drawing	1	0	2	40	60	2
2003106	ESC	Engineering Drawing Lab	0	0	2	40	60	1
20EP107	BSC	Engineering Physics Lab	0	0	3	40	60	1.5
2024108	HSMC	Communicative English Lab	0	0	3	40	60	1.5
2014109	ESC	Basic Electrical & Electronics Engineering Lab	0	0	3	40	60	1.5
<b>Total</b>			<b>13</b>	<b>0</b>	<b>13</b>	<b>360</b>	<b>540</b>	<b>19.5</b>

L - Lecture, T - Tutorial, P – Practical

**B. Tech. - II Semester**

Course code	Category	Course Title	Hours / Week			IM	EM	CR
			L	T	P			
2021201	BSC	Differential Equations and Vector Calculus	3	0	0	40	60	3
20EC202	BSC	Engineering Chemistry	3	0	0	40	60	3
2005203	ESC	C-Programming & Data Structures	3	0	0	40	60	3
2001204	ESC	Strength of Materials	3	0	0	40	60	3
20EW205	LC	Engineering Workshop	0	0	3	40	60	1.5
2005206	LC	IT Workshop	0	0	3	40	60	1.5
20EC207	BSC	Engineering Chemistry Lab	0	0	3	40	60	1.5
2005208	ESC	C-Programming & Data Structures Lab	0	0	3	40	60	1.5
2001209	ESC	Strength of Materials Lab	0	0	3	40	60	1.5
20MC210	MC	Environmental Science	3	0	0	40	0	0.0
<b>Total</b>			<b>15</b>	<b>0</b>	<b>15</b>	<b>400</b>	<b>540</b>	<b>19.5</b>

  
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# K.S.R.M. College of Engineering, Kadapa.

(AUTONOMOUS)

## Department of Electrical & Electronics Engineering R20UG Course Structure

### Semester - 0 (Theory - 8, Lab - 7) Induction Program

S. No.	Course Name	Category	L	T	P	C
1	Physical Activities - Sports, Yoga & Meditation, plantation	MC	0	0	6	0
2	Career Counseling	MC	2	0	2	0
3	Orientation to all branches - career options, tools etc.ESC	MC	3	0	0	0
4	Orientation on admitted branch - corresponding labs, tools & platforms	EC	2	0	3	0
5	Proficiency Modules & Productivity Tools	ES	2	1	2	0
6	Assessment on basic aptitude and mathematical skills	MC	2	0	3	0
7	Remedial Training in foundation courses	MC	2	1	2	0
8	Human values & Professional ethics	MC	3	0	0	0
9	Communication skills - focus on listening, speaking, reading, writing skills	BS	2	1	2	0
10	Concepts of programming	ES	2	0	2	0


**L - Lecture, T - Tutorial, P - Practical**

**I Semester (Theory – 05, Labs – 04)**

S. No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	2021101	Linear Algebra and Calculus	BSC	3	0	0	40	60	3
2	20AP102	Applied Physics	BSC	3	0	0	40	60	3
3	2024103	Communicative English	HSMC	3	0	0	40	60	3
4	2005103	C-Programming & Data Structures	ESC	3	0	0	40	60	3
5	2003105	Engineering Drawing	ESC	1	0	2	40	60	2
6	2003106	Engineering Drawing Lab	ESC	0	0	2	40	60	1
7	20AP107	Applied Physics Lab	BSC	0	0	3	40	60	1.5
8	2024108	Communicative English Lab	HSMC	0	0	3	40	60	1.5
9	2005108	C-Programming & Data Structures Lab	ESC	0	0	3	40	60	1.5
Total				13	00	13	310	590	19.5

**II Semester (Theory – 05, Lab – 05)**

S. No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	2021201	Differential Equations & Vector Calculus	BSC	3	0	0	40	60	3
2	2023202	Chemistry	BSC	3	0	0	40	60	3
3	2002203	Electrical Circuits Analysis-I	ESC	3	0	0	40	60	3
4	2004204	Electronic Devices & Circuits	ESC	3	0	0	40	60	3
5	20EW205	Engineering Workshop	ESC	0	0	3	40	60	1.5
6	2005206	IT Workshop	ESC	0	0	3	40	60	1.5
7	2023207	Chemistry Lab	BSC	0	0	3	40	60	1.5
8	2002208	Electrical Circuits Analysis-I Lab	ESC	0	0	3	40	60	1.5
9	2004209	Electronic Devices & Circuits Lab	ESC	0	0	3	40	60	1.5
10	20MC210	Environmental Science	MC	2	0	0	40	00	0.0
Total				15	00	10	350	580	19.5

  
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**KSRM COLLEGE OF ENGINEERING**

NAME OF THE DEPARTMENT: MECHANICAL ENGINEERING

**UG Programs in Mechanical Engineering (R20 UG) Curriculum**


**B. Tech. - I semester**

Subject code	Subject Category	Course title	L	T	P	IM	EM	CR
2021101	BSC	Linear Algebra and Calculus	3	0	0	40	60	3
20EC102	BSC	Engineering Chemistry	3	0	0	40	60	3
2005103	ESC	C-Programming & Data Structures	3	0	0	40	60	3
2014104	ESC	Basic Electrical & Electronics Engineering	3	0	0	40	60	3
20EW105	LC	Engineering Workshop	0	0	3	40	60	1.5
2005106	LC	IT Workshop	0	0	3	40	60	1.5
20EC107	BSC	Engineering Chemistry Lab	0	0	3	40	60	1.5
2005108	ESC	C-Programming & Data Structures	0	0	3	40	60	1.5
2014109	ESC	Basic Electrical & Electronics Engineering Lab	0	0	2	40	60	1.5
<b>Total</b>			<b>12</b>	<b>0</b>	<b>14</b>	<b>360</b>	<b>540</b>	<b>19.5</b>

L - Lecture, T - Tutorial, P – Practical

**B. Tech. - II semester**

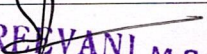
Course code	Category	Course title	L	T	P	IM	EM	CR
2021201	BSC	Differential Equations and Vector Calculus	3	0	0	40	60	3
20EP202	BSC	Engineering Physics	3	0	0	40	60	3
2024203	HSMC	Communicative English	3	0	0	40	60	3
2003204	ESC	Material Sciences	3	0	0	40	60	3
2003205	ESC	Engineering Drawing	1	0	2	40	60	2
2003206	ESC	Engineering Drawing Lab	0	0	2	40	60	1
2024208	HSMC	Communicative English Lab	0	0	3	40	60	1.5
20EP207	BSC	Engineering Physics Lab	0	0	3	40	60	1.5
2003209	ESC	Material science Lab	0	0	3	40	60	1.5
20MC210	MC	Environmental Science	3	0	0	40	0	0.0
<b>Total</b>			<b>16</b>	<b>0</b>	<b>13</b>	<b>400</b>	<b>540</b>	<b>19.5</b>

  
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**Department of ECE**  
**COURSE STRUCTURE – R20UG REGULATIONS**

Semester-I									
S.No.	Code	Course Name	Category	L	T	P	IM	EM	Credits
1.	2021101	Linear Algebra and Calculus	BSC	3	0	0	40	60	3
2.	20AP102	Applied Physics	BSC	3	0	0	40	60	3
3.	2024103	Communicative English	HS	3	0	0	40	60	3
4.	2002104	Fundamentals of Electrical Engineering	ESC	3	0	0	40	60	3
5.	2003105	Engineering Drawing	ESC	1	0	2	40	60	2
6.	2003106	Engineering Drawing Lab	ESC	0	0	2	40	60	1
7.	20AP107	Applied Physics Lab	BSC	0	0	3	40	60	1.5
8.	2024108	Communicative English Lab	HS	0	0	3	40	60	1.5
9.	2002109	Fundamentals of Electrical Engineering Lab	ESC	0	0	3	40	60	1.5
<b>Total</b>									<b>19.5</b>

Semester-II									
S.No.	Code	Course Name	Category	L	T	P	IM	EM	Credits
1.	2021201	Differential Equations and Vector Calculus	BSC	3	0	0	40	60	3
2.	2023202	Chemistry	BSC	3	0	0	40	60	3
3.	2005203	C-Programming & Data Structures	ESC	3	0	0	40	60	3
4.	2004204	Electronic Devices & Circuits	ESC	3	0	0	40	60	3
5.	20EW205	Engineering Workshop	LC	0	0	3	40	60	1.5
6.	2005206	IT Workshop	LC	0	0	3	40	60	1.5
7.	2023207	Chemistry Lab	BSC	0	0	3	40	60	1.5
8.	2005208	C-Programming & Data Structures Lab	ESC	0	0	3	40	60	1.5
9.	2004209	Electronic Devices & Circuits Lab	ESC	0	0	3	40	60	1.5
10	20MC210	Environmental Science	MC	3	0	0	40	0	0
<b>Total</b>									<b>19.5</b>

  
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K.S.R.M. College of Engineering, Kadapa.

(AUTONOMOUS)

Department of Computer Science & Engineering

R20UG Course Structure

Semester-0(Theory-8, Lab-7) Induction Program

S.No.	Course Name	Category	L	T	P	C
1	Physical Activities-Sports, Yoga & Meditation, plantation	MC	0	0	6	0
2	Career Counseling	MC	2	0	2	0
3	Orientation to all branches-career options, tools etc.	ESC	3	0	0	0
4	Orientation on admitted branch- Corresponding labs, tools & platforms	EC	2	0	3	0
5	Proficiency Modules & Productivity Tools	ES	2	1	2	0
6	Assessment on basic aptitude and mathematical skills	MC	2	0	3	0
7	Remedial Training in foundation courses	MC	2	1	2	0
8	Human values & Professional ethics	MC	3	0	0	0
9	Communication skills- Focus on listening, speaking, reading, writing skills	BS	2	1	2	0
10	Concepts of programming	ES	2	0	2	0

L-Lecture, T-Tutorial, P-Practical I Semester (Theory- 5, Labs-04)

S.No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	2021101	Linear Algebra and Calculus	BSC	3	0	0	40	60	3
2	2023102	Chemistry	BSC	3	0	0	40	60	3
3	2005103	C-Programming & Data Structure	ESC	3	0	0	40	60	3
4	2014104	Basic Electrical & Electronics Engineering	ESC	3	0	0	40	60	3
5	20EW105	Engineering Workshop	ESC	0	0	3	40	60	1.5
6	2005106	IT Workshop	ESC	0	0	3	40	60	1.5
7	2023107	Chemistry Lab	BSC	0	0	3	40	60	1.5
8	2005108	C-Programming & Data Structures Lab	ESC	0	0	3	40	60	1.5
9	2014109	Basic Electrical & Electronics Engineering Lab	ESC	0	0	3	40	60	1.5
Total				12	00	15	360	540	19.5

Dr. I. SRIVANI M.Sc., Ph.D

Head of Humanities & Sciences


K.S.R.M. College of Engineering

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**II Semester(Theory-05,Lab-05)**

S.No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	2021201	Differential Equations and Vector Calculus	BSC	3	0	0	40	60	3
2	20AP202	Applied Physics	BSC	3	0	0	40	60	3
3	2024203	Communicative English	HSMC	3	0	0	40	60	3
4	2005204	Python Programming	ESC	3	0	0	40	60	3
5	2003205	Engineering Drawing	ESC	1	0	2	40	60	2
6	2003206	Engineering Drawing Lab	ESC	0	0	2	40	60	1
7	20AP207	Applied Physics Lab	BSC	0	0	3	40	60	1.5
8	2024208	Communicative English Lab	HSMC	0	0	3	40	60	1.5
9	2005209	Python Programming Lab	ESC	0	0	3	40	60	1.5
10	20MC210	Environmental Science	MC	3	0	0	40	00	0.0
Total				16	00	13	390	540	19.5

  
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# K.S.R.M. COLLEGE OF ENGINEERING

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Kadapa, Andhra Pradesh, India- 516 003

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## Department of Humanities & Sciences

### New courses offered under R18UG Regulations in AY.2020-21

#### Semester-V

S.No	Name of the subject	Subject Code
1	Advanced English and Communication Skills Lab	1824512
2	Managerial Economics	1825505

#### Semester-VI

1	Advanced Numerical Methods	180E2601
2	Engineering Materials	180E2602
3	Basics of Nanotechnology	180E2603
4	Write it right	180E2604
5	Human Capital Management	180E2605
6	Human values and Professional Ethics	18995M1
7	Management Science	1824601/1825609
8	Organizational Behaviour	1825616/1899601

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Dean Academics

**Department of Civil Engineering (R18 UG)  
Curriculum**

**5<sup>th</sup> Semester**

Subject Code	Subject Category	Subject Title	L	T	P	IM	EM	CR
18995M1	MC 2	Human Values and Professional Ethics	2	0	0	30	0	0
1801501	PCC	Solid Mechanics – 2	2	1	0	30	70	3
1801502	PCC	Hydraulic Machinery	2	0	0	30	70	2
1801503	PCC	Structural Analysis – 1	2	1	0	30	70	3
1801504	PCC	Geotechnical Engineering	2	1	0	30	70	3
1801505	PCC	Environmental Engineering	2	0	0	30	70	2
1801506	PCC	Transportation Engineering	2	0	0	30	70	2
PEC 1	PEC 1	RS & GIS	2	0	0	30	70	2
1801514	PCC	Geotechnical Engineering Lab	0	0	2	50	50	1
1801515	PCC	Transportation Engineering Lab	0	0	2	50	50	1
1801516	PCC	Environmental Engineering Lab	0	0	2	50	50	1
1801517	PROJ	Socially Relevant Project	0	0	0	100	0	2
<b>Total</b>			<b>16</b>	<b>3</b>	<b>6</b>	<b>490</b>	<b>640</b>	<b>22</b>


**6<sup>th</sup> Semester**

Subject Code	Subject Category	Subject Title	L	T	P	IM	EM	CR
1814601	ESC	Basic Electronics and Sensor Technology	2	0	0	30	70	2
1801602	PCC	Concrete Technology	2	0	0	30	70	2
1801603	PCC	Structural Analysis – 2	2	1	0	30	70	3
1801604	PCC	Design of Reinforced Concrete Structures – 1	2	1	0	30	70	3
1801605	PCC	Foundation Engineering	2	0	0	30	70	2
1801606	PCC	Water Resources Engineering – 1	2	1	0	30	70	3
PEC 2	PEC 2	Port and Harbour Engineering	2	0	0	30	70	2
1814613	ESC	Basic Electronics and Sensor Technology Lab	0	0	2	50	50	1
1801614	PCC	Concrete Technology Lab	0	0	2	50	50	1
1801615	PCC	Foundation Engineering Lab	0	0	2	50	50	1
1801616	PROJ	Internship	0	0	0	100	0	2
<b>Total</b>			<b>14</b>	<b>3</b>	<b>6</b>	<b>460</b>	<b>640</b>	<b>22</b>

**Department of EEE**  
**Course Structure (R18UG)**


**B. Tech – V Semester (Theory - 5, Lab - 3)**

S. No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	1804501	Microprocessors & Microcontrollers	PCC	3	0	0	30	70	3
2	1814502	Linear Digital IC Applications	PCC	3	0	0	30	70	3
3	1802503	Power Electronics	PCC	3	0	0	30	70	3
4	1802504	Power System Operation & Control	PCC	3	0	0	30	70	3
		<b>Professional Elective-I (PE-I)</b>							
5	1802505	Energy Auditing & Demand Side Management	PEC	3	0	0	30	70	3
	1802506	Electrical Machine Design	PEC	3	0	0	30	70	3
	1802507	Advanced Control Systems	PEC	3	0	0	30	70	3
	1802508	Instrumentation	PEC	3	0	0	30	70	3
	1802509	Energy Conversion Systems	PEC	3	0	0	30	70	3
6	1802510	Electrical Machines - II Lab	PCC	0	0	3	50	50	1.5
7	1802511	Control Systems & Simulation Lab	PCC	0	0	3	50	50	1.5
8	1824514	Advanced English Communication Lab	HS MC	0	0	4	50	50	2
10	1802513	Socially Relevant Projects (60 hrs/Semester)	PROJ	-	-	-	100	-	2
Total				15	01	08	400	500	22

  
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**B. Tech – VI Semester (Theory - 5, Lab - 3)**


S. No.	Subject Code	SUBJECT	SC	L	T	P	IM	EM	CR
1	1824601	Management Science	HSMC	3	0	0	30	70	3
2	1802602	Power Semiconductor Drives	PCC	3	0	0	30	70	3
3	1802603	Switchgear & Protection	PCC	3	0	0	30	70	3
4		<b>Professional Elective -II (PE -II)</b>							
	1802604	Power System Deregulation	PEC	3	0	0	30	70	3
	1802605	High Voltage DC Transmission	PEC	3	0	0	30	70	3
	1802606	PLC & its Applications	PEC	3	0	0	30	70	3
	1802607	Signals & Systems	PEC	3	0	0	30	70	3
	1802608	Electric & Hybrid Vehicles	PEC	3	0	0	30	70	3
5	--	<b>Open Elective - I (OE-I)</b>	OEC	3	0	0	30	70	3
6	1802609	Power Electronics & Simulation Lab	PCC	0	0	3	50	50	1.5
7	1802610	Power Systems - I Lab	PCC	0	0	3	50	50	1.5
8	1802611	Internet of Things Lab	PCC	0	0	4	50	50	2
9	1802612	Internship	PROJ	0	0	0	100	00	2
10	18996M2	Constitution of India	MC	2	0	0	30	--	--
<b>Total</b>				17	00	10	430	500	22

  
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# DEPARTMENT OF MECHANICAL ENGINEERING CURRICULAM(R18UG)

Semester V (Third Year) R-18

S.N O	Course Code	Subject code	Course Title	Hours per week			IM	EM	Total contact hours	credits
				L	T	P				
1	PCC- ME	1803501	Heat Transfer	3	0	0	30	70	3	3
2	PCC- ME	1803502	DME-I	3	0	0	30	70	3	3
3	PCC-ME	1803503	Metrology	3	0	0	30	70	3	2
4	PCC- ME	1803504	Dynamics of Machinery	3	0	0	30	70	3	3
5	HSMC	1825505	Managerial Economics	3	0	0	30	70	3	3
6	ME PEC	1803506	1. Automobile engineering  (Professional Elective-I)	3	0	0	30	70	3	3
	PEC	1803507	2. Mechanical behavior of metals	3	0	0	30	70	3	3
	PEC	1803508	3. Renew enable technologies	3	0	0	30	70	3	3
	PEC	1803509	4. Supply Chain Management	3	0	0	30	70	3	3
	PEC	1803510	5. Manufacturing Methods in precision engineering	3	0	0	30	70	3	3
	PEC	1803511	6. Design for manufacturing	3	0	0	30	70	3	3
7	AUI	1803512	Additive manufacturing	0	0	3	30		3	0
8	PCC-ME	1803513	Mechanical Engg Lab(Thermal –I)	0	0	3	50	50	3	1.5
9	PCC-ME	1803514	Mechanical Engg Lab(CAD Lab)	0	0	3	50	50	3	1.5
10	Project-I	1803515	Socially relevantproject	0	0	0	50	50	0	2
							Total credits			22
							Total Hours			27

  
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**Department of ECE**  
**Curriculum (R18UG)**


**V Semester**

S. No.	Subject Code	Subject	Category	L	T	P	IM	EM	Credits
1	1804501	Microprocessors & Microcontrollers	EC	3	0	0	30	70	3
2	1804502	Digital Signal Processing	EC	3	0	0	30	70	3
3	1804503	Computer Organization	EC	2	0	0	30	70	2
4	1804504	Analog Communication	EC	3	0	0	30	70	3
5	1804505	Digital IC Applications	EC	3	0	0	30	70	3
6	1804506	Antennas and Wave Propagation	EC	3	0	0	30	70	3
7	1804507	Microprocessors & Microcontrollers Lab	EC	0	0	3	50	50	1.5
8	1804508	Analog and Digital IC Lab	EC	0	0	3	50	50	1.5
9	1804509	Socially Relevant Project	PR				100		2
		Total:							22

**VI Semester**

S. No.	Subject Code	Subject	Category	L	T	P	IM	EM	Credits
1	1804601	Embedded Systems	EC	3	0	0	30	70	3
2	1804602	Digital Communication	EC	3	0	0	30	70	3
3	1804603	Microwave Engineering	EC	3	0	0	30	70	3
		<b>Professional Elective I</b>							
4	1804604	Fiber-Optic Communication	PE	3	0	0	30	70	3
5	1804605	Data structures and Algorithms	PE	3	0	0	30	70	3
6	1804606	Digital Signal Processors & Architectures	PE	3	0	0	30	70	3
7	1804607	Analog IC Design	PE	3	0	0	30	70	3
8	1804608	Introduction to MEMS	PE	3	0	0	30	70	3

9		<b>Open Elective I</b>	OE	3	0	0	30	70	3
10	1804609	Analog and digital communication Lab	EC	0	0	3	50	50	1.5
11	1804610	Digital Signal Processing Lab	EC	0	0	3	50	50	1.5
12	1804611	Micro Wave &Optical Communication Lab	EC	0	0	4	50	50	2
13	18996M1	Organizational Behaviour	MC	3	0	0	30		0
14	1804613	Internship	PR				100		2
		Total:							22

  
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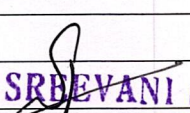


**COMPUTER SCIENCE AND ENGINEERING  
CURRICULAM(R18)**

**V SEMESTER**

Subject Code	Subject Category	Course Name	L	T	P	IM	EM	CR
1805501	PCC	Web Technologies	2	0	0	30	70	2
1805502	PCC	Data Base Management Systems	3	0	0	30	70	3
1805503	PCC	Computer Networks	3	0	0	30	70	3
1805504	PCC	Software Engineering	3	0	0	30	70	3
1805505	PEC	<b>Professional Elective-1</b> 1. Human Computer Interaction 2. Multimedia Systems 3. Distributed Systems	3	0	0	30	70	3
1805506								
1805507								
1805508	PCC	Compiler Design	3	0	0	30	70	3
1825509	PCC	Constitution of India	2	-	-	30	--	0
1805510	PCC	Databases Lab	0	0	2	50	50	1
1805511	PCC	Web Technologies Lab	0	0	2	50	50	1
1824512	HSC	Advanced English and Communications Skills lab	0	0	2	50	50	1
1805513	Project	Socially Relevant Project	0	0	4	100	--	2
<b>TOTAL</b>			<b>19</b>	<b>0</b>	<b>10</b>	<b>460</b>	<b>570</b>	<b>22</b>

**VI SEMESTER**

Subject Code	Subject Category	Course Name	L	T	P	IM	EM	CR
1805601	PCC	Internet of Things	3	0	0	30	70	3
1805602	PCC	Data Mining	3	0	0	30	70	3
1805603	PEC	<b>Professional Elective-2</b> 1. Artificial Intelligence 2. Software Testing Mobile Adhoc Networks	3	0	0	30	70	3
1805604								
1805605								
180E501	OEC	<b>Open Elective-1</b> 1. Data Structures Database Management Systems	3	0	0	30	70	3
180E502								
1825609	HSC	Management Science	3	0	0	30	70	3
1805608	PCC	Mobile Application Development	3	0	0	30	70	3
1805609	PCC	Internet of Things Lab	0	0	2	50	50	1
1805610	PCC	Mobile Application Development Lab	0	0	2	50	50	1
1805611	Project	Internship	--	--	--	100	--	2
<b>TOTAL</b>			<b>18</b>	<b>0</b>	<b>04</b>	<b>380</b>	<b>520</b>	<b>22</b>
 <b>Dr. I. SRBEVANI M.Sc., Ph.D</b> Head of Humanities & Sciences K.S.R.M. College of Engineering								