Board of Studies Meetings

INDEX

SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)
CHINNA AMIRAM :: BHIMAVARAM-534204
DEPARTMENT OF CIVIL ENGINEERING

Dt: 04-07-2016

CIRCULAR

This is to inform you that the Department of Civil Engineering will convene a meeting on 17-07-2016 at 2.30 PM in Room No. R105 (HOD Office). In this connection, all the Board of Studies members are requested to attend the same.

Agenda:

1. To discuss the course structure of the curriculum of Civil Engineering related to 4th year B.Tech and 2nd year M.Tech courses.
2. To discuss the regulations related to academics.
3. Any other concerns with the permission of the Chair.

Head of the Department

HEAD
Dept. of Civil Engg.
S.R.K.R. Engg. College
CHINA AMIRAM
BHIMAVARAM-534 204.

C.C to:
1. The Members of Board of studies
2. Office file

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The first 'Board of Studies' meeting is conducted in the chamber of Head, Department of Civil Engineering, with its members present on 17/07/2016 i.e., SUNDAY at 2.30 PM.

Agenda:

(1) To discuss regarding course structure of Civil Engineering curriculum related to 4 year B.Tech and 2 year M.Tech courses.
(2) To discuss on regulations related to academics.
(3) Any other matter with the permission of Chair.

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Members Present		Signature
(1) Dr. I.S.N. Raju	—	
(2) Dr. D.S.R. Murthy	—	
(3) Dr. T.D. Gunneswara Rao	—	
(4) C.A. Prasad	—	
(5) P. Gandhi	—	
(6) P.B.S.V.S. Raju	—	
(7) Dr. M. Jagapathi Raju	—	
(8) Prof V. SIVA RAMA RAJU		
(9) Prof. P.A. RAMAKRISHNA RAJU		
(10) Prof K. BHASKAR		
11 Dr. A.C.S.V. PRASAD		
12 V. Venkateswara Raju		
13 Dr. A. Subbalimanjari Raju		
14 Dr. B.R. Phanikumar		
15. K. Padmanabha Raju		
16. J.V. Narasimha Raju		

M. Jagapathi Raju

Sudarla N S Monika - 313175708156
2 E. Manoj - 314175708053

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MINUTES

Dr. M. Jagapathi Raju, Head of the Department has conducted the proceedings of Board of Studies Meeting. He has initiated the proceedings by welcoming all the members and requested their active participation for outcome of the best possible academic curriculum.

(1) Dr. DSR Murthy, BOS, Dept. Of CE, AU, VIZAG has initiated the discussion and stressed upon the importance of attending workshops/seminars by staff members. He also specified that each staff member has to attend a minimum of two FDPs outside besides attending such in house programmes.

(2) Dr. T.D. Gunneswara Rao, Associate Prof, NIT, Warangal has suggested to introduce the course "Engineering Mechanics" in 1st year 2nd semester instead of 2nd year 1st semester.

He also opined that the no. of contact hours may be limited a max of 30 or 31.

(3) Sri P. Gandhi, Principal Scientist, SERC, Chennai, stressed on the importance of quality in the projects the students do in 4-1. He also opined that conducting project for 300 students is not an easy job and hence proper steps are to be taken to ensure quality projects.

He also advised to get information from the different research organisations like SERC regarding the latest developments in the Civil Engineering and related areas and include them in the curriculum.

(4) Sri C.A. Prasad, Structural Consultant from Hyderabad, participated in the discussion and expressed the following points for consideration of board.

(i) Staff members have to attend workshops, seminars etc., periodically to update their knowledge and also to know what advanced technology is being used in the construction industries.

(ii) Whenever any new course is included in the student curriculum, the staff members shall also get trained themselves along with the students to deliver their best for the future batches.

(iii) Staff have to inculcate the habit of publishing technical papers in different civil engineering related journals, thereby enhancing their confidence levels.

(iv) Now-a-days Precast Construction and Form Work are gaining momentum in the construction industry and hence guest lectures in those areas may be arranged to impart relevant knowledge to the students as well as staff.

(v) Arrangement of guest lectures for students in moral values and professional ethics. Staff members can also be encouraged to participate.

(vi) Due importance should be given for the course 'Estimation & Quantity Surveying'.

M. Jagapathi Raju

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(vii) Arranging site visits to students accompanied by staff. Further he insisted to immediately arrange students visit to the model construction made with precast elements, taken up at Ketana konda, Ibrahimpatnam, Vijayawada.

(viii) He also stressed the importance of subscribing journals/magazines like Master Builder, New Building Materials and Construction World (NBMSCW) and Constructions World to the Dept., Library besides main library.

(5) Dr. ISN Raju, Retd., Chief Engineer and Chairman, IE(I), Telangana State has stressed the importance of Industry-interaction for faculty.

He also opined that the students should undergo more practical training besides acquiring theoretical knowledge and staff have to motivate them in those lines.

Also, the felt that students have to go on a technical tour once in every semester to have a better exposure to the field work, gigantic Civil Engineering Constructions like Nagarjun Sagar and Srisailam Dams etc.

(6) Sri P.B.S.V.S Raju, class 1 contractor from Hyderabad, has opined that students should be imparted a thorough knowledge of Surveying by conducting Survey Campus. Also, they must be trained to make estimates based on the given drawings and also to understand the all aspects of drawing including the checking of reinforcement and other related items.

Dr. M. Jagapathi Raju, chair person has concluded the meeting by thanking all the members for their active participation in the discussions and made them fruitful in designing a good practical oriented course structure for the 1st batch students of Autonomous Status. In his closing remarks he requested all the members to offer their services to share their vast practical knowledge to the students by giving guest lectures. He also ensures the board that he will try his level best to see that recommendations made by the committee are accepted in the Academic Council.

All the suggestions made by the members are discussed thoroughly at length and resolved to recommend the following conclusions for the active consideration of Academic Council.

1. Resolved to accept the proposed curriculum for 1st year. However, it is advised to take proper care especially for 1st year students as most of them may be from rural background and also it is a transition for them from normal intermediate education to a Professional course.
2. Resolved to recommend to subscribe for central library and department libraries journals like Master builders, NBM&CW as they contain lot of information regarding the development and usage of advanced building materials.
3. Resolved to recommend to arrange guest lectures in areas of Precast Construction and Form Work as they are gaining momentum at a faster rate in the present day

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4. Resolved to give due importance for the course "Estimation & Quantity Surveying" as it is very important for the students when they go for employment. Also the students must be thoroughly trained to read the drawings and how to implement them properly in the site.

5. Resolved to recommend to shift the course 'Engineering Mechanics' from 2-1 to 2-2.

6. Resolved to recommend to organize Survey Campus to create awareness in the students how to use different surveying equipments like Total Station, Theodolite etc. which will be very useful for them to shine in their employment.

7. Resolved to recommend making it mandatory for staff to attend at least two FDP's off campus besides attending such in house programmes.

8. Resolved to recommend insisting on students to go for a technical tour in each semester to gain more practical knowledge.

9.Resolved to limit the number of contact hours to 30 or 31 depending upon the feasibility.

10. Discussions on curriculum feedbacks from various stakeholders have been made.

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RESOLUTIONS FOR THE MEETING DATED 17-07-2016

1. Resolved to accept the proposed curriculum for 1st year. However, it is advised to take proper care especially for 1st year students as most of them may be from rural background and also it is a transition for them from normal intermediate education to a Professional course.

SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE(AUTONOMOUS)

(AffiliatedtoJNTUK,Kakinada),(RecognizedbyAICTE,NewDelhi)AccreditedbyNAACwith'A'Grade

UG Programmes CE, CSE, ECE, EEE, IT & ME are Accredited by NBA ChinnaAmiram, Bhimavaram-534204

Estd:1980

Regulation: 16				I / IV - B.Tech. I - Semester					
CIVIL ENGINEERING (under Choice Based Credit System / Elective Course System)									
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2016-17 admitted Batch onwards)									
CodeNo.	Course	Category	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
*B16ENG1101	English	BS	4	3	1	--	30	70	100
*B16ENG1102	Mathematics-I	BS	4	3	1	--	30	70	100
*B16ENG1103	Mathematics-II	BS	4	3	1	--	30	70	100
B16ENG1104	Chemistry	BS	4	3	1	--	30	70	100
B16ENG1106	Computer Programming Using C&NumericalMethods	ES	4	3	1	--	30	70	100
B16ENG1108	History of Science and Technology	BS	2	2	--	--	30	70	100
B16ENG1110	Chemistry Lab	BS	2	--	--	3	50	50	100
B16ENG1112	Computer programming Using C & Numerical Methods Lab	ES	2	--	--	3	50	50	100
B16ENG1114	Sports (Audit)	BS	--	--	--	--	--	--	--
Total			26	17	5	6	280	520	800

Note: * - Add-On Course[Technical English]

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Regulation: 16									I / IV - B.Tech. II - Semester
CIVIL ENGINEERING (under Choice Based Credit System / Elective Course System)									
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2016-17 admitted Batch onwards)									
CodeNo.	Course	Category	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ENG1201	Mathematics-III *	BS	4	3	1	--	30	70	100
B16 ENG1202	Physics	BS	4	3	1	--	30	70	100
B16 ENG1204	EngineeringGraphics	BS	4	2	--	3	30	70	100
B16 ENG1206	Professional Ethics & Moral values	BS	2	2	--	--	30	70	100
DS	DepartmentSubject	ES	4	3	1	--	30	70	100
B16 ENG1209	Physics Lab	BS	2	--	--	3	50	50	100
B16 ENG1211	Workshop	BS	2	--	--	3	50	50	100
B16 ENG1213	English Language Lab *	BS	2	--	--	3	50	50	100
B16 ENG1214	NCC/NSS (Audit)	BS	--	--	--	--	--	--	--
Total			24	13	3	12	300	500	800

2. Resolved to recommend to subscribe for central library and department libraries journals like Master builders, NBM&CW as they contain lot of information regarding the development and usage of advanced building materials.

Publisher	Subject Areas	e-content
IEEE	Computer Engineering + Computer Science + Electrical and Electronics Engineering + Telecommunications and related disciplines	IEEE- All Society Periodicals ePackage (ASPP) (145 e-Journals) (Backfile Access – since 2000)
Springer	Electrical and Electronics and Computer Science Engineering	(134 e-Journals) (Backfile Access – since 1997)
Springer	Mechanical Engineering	(46 e-Journals) (Back file Access – since 1997)
ASCE	Civil Engineering	ASCE ejournals Package (33 e-Journals) (Backfile Access – since 1983)
McGraw Hill	General Engineering and Reference	Access Engineering Library
ELSEVIER	Engineering + Computer Science (Electrical+ Electronics + Mechanical + Civil and Structural + Aerospace+	SCIENCEDIRECT 275 Journals (Back File Access from 2000 onwards)

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3. Resolved to recommend to arrange guest lectures in areas of Precast Construction and Form Work as they are gaining momentum at a faster rate in the present day

4. Resolved to give due importance for the course "Estimation & Quantity Surveying" as it is very important for the students when they go for employment. Also the students must be thoroughly trained to read the drawings and how to implement them properly in the site.

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Estd:1980

Regulation: 16								III/ IV - B.Tech. II - Semester		
CIVIL ENGINEERING (under Choice Based Credit System / Elective Course System)										
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2016-17 admitted Batch onwards)										
CodeNo.	Course	Category	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks	
B16 CE3201	Advanced SteelStructures	ES	4	3	1	--	30	70	100	
B16 CE3202	Geotechnical Engineering-II	ES	4	3	1	--	30	70	100	
B16 CE3203	Fluid Mechanics - III	ES	4	3	1	--	30	70	100	
B16 CE3204	Estimation and Quantity Surveying	ES	4	3	1	--	30	70	100	
B16 CE3205	Environmental Engineering - II	ES	4	3	1	--	30	70	100	
#ELE-II	Elective-II	ES	4	3	1	--	30	70	100	
B16 CE3211	Geotechnical Engineering Lab - II	ES	2	--	--	3	50	50	100	
B16 CE3212	Concrete Lab	ES	2	--	--	3	50	50	100	
B16 CE3213	Fluid Mechanics Lab - II	BS	2	--	--	3	50	50	100	
B16 ENG3202	Verbal & Quantative Aptitude-II	ES	2	5	--	--	100	--	100	
B16 CE3214	Mini Project	ES	2	--	--	3	50	--	50	
#M-III	MOOCS-III	ES	2	4	--	--	100	--	100	
Total			36	27	6	12	580	570	1150	

#ELE-II	B16 CE 3206	Ground Improvement Techniques
	B16 CE 3207	Environmental Impact Assessment
	B16 CE 3208	Marine Structures
	B16 CE 3209	Urban Hydrology
	B16 CE 3210	Finite Elements Methods of Analysis
# M-III	B16 ENG 3203	Basic Coding
	B16 CE 3215A	Energy Efficiency, Acoustics And Day lighting In Building
	B16 CE 3215B	Electronic Waste Management - Issues And Challenges
	B16 CE 3215C	Principles And Applications Of Building Science

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5. Resolved to recommend to shift the course 'Engineering Mechanics' from 2-1 to 2-2.

6. Resolved to recommend to organize Survey Campus to create awareness in the students how to use different surveying equipments like Total Station, Theodolite etc. which will be very useful for them to shine in their employment.

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Estd:1980

Regulation: 16									II/ IV - B.Tech. II - Semester
CIVIL ENGINEERING (under Choice Based Credit System / Elective Course System)									
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2016-17 admitted Batch onwards)									
CodeNo.	Course	Category	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16CE2201	Analysis of Structures	BS	4	3	1	--	30	70	100
B16CE2202	Reinforced Concrete Structures	ES	4	3	1	--	30	70	100
B16CE2203	Fluid Mechanics-II	ES	4	3	1	--	30	70	100
B16CE2204	Building Planning & Design	ES	4	2	--	3	30	70	100
B16CE2205	Advanced Surveying Methodologies	ES	4	3	1	--	30	70	100
B16CE2206	Engineering Geology	BS	4	3	1	--	30	70	100
B16CE2207	Total station and Geomatics lab	ES	2	--	--	3	50	50	100
B16CE2208	Engineering Geology Lab	ES	2	--	--	3	50	50	100
B16CE2209	Fluid Mechanics Lab-I	BS	2	--	--	3	50	50	100
B16CE2210	Industry Oriented Technology Lab	ES	1	--	--	2	50	--	50
Total			31	17	5	14	380	570	950

7. Resolved to recommend making it mandatory for staff to attend at least two FDP's off campus besides attending such in house programmes.

8. Resolved to recommend insisting on students to go for a technical tour in each semester to gain more practical knowledge.

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9.Resolved to limit the number of contact hours to 30 or 31 depending upon the feasibility.

10. Discussions on curriculum feedbacks from various stakeholders have been made.

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SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)
CHINNA AMIRAM:: BHIMAVARAM-534204
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Dt: 08-07-2016

CIRCULAR

This is to inform you that the department of Computer Science & Engineering will convene a meeting on 17-07-2016 at 2.30 PM in CSE/Software Lab-1. In this connection, all the Board of Studies members are requested to attend the same.

Agenda:

1. Discussion and finalization of scheme of instruction for B.Tech. (CSE) under the autonomous scheme.
2. Any other related issues.

Head of the Department

Head of the Department of
Computer Science & Engineering
S.R.K.R. Engineering College
BHIMAVARAM-534 204, A.P. INDIA

C.C to:
1. The Members of the Board of Studies
2. Office file

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BHIMAVARAM-534 204.

Date : 17-07-2016 Place : CSE/LAB1/SRKR

DEPARTMENT OF CSE - BOS MEETING

A meeting of Board of Studies of Department of CSE, SRKR Engineering college under Autonomous Scheme is held today at 2:30 pm in CSE/SOFTWARE LAB-1.

AGENDA:

1. Discussion and finalisation of Scheme of Instruction for B.Tech (CSE) under Autonomous Scheme.

2. Any other related issues

MEMBERS PRESENT:

S.NO.	NAME OF THE MEMBER	SIGNATURE
1.	Prof. P. Suresh Varma	
2.	P. C. Varma Sr. Mgr. VistaraIT, HYB	
3)	Dr G.V. Padma Raju HOD, CSE	
4)	Dr K V KRISHNAM RAJU ASSOCIATE PROFESSOR	
5)	Dr. V. Chandra Sekhar Associate Prof in CSE	
6)	Dr. G. MAHESH ASSOCIATE PROF.	
7)	Smt. P. SAROJA, 2/2 M.TECH (CST)	
8)	Mr. N.V. KIRAN KUMAR GUPTHA 4/4 CSE	
9)	Mr Narayana Vinay 4/4 B.TECH (CSE)	

Head of the Department
Computer Sceince & Engineering
S.R.K.R.Engineering College
BHIMAVARAM-534 204, A.P., INDIA

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INVITED MEMBERS

S.NO.	NAME OF THE MEMBER	SIGNATURE
1	K. Raghu Sita Rama Raju Assistant Professor in C.S.E	K. Raghu Sita Rama Raju
2.	V.V. SIVA RAMA RAJU Assistant Professor in C.S.E	V.V. Siva Rama Raju
3.	Ch Someswara Rao Assistant professor in CSE	
4.	D. Ravi Babu Assistant prof in CSE	
5.	R. Shiva Shankar Asst Professor in CSE	R. S. Shankar
6.	K.V.S.S. MURTHY Asst. Prof in C.S.E.	K.V.S.

RESOLUTIONS

1. It is resolved to approve tentative scheme of instructions of 2nd, 3rd and final year B.Tech Programme subjected to a few changes in new course of Time.

2. It is resolved to divide electives into streams so that student can follow one of the streams and gain expertise knowledge in that stream in three Semesters (3-1, 3-2, 4-1)

3. It is resolved to establish incubation LABS for all elective streams with 10 Systems in each incubation lab with necessary tools, internet and required resources on recommendations of External experts of BOS.

4. It is resolved to identify 4 faculty members to get expertise in each stream and to provide necessary training to the faculty members.

P. Jagapathi Raju
PRINCIPAL
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Head of the Department
Computer Science & Engineering
S.R.K.R. Engineering College
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5. It is unanimously resolved to continue current Andhra University Syllabus for 1/2 M.Tech (CST) 1st Semester & 2nd Semester of R-16 Regulation.

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ANNEXURE-1

With reference of Board of Studies meeting dated 17-7-2016,

Resolution 1: It is resolved to approve the tentative scheme of instructions for the 2nd, 3rd, and final year B.Tech. programmes subjected to a few changes in due course of time.

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Recognised as Scientific and Industrial Research Organisation
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ESTD: 1980

SCHEME OF INSTRUCTION & EXAMINATION
(Regulation R16)

II/IV B.TECH
(With effect from **2016-2017** Admitted Batch onwards)
Under Choice Based Credit System

COMPUTER SCIENCE AND ENGINEERING

I-SEMESTER

Code No.	Course	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
~~B16 CS 2101~~	~~Data Structures~~	4	3	1	--	4	30	70	100
~~B16 EC 2103~~	~~Elements of Electronics Engineering~~	4	3	1	--	4	30	70	100
~~B16 ENG 2102~~	~~Discrete Mathematical Structures~~	4	3	1	--	4	30	70	100
~~B16 CS 2102~~	~~Object Oriented Programming~~	4	3	1	--	4	30	70	100
B16 CS 2103	Digital Logic Design	4	3	1	--	4	30	70	100
B16 ENG 2103	Environmental Studies	2	3	1	--	4	30	70	100
B16 CS 2105	Data Structures Lab.	2	--	--	3	3	50	50	100
B16 CS 2106	Object Oriented Programming Lab.	2	--	--	3	3	50	50	100
~~B16 ENG 2104~~	~~English Proficiency~~	2	1	1	--	2	50	50	100
~~B16 ENG~~ 2105	~~Industry Oriented Training~~	1	--	--	2	2	50	--	50
Total		**29**	**19**	**7**	**8**	**34**	**380**	**570**	**950**

Head of the Department of Computer Science & Engineering
S.R.K.R. Engineering College
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1

*Subjects highlighted in green colour are newly added subjects and subjects highlighted in yellow colour are revised subjects

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SCHEME OF INSTRUCTION & EXAMINATION
(Regulation R16)

II/IV B.TECH
(With effect from **2016-2017** Admitted Batch onwards)
Under Choice Based Credit System

COMPUTER SCIENCE AND ENGINEERING

II-SEMESTER

Code No.	Course	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
B16 CS 2201	Operating Systems	4	3	1	--	4	30	70	100
B16 CS 2202	Computer Organization	4	3	1	--	4	30	70	100
B16 CS 2203	Microprocessors	4	3	1	--	4	30	70	100
B16 CS 2204	Data Communications	4	3	1	--	4	30	70	100
B16 CS 2205	Advanced Data Structures	4	3	1	--	4	30	70	100
B16 CS 2206	Computer Graphics	4	3	1	--	4	30	70	100
B16 CS 2207	Operating Systems & Unix programming Lab	2	--	--	3	3	50	50	100
B16 CS 2208	Digital Electronics & Microprocessors Lab	2	--	--	3	3	50	50	100
B16 CS 2209	Competitive Programming	1	1	--	1	2	50	--	50
B16 ENG 2203	Industry Oriented Training	1	--	--	2	2	50	--	50
	Total	**30**	**19**	**6**	**9**	**34**	**380**	**520**	**900**

Head of the Department of
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ESTD: 1980

SCHEME OF INSTRUCTION & EXAMINATION
(Regulation R16)
III/IV B.TECH
(With effect from **2016-2017** Admitted Batch onwards)
Under Choice Based Credit System
COMPUTER SCIENCE AND ENGINEERING
I-SEMESTER

Code No.	Course	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
B16 CS 3101	Computer Networks	4	3	1	--	4	30	70	100
B16 CS 3102	Web Technologies	4	3	1	--	4	30	70	100
B16 CS 3103	Formal Languages & Automata Theory	4	3	1	--	4	30	70	100
B16 CS 3104	Database Management Systems	4	3	1	--	4	30	70	100
#ELE-I	Elective-I	4	3	1	--	4	30	70	100
B16 CS 3110	Database Management Systems Lab.	2	--	--	3	3	50	50	100
B16 CS 3111	Application Development Lab.	2	--	--	3	3	50	50	100
B16 ENG 3102	Verbal & Quantitative Aptitude-I	2	5	--	--	5	100	--	100
#M-I	MOOCS-I	2	4	--	--	4	100	--	100
#M-II	MOOCS-II	2	4	--	--	4	100	--	100
Total		**30**	**28**	**5**	**6**	**39**	**550**	**450**	**1000**

#ELE-I	B16 CS 3105	Embedded Systems
	B16 CS 3106	Bio-Informatics
	B16 CS 3107	Image Processing
	B16 CS 3108	Application Development Using Java
#M-I	B16 ENG 3104	Advanced Coding
	B16 CS 3112A	Digital Image Processing
	B16 CS 3112B	E-Business
	B16 CS 3112C	Introduction to parallel Programming in Open MP
#M-II	B16 CS 3113A	Social Networks
	B16 CS 3113B	Introduction to Internet of Things
	B16 CS 3113C	Block chain Architecture Design and Use Cases
	B16 CS 3113D	Introduction to R Software

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SCHEME OF INSTRUCTION & EXAMINATION
(Regulation R16)

III/IV B.TECH
(With effect from **2016-2017** Admitted Batch onwards)
Under Choice Based Credit System

COMPUTER SCIENCE AND ENGINEERING
II-SEMESTER

Code No.	Course	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
B16 CS 3201	Data Warehousing & Data Mining	4	3	1	--	4	30	70	100
B16 CS 3202	Object Oriented Software Engineering	4	3	1	--	4	30	70	100
B16 CS 3203	Design and Analysis of Algorithms	4	3	1	--	4	30	70	100
B16 CS 3204	Compiler Design	4	3	1	--	4	30	70	100
B16 CS 3205	Artificial Intelligence	4	3	1	--	4	30	70	100
#ELE-II	Elective-II	4	3	1	--	4	30	70	100
B16 CS 3213	Software Engineering Mini Project Lab	2	--	--	3	3	50	50	100
B16 CS 3214	Network Programming Lab	2	--	--	3	3	50	50	100
B16 ENG 3202	Verbal & Quantitative Aptitude-II	2	5	--	--	5	100	--	100
#M-III	MOOCS-III	2	4	--	--	4	100	--	100
	Total	**32**	**27**	**6**	**6**	**39**	**480**	**520**	**1000**

#ELE-II	B16CS3206	Cloud Computing
	B16CS3207	Mobile Computing
	B16CS3208	Distributed Systems
	B16CS3209	Advanced Computer Architecture
#M-III	B16 ENG 3205	Competitive Coding
	B16CS3215A	AngularJS
	B16CS3215B	ASP.NET
	B16CS3215C	C#.NET & VB.NET

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IV/IV B.TECH
(With effect from **2016-2017** Admitted Batch onwards)
Under Choice Based Credit System

COMPUTER SCIENCE AND ENGINEERING
I-SEMESTER

Code No.	Name of the Subject	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Contact Hrs/ Week	Sessional Marks	External Marks	Total Marks
B16CS 4101	Machine Learning	4	3	1	--	4	30	70	100
B16CS 4102	Big Data Analytics	4	3	1	--	4	30	70	100
B16ENG 4101	Principles of Economics and Management	4	3	1	--	4	30	70	100
B16CS 4104	Knowledge Engineering Lab	2	--	--	3	3	50	50	100
B16CS 4105	Big Data Analytics Lab	2	--	--	3	3	50	50	100
B16 CS 4106	Project Phase-I	2			3	3	50	--	50
Total		**18**	**9**	**3**	**9**	**21**	**240**	**310**	**550**

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COMPUTER SCIENCE AND ENGINEERING
II-SEMESTER

Code No.	Name of the Subject	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Contact Hrs/ Week	Sessional Marks	External Marks	Total Marks
B16CS 4201	Internet of Things	4	3	1	--	4	30	70	100
B16CS 4202	Cryptography and Network Security	4	3	1	--	4	30	70	100
B16CS 4203	Operations Research	4	3	1	--	4	30	70	100
B16CS 4204	Internet of Things Lab	2	--	--	3	3	50	50	100
B16CS 4205	Project Phase-II	12	--	--	9	9	50	100	150
Total		**26**	**9**	**3**	**12**	**24**	**190**	**360**	**550**

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2. It is resolved to divide electives into streams so that student can follow one of the streams and gain expert knowledge in that stream in three streams (3-1, 3-2, 4-1)

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SCHEME OF INSTRUCTION & EXAMINATION
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III/IV B.TECH
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COMPUTER SCIENCE AND ENGINEERING
I-SEMESTER

Code No.	Course	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
B16 CS 3101	Computer Networks	4	3	1	--	4	30	70	100
B16 CS 3102	Web Technologies	4	3	1	--	4	30	70	100
B16 CS 3103	Formal Languages & Automata Theory	4	3	1	--	4	30	70	100
B16 CS 3104	Database Management Systems	4	3	1	--	4	30	70	100
#ELE-I	Elective-I	4	3	1	--	4	30	70	100
B16 CS 3110	Database Management Systems Lab.	2	--	--	3	3	50	50	100
B16 CS 3111	Application Development Lab.	2	--	--	3	3	50	50	100
B16 ENG 3102	Verbal & Quantitative Aptitude-I	2	5	--	--	5	100	--	100
#M-I	MOOCS-I	2	4	--	--	4	100	--	100
#M-II	MOOCS-II	2	4	--	--	4	100	--	100
Total		**30**	**28**	**5**	**6**	**39**	**550**	**450**	**1000**

#ELE-I	B16 CS 3105	Embedded Systems
	B16 CS 3106	Bio-Informatics
	B16 CS 3107	Image Processing
	B16 CS 3108	Application Development Using Java
#M-I	B16 ENG 3104	Advanced Coding
	B16 CS 3112A	Digital Image Processing
	B16 CS 3112B	E-Business
	B16 CS 3112C	Introduction to parallel Programming in Open MP
#M-II	B16 CS 3113A	Social Networks
	B16 CS 3113B	Introduction to Internet of Things
	B16 CS 3113C	Block chain Architecture Design and Use Cases
	B16 CS 3113D	Introduction to R Software

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*Subjects highlighted in yellow colour are electives

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COMPUTER SCIENCE AND ENGINEERING
II-SEMESTER

Code No.	Course	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
B16 CS 3201	Data Warehousing & Data Mining	4	3	1	--	4	30	70	100
B16 CS 3202	Object Oriented Software Engineering	4	3	1	--	4	30	70	100
B16 CS 3203	Design and Analysis of Algorithms	4	3	1	--	4	30	70	100
B16 CS 3204	Compiler Design	4	3	1	--	4	30	70	100
B16 CS 3205	Artificial Intelligence	4	3	1	--	4	30	70	100
#ELE-II	Elective-II	4	3	1	--	4	30	70	100
B16 CS 3213	Software Engineering Mini Project Lab	2	--	--	3	3	50	50	100
B16 CS 3214	Network Programming Lab	2	--	--	3	3	50	50	100
B16 ENG 3202	Verbal & Quantitative Aptitude-II	2	5	--	--	5	100	--	100
#M-III	MOOCS-III	2	4	--	--	4	100	--	100
	Total	**32**	**27**	**6**	**6**	**39**	**480**	**520**	**1000**

#ELE-II	B16CS3206	Cloud Computing
	B16CS3207	Mobile Computing
	B16CS3208	Distributed Systems
	B16CS3209	Advanced Computer Architecture
#M-III	B16 ENG 3205	Competitive Coding
	B16CS3215A	AngularJS
	B16CS3215B	ASP.NET
	B16CS3215C	C#.NET & VB.NET

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IV/IV B.TECH
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Under Choice Based Credit System

COMPUTER SCIENCE AND ENGINEERING
I-SEMESTER

Code No.	Name of the Subject	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Contact Hrs/ Week	Sessional Marks	External Marks	Total Marks
B16CS 4101	Machine Learning	4	3	1	--	4	30	70	100
B16CS 4102	Big Data Analytics	4	3	1	--	4	30	70	100
B16ENG 4101	Principles of Economics and Management	4	3	1	--	4	30	70	100
B16CS 4104	Knowledge Engineering Lab	2	--	--	3	3	50	50	100
B16CS 4105	Big Data Analytics Lab	2	--	--	3	3	50	50	100
B16 CS 4106	Project Phase-I	2			3	3	50	--	50
Total		**18**	**9**	**3**	**9**	**21**	**240**	**310**	**550**

3. It is unanimously resolved to continue current Andhra University syllabus for ½ M.Tech. (CST) 1st semester and 2nd semester of R-16 Regulation

M.Tech. R16 Regulation

Item Name	R16	
Newly added courses	Course Code	Course Name
	M16 CST 1212	Pervasive Computing #4-Elective-IV
Courses in which syllabus is revised	Course Code	Course Name
	No Change	No Change
Removed courses	Course Code	Course Name
	NIL	NIL

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SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE
CHINNA AMIRAM :: BHIMAVARAM-534204
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Dt: 15-07-2016

CIRCULAR

This is to inform you that the Department of ECE has convened a meeting on 17-07-2016 at 2.30 PM in M.Tech DSP Lab. In this connection, all the Board of Studies members are requested to attend the same.

Agenda:

1. Finalization of scheme for second,third and fourth years of UG and PG courses.Which will come into force from 2016-2017 first year admitted batch (R16).

Head of the Department

Head of ECE Department
S.R.K.R. Engg. College
BHIMAVARAM-534 204

C.C to:
1. The Members of Board of studies
2. Office file

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BOS meeting for ECE
on 17-7-2016

17-7-2016

The Board of Studies meeting for UG and PG Courses is conducted on 17-7-2016 at 2.30 PM in ECE department.

Venue : MTech DSP lab. Time : 2.30 PM
Date : 17-7-2016.

Agenda : Finalization of scheme for second, third and fourth years of UG and PG courses. which will come into force from 2016-2017 first year admitted batch. (R16)

Members Present — Signature

1. Dr NVSN SARMA, Prof in ECE, NIT H
2. Dr M. Chakravarthy, Sc-G, DLRL, Hyd
3. Dr KVSN RAJU
4. Prof N. V. RAO
5. Prof DVR MOHAN
6. Prof P. Subba Rao
7. Dr PV Rama Raju
8. Prof N. Udaya Kumar
9. Dr BVSSN Raju
10. Prof GVS Padma Rao
11. Sri M. Vijaychandra Raju
12. Sri S. S. Mohan Reddy
13. Sri Y. Rama Lakshmanna
14. P. B. Sai Dileep
15. BVSSN Raju
16. M. Ravi Teja
17. A. Mounika Naga Devi

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17-7-2016

Resolution:

The scheme for 2/4, 3/4, 4/4 of UG and 1/2; 2/2 of PG (ECE) Courses is finalized. This will come into force from the academic year 2016-2017 (R16) which is done based on feedback taken into consideration.

M. Jagapathi Raju

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Resolution 1

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SCHEME OF INSTRUCTION & EXAMINATION
(Regulation R16)

II/IV B.TECH
(With effect from **2016-2017** Admitted Batch onwards)
Under Choice Based Credit System

ELECTRONICS AND COMMUNICATION ENGINEERING

I-SEMESTER

Code No.	Course	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
B16 ENG 2101	Mathematics - IV	4	3	1	-	4	30	70	100
B16 EE 2104	Circuit Analysis & Synthesis	4	3	1	-	4	30	70	100
B16 EE 2105	Electrical Technology	4	3	1	-	4	30	70	100
B16 EC 2101	Analog Electronic Circuits	4	3	1	-	4	30	70	100
B16 CS 2104	Elementary Data Structures	4	3	1	-	4	30	70	100
B16 EC 2102	Probability Theory & Random Processes	4	3	1	-	4	30	70	100
B16 EE 2107	Network And Machines Lab	2	-	-	3	3	50	50	100
B16 EC 2105	Electronic Devices & Circuits Lab	2	-	-	3	3	50	50	100
B16 ENG 2104	English Proficiency	2	1	1	--	2	50	50	100
B16 ENG 2106	Industry Oriented Training	1	--	--	2	2	50	--	50
	Total	**31**	**19**	**7**	**8**	**34**	**380**	**570**	**950**

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SCHEME OF INSTRUCTION & EXAMINATION
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II/IV B.TECH
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Under Choice Based Credit System

ELECTRONICS AND COMMUNICATION ENGINEERING

II-SEMESTER

Code No.	Course	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
B16 EC 2201	Switching Theory and Logic Design	4	3	1	--	4	30	70	100
B16 EC 2202	Electromagnetic Field theory & Transmission Lines	4	3	1	--	4	30	70	100
B16 EC 2203	Pulse and Digital Circuits	4	3	1	--	4	30	70	100
B16 EC 2204	Analog Communications	4	3	1	--	4	30	70	100
B16 EC 2205	Signals & Systems	4	3	1	--	4	30	70	100
B16 ENG 2201	Environmental Studies	2	3	1	--	4	30	70	100
B16 EC 2207	Analog Communications Lab	2	--	--	3	3	50	50	100
B16 EC 2208	Analog Electronic Circuits Lab with Simulation	2	--	--	3	3	50	50	100
B16 EC 2209	Industry oriented Technology Lab	1	--	--	2	2	50	--	50
B16 ENG 2204	Industry Oriented Training	1	--	--	2	2	50	--	50
	Total	**28**	**18**	**6**	**10**	**34**	**380**	**520**	**900**

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ELECTRONICS AND COMMUNICATION ENGINEERING
I-SEMESTER

Code No.	Course	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
B16 EC 3101	Linear ICs and Applications	4	3	1	-	4	30	70	100
B16 ENG 3101	Principles of Economics and Management	4	3	1	-	4	30	70	100
B16 EC 3102	Computer Architecture and Organization	4	3	1	-	4	30	70	100
B16 EC 3103	Antennas and Propagation	4	3	1	-	4	30	70	100
B16 EC 3104	Electronic Measurements and Instrumentation	4	3	1	-	4	30	70	100
B16 EC 3106	Linear Integrated Circuits & Pulse Circuits Lab with Simulation	4	3	1	-	4	30	70	100
B16 EC 3107	Digital Integrated Circuits &Hardware Descriptive Language	2	-	-	3	3	50	50	100
B16 ENG 3102	Verbal & Quantative Aptitude-I	2	5	--	--	5	100	--	100
#M-I	MOOCS-I	2	4	--	--	4	100	--	100
#M-II	MOOCS – II	2	4	--	--	4	100	--	100
	Total	**34**	**31**	**6**	**6**	**43**	**580**	**520**	**1100**

#M-I	B16 ENG 3103	Basic Coding
	B16 EC 3109A	Microwave Theory and Techniques
	B16 EC 3109B	Analysis and Design Principles of Microwave Antennas
	B16 EC 3109C	Principles of Digital Communications
#M-II	B16 EC 3110A	Introduction to Wireless and Cellular Communications
	B16 EC 3110B	Fabrication Techniques for MEMS-based Sensors: Clinical Perspective
	B16 EC 3110C	Introduction to information theory, Coding and cryptography
	B16 EC 3110D	Digital Image Processing

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ELECTRONICS AND COMMUNICATION ENGINEERING
II-SEMESTER

Code No.	Course	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
B16 EC 3201	Microwave Engineering	4	3	1	--	4	30	70	100
B16 EC 3202	Microprocessors and its Applications	4	3	1	--	4	30	70	100
B16 EC 3203	Digital Communication	4	3	1	--	4	30	70	100
#ELE-I	ELECTIVE-I	4	3	1	--	4	30	70	100
B16 EC 3206	Digital Signal Processing	4	3	1	--	4	30	70	100
#ELE-II	ELECTIVE-II	4	3	1	--	4	30	70	100
B16 EC 3211	DSP Laboratory	2	--	--	3	3	50	50	100
B16 EC 3212	Microprocessors and Microcontrollers Lab	2	--	--	3	3	50	50	100
B16 ENG 3202	Verbal & Quantative Aptitude-II	2	5	--	--	5	100	--	100
B16 EC 3213	Mini Project	2	--	--	3	3	50	--	50
#M-III	MOOCS-III	2	4	--	--	4	100	--	100
	Total	**34**	**27**	**6**	**9**	**42**	**530**	**520**	**1050**

# ELE-I	B16 EC 3204	Radar & Navigation
	B16 EC 3205	Information Theory And Coding
	B16 CS 3210	Object oriented programming
	B16 CS 3211	Web technologies
	B16 CS 3212	Software Engineering
#ELE-II	B16 EC 3207	Embedded Systems & Microcontrollers
	B16 EC 3208	Micro Electronics
	B16 EC 3209	Telecommunication Switching Systems
	B16 EC 3210	Digital Signal Processors And Architectures
#M-III	B16 ENG 3204	Advanced Coding
	B16 EC 3214A	Principles of Signals and Systems
	B16 EC 3214B	Analog Circuits
	B16 EC 3214C	Microprocessors and Microcontrollers

M. Jagapathi. Raju

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SCHEME OF INSTRUCTION & EXAMINATION
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IV/IV B.TECH
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ELECTRONICS AND COMMUNICATION ENGINEERING
II-SEMESTER

Code No.	Course	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Total Contact Hrs/ Week	Sessional Marks	Exam Marks	Total Marks
B16 EC 4201	Cellular and Mobile Communications	4	3	1	–	4	30	70	100
B16 EC 4202	Computer Networks	4	3	1	–	4	30	70	100
# ELE-III	ELECTIVE-III	4	3	1	–	4	30	70	100
B16 EC 4208	Project Phase-II	12	-	-	9	9	50	100	150
	Total	**24**	**9**	**3**	**9**	**21**	**140**	**310**	**450**

# ELE-III	B16 EC 4203	Internet of things.
	B16 EC 4204	Digital System design Through HDL
	B16 EC 4205	Bio Medical Signal Processing.
	B16 EC 4206	Satellite Communication
	B16 EC 4207	Digital TV

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IV/IV B.TECH
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ELECTRONICS AND COMMUNICATION ENGINEERING

I-SEMESTER

Code No.	Course	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
B16 EC 4101	Digital Image Processing	4	3	1	-	4	30	70	100
B16 EC 4102	VLSI Design	4	3	1	-	4	30	70	100
B16 EC 4103	Fiber Optic Communications	4	3	1	-	4	30	70	100
B16 EC 4104	Microwave Engineering & Optical communications Lab	2	-	-	3	3	50	50	100
B16 EC 4105	Digital Communication Lab	2	-	-	3	3	50	50	100
B16 EC 4106	Project Phase-I	2	-	-	3	3	50	--	50
	Total	**18**	**9**	**3**	**9**	**21**	**240**	**310**	**550**

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

M.TECH (COMMUNICATION SYSTEMS)

Scheme of Instruction and Examination
(Regulation:R16)
(with effect from **2016-2017** admitted batch onwards)

I - SEMESTER

Code No.	Course title	Credits	Lecture Hrs	Lab Hrs	Total Contact Hrs/ Week	Sessional Marks	Exam Marks	Total Marks
M16 CS 1101	Communication Theory	4	4	--	4	30	70	100
M16 CS 1102	Communication Techniques	4	4	--	4	30	70	100
M16 CS 1103	Satellite Communication and Phased Arrays	4	4	--	4	30	70	100
M16 CS 1104	Digital signal processing	4	4	--	4	30	70	100
M16 CS 1105	Optical Fibers and Applications	4	4	--	4	30	70	100
#1	Elective –I	4	4	--	4	30	70	100
M16 CS 1110	Communication Engineering Lab	2	-	4	4	50	50	100
M16 CS 1111	Seminar - I	2	-	3	3	100	--	100
Total		**28**	**24**	7	**31**	**330**	**470**	**800**

	Course Code	Course
#1-Elective-I	M16 CS 1106	EMI/EMC
	M16 CS 1107	Microwave Components and Networks
	M16 CS 1108	Advanced Microprocessor
	M16 CS 1109	Embedded Systems

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

M.TECH (COMMUNICATION SYSTEMS)

Scheme of Instruction and Examination
(Regulation:R16)
(with effect from **2016-2017** admitted batch onwards)

II – SEMESTER

Code No.	Course title	Credits	Lecture Hrs	Lab Hrs	Total Contact Hrs/ Week	Sessional Marks	Exam Marks	Total Marks
M16 CS 1201	RF and Microwave Engineering	4	4	--	4	30	70	100
M16 CS 1202	Cellular and Mobile Communications	4	4	--	4	30	70	100
M16 CS 1203	GPS and Applications	4	4	--	4	30	70	100
M16 CS 1204	Telecommunication Switching and Networks	4	4	--	4	30	70	100
#2	Elective - II	4	4	--	4	30	70	100
#3	Elective – III	4	4	--	4	30	70	100
M16 CS 1213	Digital Signal Processing Lab	2	-	4	4	50	50	100
M16 CS 1214	Seminar - II	2	-	3	3	100	--	100
	Total	**28**	**24**	**7**	**31**	**330**	**470**	**800**

	Course Code	Course
#2-Elective-II	M16 CS 1205	Modeling and Simulation of Communication Systems
	M16 CS 1206	Modern Radar Systems
	M16 CS 1207	Digital Image Processing
	M16 CS 1208	VLSI Design
#3-Elective-III	M16 CS 1209	Application Specific Integrated Circuits (ASIC)
	M16 CS 1210	Multimedia Communication Systems
	M16 CS 1211	Wavelet Transforms and Its Applications
	M16 CS 1212	Statistical Signal Processing

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(Regulation:R16)
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III – SEMESTER

Course Code	Course Title	Credits	Scheme of Examination	Exam Marks	Total Marks
M16 CS 2101	Thesis Work - Preliminary	10	Review	100	100

1. Candidates can do their thesis work within the department or in any industry/research organization for two semesters (i.e. 3rd and 4th semesters). In case of thesis done in an industry/research organization, one advisor (Guide) should be from the department and one advisor (CO-Guide) should be from the industry/research organization.
2. The Thesis Work -Preliminary should be submitted at the end of 3rd semester and it will be evaluated through Review by a committee consisting of Head of the Department, External Examiner, PG coordinator and guide. The marks shall be awarded in the ratio of 20, 40, 20 and 20 percent by the members respectively.

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(Regulation:R16)
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IV – SEMESTER

Course Code	Course Title	Credits	Scheme of Examination	Exam Marks	Total Marks
M16 CS 2201	Thesis Work-Final	14	Viva-voce	100	100

1. A publication of a paper on the thesis work in a National/International Journal at the end of 4th semester is mandatory for the submission of thesis work.
2. The Thesis should be submitted at the end of 4th semester and it will be evaluated through Viva–Voce examination by a committee consisting of Head of the Department, External Examiner, PG coordinator and thesis guide. The marks shall be awarded in the ratio of 20, 40, 20 and 20 percent by the members respectively.

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SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE(A)
CHINNA AMIRAM :: BHIMAVARAM 534204
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Dt:07-07-2016

CIRCULAR

This is to inform you that the Department of Electrical And Electronics Engineering will hold a meeting on 17-07-16 at 2.00P.M in Room No U-303 (EEE Seminar hall) of Electrical And Electronics Engineering Department. In this connection, all the members of Board of studies are requested to attend the same.

Agenda:

1) To discuss about Scheme for 2nd, 3rd and 4th year.
2) Any other items for discussion with permission of the chair.

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Head of the Department

Head of EEE Department
S.R.K.R. Engg. College
BHIMAVARAM-534 204.

C.C to

1.The members of Board of Studies

2.Office file

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Minutes of the meeting

First Board of Studies meeting held on 17-07-16 at EEE department

Category	Name	Signature
1. Chairman	Dr. P. Kanta Rao	
2. University Nominee	Dr. K. Vaisakh	17/7/16
3. Expert from other university	Dr. M. Damodar Reddy	
4. Expert from other university	Dr. Ch. V.V.S. Bhaskar Reddy	17/7/2016
5. Expert from other University	Dr. Sachin Jain	
6. Industry Expert	Sri Ch. Chandra Sekhar	Ch. Chandra Sekhar
7. Industry Expert	Sri P. Prabhakar Rao	NOT PRESENT
8. Research organization	Dr. G.K. Viswanadha Raju	NOT PRESENT
9. Faculty of each specialization	Sri B.R.K. Varma	
10 Faculty of each specialization	Sri N. Srinivasu	
11 Faculty of each specialization	Dr. M Sai veeraju	
12 Faculty of each specialization	Sri D.J.V. Prasad	Not present
13 Student Representative	G. Rajesh	G. Rajesh
14 Student Representative	I. Balasai Ram	I.B.S. Prasad Ram

Minutes of the Meeting.

1) Resolved to change subject name 'principle of magnetic & Electric circuits' to 'Circuit theory'.
2) Resolved to include A.C circuits in "circuit Theory"
3) Resolved to ~~include~~ continue M.Tech curriculum as per Andhra university
4) Resolved to have 5 units in all the subjects.
5) proposed to include the following units in "Network Analysis & synthesis" in 2nd year 1st semister
1) Transients 2) Laplace Transient techniques 3) Network Function 4) Two port Network parameters 5) Network synthesis

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6) Proposed to conduct either Industrial oriented technology / Communication skills uniformly for all the students in the same semister
7) Proposed to have separate subjects for LIC & PDC.
8) Proposed a tentative scheme for 2nd, 3rd, and final years
9) It is proposed that elective subjects should be useful in higher studies

S.R.K.R. ENGINEERING COLLEGE
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BHIMAVARAM-534

Chairman B.O.S.
Head of EEE Department
S.R.K.R. Engg. College
BHIMAVARAM – 534 204

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RESOLUTIONS FOR THE MEETING DATED 17-07-2016

1) Resolved to change subject name Principles of magnetics and electric circuits to Circuit Theory in I/4 2nd semester.

I/IV B.TECH
(With effect from 2016-2017 Admitted Batch onwards)
Under Choice Based Credit System

GROUP – B (ECE, EEE & Mechanical) Branches

II-SEMESTER

Code No.	Course	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
B16 ENG 1201	Mathematics-III *	4	3	1	--	4	30	70	100
B16 ENG 1203	Chemistry	4	3	1	--	4	30	70	100
B16 ENG 1205	Computer Programming Using C & Numerical Methods	4	3	1	--	4	30	70	100
B16 ENG 1207	History of Science and Technology	2	2	--	--	2	30	70	100
DS	Department Subject *	4	3	1	--	4	30	70	100
B16 ENG 1210	Chemistry Lab	2	--	--	3	3	50	50	100
B16 ENG 1212	Computer programming Using C & Numerical Methods Lab	2	--	--	3	3	50	50	100
B16 ENG 1213	English Language Lab *	2	--	--	3	3	50	50	100
B16 ENG 1214	Sports (Audit)	--	--	--	--	3	--	--	--
	Total	24	14	4	9	30	300	500	800

Note: *Add-On Course: Technology Course-I* *

* Common to both Group-A and Group-B
\# ECE: B16 EC1208: Electronic Devices and Circuits
EEE: B16 EE1208: Circuit Theory
ME: B16 ME1208: Metallurgy and Materials Engineering

2) Resolved to include AC Circuits in "Circuit Theory" in I/4 2nd semester.

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SYLLABUS: CIRCUIT THEORY (For EEE) Code: B16 EE 1208

Fundamentals of Electric Circuits
Concepts of Electric circuit: EMF, Current, Potential difference, Power and Energy; Concepts of Network: Active and Passive elements, classification of Linear, Non-linear, Unilateral, Bilateral Lumped and Distributed elements; Reference directions for current and voltage; Voltage and Current sources; Voltage-Current Relations of R, L, C elements; Voltage and Current division; Series and Parallel combinations of Resistance, Inductance and Capacitance

D.C Circuits
Kirchhoff's Laws; Nodal Analysis, Mesh Analysis, Source Transformation, Linearity and Superposition Theorem, Thevinin's And Norton's Theorems, Reciprocity theorem, Maximum Power Transfer Theorem, Star-Delta Transformation.

AC Circuits
The Sinusoidal Forcing Function, Phasor Concept, Average and Effective Values of Voltage and Current, Instantaneous and Average Power, Complex Power, Steady State Analysis using Mesh and Nodal Analysis, Resonance.

Three Phase Circuits
Advantages of Three Phase Circuits, Balanced and Unbalanced systems, Relation between Line and Phase Quantities in Star and delta connected circuits, Analysis of Balanced & Unbalanced Three Phase Circuits, Measurement of Power in Three Phase Power Circuits.

Magnetic Circuits
Magneto motive force(MMF), Reluctance, Magnetic flux; Analysis of magnetic circuit, Analogy between Electric & Magnetic circuits, Series Magnetic circuits, Magnetic leakage, B-H curve, Faraday's Laws of Electromagnetic Induction, Induced EMF, Dynamically Induced EMF, Statically Induced EMF, Self-Inductance, Mutual Inductance (simple numerical problems)

TEXT BOOKS:

1. Engineering Circuit Analysis By W.H. Hayt Jr & J.E. Kemmerly, 5th Ed., Mc Graw Hill.

REFERENCE BOOKS:

1. Basic Electrical Engineering By V.K Mehta & Rohit Mehta- S Chand Pub.
2. Sudhakar & Syam Mohan " Network Analysis", Mcgraw Hill

3) Resolved to continue M.Tech curiculum as per Andhra university

M. Jagapathi Raju

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Code No	Name of the Subject	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Contact Hrs Week	Internal Marks	External Marks	Total Marks
M17 PS 1101	Advanced Power system Operation and control	3	3	1	–	4	30	70	100
M17 PS 1102	HVDC Transmission	3	3	1	–	4	30	70	100
M17 PS 1103	Reactive Power Compensation & Management	3	3	1	–	4	30	70	100
M17 PS 1104	Analysis of Power Electronic Converters	3	3	1	–	4	30	70	100
#ELE-1	Elective-I	3	3	1	–	4	30	70	100
#ELE-2	Elective-II	3	3	1	–	4	30	70	100
M17 PS 1113	Simulation Laboratory	2	–	–	3	3	50	50	100
Total		20	18	6	3	27	230	470	700

	Course Code	Course
#ELE-1	M17 PS 1105	Modern Control Theory
	M17 PS 1106	Power System Security
	M17 PS 1107	Optimization Techniques
	M17 PS 1108	Generation and Measurement of High Voltage
#ELE-2	M17 PS 1109	Renewable Energy Systems
	M17 PS 1110	Advanced Digital Signal Processing
	M17 PS 1111	Power System Reliability
	M17 PS 1112	Electrical Distribution Systems

SCHEME OF INSTRUCTION & EXAMINATION
(Regulation R17)

M.TECH (POWER SYSTEM AND AUTOMATION)
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

(With effect from 2017-2018 Admitted Batch onwards)
Under Choice Based Credit System

II-SEMESTER

Code No	Name of the Subject	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Contact Hrs Week	Internal Marks	External Marks	Total Marks
M17 PS 1201	Power system Dynamics & stability	3	3	1	–	4	30	70	100
M17 PS 1202	Real Time Control of Power System	3	3	1	–	4	30	70	100
M17 PS 1203	Advanced Instrumentation Techniques	3	3	1	–	4	30	70	100
M17 PS 1204	Flexible AC Transmission Systems	3	3	1	–	4	30	70	100
#ELE-3	Elective-I	3	3	1	–	4	30	70	100
#ELE-4	Elective-II	3	3	1	–	4	30	70	100
M17 PS 1213	Power system laboratory	2	–	–	3	3	50	50	100
Total		20	18	6	3	27	230	470	700

	Course Code	Course
#ELE-3	M17PS1205	Smart Grid Technologies
	M17PS1206	Power Quality
	M17PS1207	Advanced Power System Protection
	M17PS1208	FACTS Transmission
#ELE-4	M17PS1209	Power System Interconnection
	M17PS1210	High Voltage Testing Techniques
	M17PS1211	Power System Transients
	M17PS1212	Voltage Stability

SCHEME OF INSTRUCTION & EXAMINATION
(Regulation R17)

M.TECH (POWER SYSTEM AND AUTOMATION)
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

(With effect from 2017-2018 Admitted Batch onwards)
Under Choice Based Credit System

III-SEMESTER

Course Code	Course	Scheme of Examination	C	Int	Ext	Total
M17 PS 2101	Comprehensive Viva-Voce	Viva-Voce	2	50	-	50
M17 PS 2102	Seminar-I	Oral Presentation	2	50	-	50
M17 PS 2103	Project Work Part-I	Review	16	50	-	50
		Total	20	150	-	150

SCHEME OF INSTRUCTION & EXAMINATION
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

(With effect from 2017-2018 Admitted Batch onwards)
Under Choice Based Credit System

IV-SEMESTER

Course Code	Course	Scheme of Examination	C	Int	Ext	Total
M17 PS 2201	Seminar-II	Oral presentation	2	50	-	50
M17 PS 2202	Project Work Part-II	Viva-voce	18		100	100
		Total	20	50	100	150

4)Resolved to have 5 units in all Subjects

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SYLLABUS: ENGLISH - I (Common to all Branches) (Code: B17 BS 1101)

UNIT-I

People and Places:-Word search - Ask yourself-Self-assessment-I -Self-assessment-II - Sentence and its types- Describing people, places and events-Writing sentences-Self-awareness-Self-motivation, Dialogue writing.

UNIT-II

Personality and Lifestyle:- Word quiz – Verbs-Adverbs-Negotiations-Proving yourself-Meeting Carl Jung- Describing yourself- Living in the 21st century- Using your dictionary-Communication-Adaptability.

UNIT-III

Media and Environment: - A list of 100 basic words – Nouns- Pronouns- Adjectives-News report- Magazine article- User's Manual for new iPod- A documentary on the big cat- Why we need to save our tigers: A dialogue- Global warming- Paragraph Writing-Arguing a case-Motivation- Problem solving.

UNIT-IV

Entertainment and Employment:- One word substitutes- Parts of speech- Gerunds and infinitives- An excerpt from a short story an excerpt from a biography- A consultant interviewing employees- Your first interview - Reality TV- Writing an essay-Correcting sentences- Integrity Sense of humor.

UNIT-V

Work and Business:- A list of 100 difficult words- Articles, Quantifiers- Punctuation - Open letter to the Prime Minister Business dilemmas: An email exchange- A review of *IPL: The Inside Story*, Mark Zuckerberg: World's Youngest Billionaire- A conversation about a business idea-Pair work: Setting up a new business- Recession- Formal letters-Emails- Reports-Professionalism-Ethics. Fill in the blanks.

Text Book:

1. *Life through Language: A Holistic Approach to Language Learning* Board of Editors, Pearson Publishers, India. 2013.

Reference Books:

1. Basic Vocabulary. Edgar Thorpe, Showick Thorpe. Pearson P. 2008.
2. Quick Solutions to Common Errors in English, Angela Bunt. MacMillan P. 2008.
3. Know Your English (Volume 1&2), by Dr. S. Upendra, Universities Press, India 2012
4. Business Communication Strategies. Mathukutty Monippally. Tata Mc Grahill P. 2008.

M. Jagapathi

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5) Proposed to include the following units in Network Analysis & Synthesis in 2nd year 1st semester 1) Transients 2) Laplace Transform Techniques 3) Network Functions 4) Two port Network Parameters 5) Network Synthesis

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SYLLABUS:NETWORK ANALYSIS & SYNTHESIS(Code: B16 EE 2101)

DC Transients:
Inductor, capacitor, source free RL, RC & RLC response, evaluation of initial conditions, application of unit-step function to RL, RC & RLC circuits, concepts of natural, forced and complete response.

Laplace Transform Techniques:
Transforms of typical signals, response of simple circuits to unit step, ramp and impulse functions, initial and final value theorems, convolution integral, time shift and periodic functions, transfer function.

Coupled Circuits & Two-port Network parameters:
Magnetically coupled circuits, dot convention, reciprocity theorems, concept of duality, Two-port Network parameters - Z, Y, H & T parameters.

Network Functions:
Generalized network functions(driving point and transfer), Network functions for ladder & T-networks, concept of poles and zeros, determination of free and forced response from poles and zeros.

Network Synthesis:
Synthesis problem formation, Hurwitz polynomials, properties and test for positive real functions, elementary synthesis operations, Foster and Cauer Forms of LC, RC and RL networks.

Text Books

1. Engineering circuit analysis by W.H. Hayt Jr & J.E. Kemmerly, McGraw Hill Education; Eighth edition (4 August 2013).

Reference Books:

1. Network analysis by M.E. Van Valkenberg, 3rd Edition.2006, Prentice Hall India Learning Private Limited.
2. Modern network synthesis by M.E. Van Valkenberg, John Wiley & Sons ,1966.

6) Proposed to conduct either industrial oriented technology/communication skills uniformly for all the students in 2nd year 1st semester

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SYLLABUS:INDUSTRY ORIENTED TRAINING (Common to ECE & EEE)(Code: B16 ENG 2106)

BASIC CONCEPTS

System Life Cycle, Algorithm Specification, Recursive Algorithms, Data Abstraction, Performance Analysis, Space Complexity, Time Complexity, Asymptotic Notation, Comparing Time Complexities

IMPLEMENTATION (Using C)
Arrays
Stacks
Queues
Linked List
Double linked lists
Trees
Graphs

Applications of linear and nonlinear data structures and solving simple to complex problems in perspective of industry requirements.

Basic Concepts of OOP
Procedural Paradigms, Object Oriented Paradigm, OOP Principles and Terminology, OOP benefits, Procedure and Object Oriented programming languages, advantages and disadvantages, creating class, defining objects in C++ and JAVA.

Applications using OOP in solving simple to complex problems in perspective of industry requirements.

7) Proposed to have separate subjects for LIC & PDC in 3rd year 1st semester

	Course Code	Course
#PE-I	B19 EE 3106	Analog Electronics
	B19 EE 3107	Linear and Digital IC Applications
	B19 EE 3108	Pulse and Digital Circuits
	B19 EE 3109	MOOCs-I

8) Proposed a tentative scheme for 2nd ,3rd and 4th years

9) It is proposed that elective subjects should be useful for higher studies

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DEPT. OF E.E.E.
BHIMAVARAM-534 204.

Head of EEE Department
S.R.K.R. Engg. College
BHIMAVARAM-534 204.

CIRCULAR

All members of Board of Studies, IT Department are requested to attend a meeting on 16-07-2016 at 10. 00 AM in the office of the undersigned without fail.

AGENDA:

1.To finalize the curriculum of first year courses under Autonomous regulation w.e.f 2016-17 admitted batch.

2. Any other items

Dt: 15-07-2016

G.P.S.

Head Of the Department

Dept of Information Technology.

Head of the Department
Information Technology
S.R.K.R. Engineering College
BHIMAVARAM-534 204

RESOLUTIONS:

Date

1) It is to resolve that, the 1/4 B.Tech (IT), the CPNM (Computer Programming Numerical Methods) course syllabus is finalized under Autonomous Regulations.

2) For 2/4 B.Tech (IT), the courses that has to be taken in the acadamic year are also discussed and finalized the courses to be taken.

3) It is unanimously resolved to continue current Andhra University syllabus for 1/2 M.Tech (I.T.) 1st Semester and 2nd Semester.

4) Based on feedbacks from the different Stakeholders, BOS advised the University Nominee include advanced Courses.

M. Jagapathi Raju

G.P.S.

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Head of the Department
Information Technology

S.No	Name	Designation	Signature
1	SRINIVASA VARMA M.	CTO, Lead CS	
2	P. VAMSI KRISHNA	SR, SW ENGG	
3	Bhys R K Raju	Professor	
4	Prof. S. Krishna Rao	HOD, IT, GV CRRCOE	
5	Dr. I. Hemalatha	Associate professor	I. Hemalatha
6	SR. Reddy	Associate Prof	
7	S VENKATARAMANA	Assoc. Prof.	
8	B.V.D.S. Sekhar	Assoc. Prof	Professor
9	M.V. SUBBARAO	"	
10	D. RATNA GIRI	AM WUF	D. Ratna Giri
11	Dr. N K. Kameswara Rao	Assoc. Professor	
12	Dr. Y S S R. Murthy	Professor	
13	Dr N.G.K. Murthy	Head, Technology Cat.	N.G.K.M.
14	R. Kishore Raju	Asst Professor	K.K.R.
15	G. Sahithi Poiya (B.Tech)	Student Representative	G Sahithi Poiya
16	V. patanjali (B.Tech)	Student Representative	V. patanjali
17	Dr. M. Suresh Babu	Head, Centre for Biomedical Research	
18	Kalidindi Ramalinga Raju.		K. Ramalinga Raju
19.	Prof. V. Valli Kumari (online)	Professor, AU.	
20	Prof. P. Suresh Varma	Pro-Vice, AKNU	
21	Dr. G. P. Saradhi Varma	Professor & HOD	G.P.S.
22.	Dr. L. Sumalatha	Professor of CSE, UCE JNTUK	
23.	B. Teja Sree	M.Tech student	

M. Jagapathi Raju

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R16

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(Affiliated to Andhra University, Visakhapatnam), (Recognised by AICTE, New Delhi)
Recognised as Scientific and Industrial Research Organisation
CHINNA AMIRAM (P.O):: BHIMAVARAM :: W.G.Dt., A.P., INDIA :: PIN: 534 204

ESTD: 1980

COMMON SCHEME OF INSTRUCTION & EXAMINATION
(Regulation R16)

I/IV B.TECH
(With effect from **2016-2017** Admitted Batch onwards)
Under Choice Based Credit System

GROUP – A (CIVIL, CSE, IT) Branches

I-SEMESTER

Code No.	Course	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
B16 ENG 1101	English *	4	3	1	--	4	30	70	100
B16 ENG 1102	Mathematics-I *	4	3	1	--	4	30	70	100
B16 ENG 1103	Mathematics-II *	4	3	1	--	4	30	70	100
B16 ENG 1104	Chemistry	4	3	1	--	4	30	70	100
B16 ENG 1106	Computer Programming Using C & Numerical Methods	4	3	1	--	4	30	70	100
B16 ENG 1108	History of Science and Technology	2	2	--	--	2	30	70	100
B16 ENG 1110	Chemistry Lab	2	--	--	3	3	50	50	100
B16 ENG 1112	Computer programming Using C & Numerical Methods Lab	2	--	--	3	3	50	50	100
B16 ENG 1114	Sports (Audit)	--	--	--	--	3	--	--	--
	Total	26	17	5	6	31	280	520	800

Note: *Add-On Course: Technical English* *

* Common to both Group - A and Group - B

P. Jagapathi Raju

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COMMON SCHEME OF INSTRUCTION & EXAMINATION
(Regulation R16)

I/IV B.TECH
(With effect from 2016-2017 Admitted Batch onwards)
Under Choice Based Credit System

GROUP – A (CIVIL, CSE & IT) Branches

II-SEMESTER

Code No.	Course	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
B16 ENG 1201	Mathematics-III *	4	3	1	--	4	30	70	100
B16 ENG 1202	Physics	4	3	1	--	4	30	70	100
B16 ENG 1204	Engineering Graphics	4	2	--	3	5	30	70	100
B16 ENG 1206	Professional Ethics & Moral values	2	2	--	--	2	30	70	100
DS	Department Subject #	4	3	1	--	4	30	70	100
B16 ENG 1209	Physics Lab	2	--	--	3	3	50	50	100
B16 ENG 1211	Workshop	2	--	--	3	3	50	50	100
B16 ENG 1213	English Language Lab *	2	--	--	3	3	50	50	100
B16 ENG 1214	NCC/NSS (Audit)	--	--	--	--	3	--	--	--
	Total	24	13	3	12	31	300	500	800

Note: *Add-On Course: Technology Course-I* *

* Common to both Group-A and Group-B
# Civil: B16CE1208: Building Materials and Building Construction
CSE: B16CS1208: Probability, Statistics & Queueing Theory
IT: B16CS1208: Probability, Statistics & Queueing Theory

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SCHEME OF INSTRUCTION & EXAMINATION
(Regulation R16)

II/IV B.TECH
(With effect from **2016-2017** Admitted Batch onwards)
Under Choice Based Credit System

INFORMATION TECHNOLOGY

I-SEMESTER

Code No.	Course	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
B16 IT 2101	Data Structures	4	3	1	--	4	30	70	100
B16 EC 2103	Elements of Electronics Engineering	4	3	1	--	4	30	70	100
B16 ENG 2102	Discrete Mathematical Structures	4	3	1	--	4	30	70	100
B16 IT 2102	Object Oriented Programming Using C++	4	3	1	--	4	30	70	100
B16 IT 2103	Digital Logic Design	4	3	1	--	4	30	70	100
B16 ENG 2103	Environmental Studies	2	3	1	--	4	30	70	100
B16 IT 2104	Data Structures Lab.	2	--	--	3	3	50	50	100
B16 IT 2105	Object Oriented Programming Lab Using C++.	2	--	--	3	3	50	50	100
B16 ENG 2104	English Proficiency	2	1	1	--	2	50	50	100
B16 ENG 2105	Industry Oriented Training.	1	--	--	2	2	50	--	50
	Total	29	19	7	8	34	380	570	950

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SCHEME OF INSTRUCTION & EXAMINATION
(Regulation R16)

II/IV B.TECH
(With effect from **2016-2017** Admitted Batch onwards)
Under Choice Based Credit System

INFORMATION TECHNOLOGY

II-SEMESTER

Code No.	Course	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
B16 IT 2201	Operating Systems	4	3	1	--	4	30	70	100
B16 IT 2202	Computer Organization	4	3	1	--	4	30	70	100
B16 IT 2203	Microprocessors	4	3	1	--	4	30	70	100
B16 IT 2204	Data Communications	4	3	1	--	4	30	70	100
B16 IT 2205	Operations Research	4	3	1	--	4	30	70	100
B16 IT 2206	Java Programming	4	3	1	--	4	30	70	100
B16 IT 2207	Java programming Lab	2	--	--	3	3	50	50	100
B16 IT 2208	Digital Electronics & Microprocessors Lab	2	--	--	3	3	50	50	100
B16 IT 2209	Python Programming	1	1	--	1	2	50	--	50
B16 ENG 2203	Industry Oriented Training	1	--	--	2	2	50	--	50
	Total	**30**	**19**	**6**	**9**	**34**	**380**	**520**	**900**

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DEPARTMENT OF INFORMATION TECHNOLOGY

M.TECH (INFORMATION TECHNOLOGY)

Scheme of Instruction and Examination

(Regulation:R16)

(with effect from **2016-2017** admitted batch onwards)

I – SEMESTER

Code No.	Course title	Credits	Lecture Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
M16 CST 1101	Mathematical Foundations of Computer Science	4	4	--	4	30	70	100
M16 CST 1102	Data Structures & Algorithms	4	4	--	4	30	70	100
M16 CST 1103	Advanced Data Base Management Systems	4	4	--	4	30	70	100
M16 CST 1104	Advanced Operating Systems	4	4	--	4	30	70	100
#1	Elective-I	4	4	--	4	30	70	100
#2	Elective-II	4	4	--	4	30	70	100
M16 CST 1113	Data Structures & Programming Lab	2	--	3	3	50	50	100
M16 CST 1114	Database Management Systems Lab	2	--	3	3	50	50	100
	Total	**28**	**24**	**6**	**30**	**280**	**520**	**800**

	Course Code	Course
#1-Elective-I	M16 IT 1101	Computer Organization & Architecture
	M16 IT 1102	E-Commerce
	M16 IT 1103	Embedded Systems
	M16 IT 1104	Image Processing
	M16 IT 1105	Artificial Intelligence
	M16 IT 1106	Compiler Design
#2-Elective-II	M16 IT 1107	Computer Networks
	M16 IT 1108	Cloud Computing
	M16 IT 1109	Grid Computing
	M16 IT 1110	Computer Graphics & Visual Computing
	M16 IT 1111	Parallel Programming
	M16 IT 1112	Computer Vision

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DEPARTMENT OF INFORMATION TECHNOLOGY

M.TECH (INFORMATION TECHNOLOGY)

Scheme of Instruction and Examination

(Regulation:R16)

(with effect from **2016-2017** admitted batch onwards)

II – SEMESTER

Code No.	Course title	Credits	Lecture Hrs	Lab Hrs	Total Contact Hrs/Week	Sessional Marks	Exam Marks	Total Marks
M16 IT 1201	Web Systems & Technologies	4	4	-	4	30	70	100
M16 CST 1202	Object Oriented Software Engineering	4	4	-	4	30	70	100
M16 IT 1202	Information Security & Cryptography	4	4	-	4	30	70	100
M16 IT 1203	Wireless & Mobile Networks	4	4	-	4	30	70	100
#3	Elective- III	4	4	-	4	30	70	100
#4	Elective -IV	4	4	-	4	30	70	100
M16 IT 1216	Network Programming & Web Programming Lab	2	-	3	3	50	50	100
M16 CST 1214	OOSE Lab	2	-	3	3	50	50	100
M16 IT 1217	Seminar	2	-	-	-	100	-	100
	Total	**30**	**24**	**6**	**30**	**380**	**520**	**900**

	Course Code	Course
#1-Elective-III	M16 IT 1204	Mathematics Of Internet Systems & Control
	M16 IT 1205	IT Infrastructure Planning & Management
	M16 IT 1206	Geo-Informatics
	M16 IT 1207	Data Base Security
	M16 IT 1208	Business Intelligence
	M16 IT 1209	Big Data Analysis
#2-Elective-IV	M16 IT 1210	Mobile Computing
	M16 IT 1211	Soft Computing
	M16 IT 1212	Cluster Computing
	M16 IT 1213	Pervasive Computing
	M16 IT 1214	Semantic Web
	M16 IT 1215	Data warehousing & Data Mining

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MEETING-1

SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE(A)
CHINNA AMIRAM :: BHIMAVARAM-534204
DEPARTMENT OF MECHANICAL ENGINEERING

Dt: 09-07-2016

CIRCULAR

This is to inform you that the Department of Mechanical Engineering will hold a meeting on 17-07-2016 at 02.00 PM in Room No. M-101 (E-class room) of Mechanical Department. In this connection, all the members of the Board of Studies are requested to attend the same.

Agenda:

1. To finalize academic curriculum for B.Tech Mechanical Engineering program and M.Tech CAD/CAM programs.
2. To discuss and finalize course structure and syllabus for 4/4 - B.Tech Mechanical Engineering program , under R-16 regulations.
3. Any other items for discussion.

Head of the Department
Professor and Head
Dept. of Mechanical Engg.
S.R.K.R. Engineering College
CHINA AMIRAM (P.O.)
BHIMAVARAM-534 204.

Dept. of Mechanical * BHIMAVARAM 534 204 * S.R.K.R. Engg. College

C.C to:

1. The Members of Board of studies
2. Office file

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MINUTES OF THE MEETING
(ANDHRA UNIVERSITY)

First Board of studies meeting was held on 17-07-2016 in M101 (E-Class Room) of Department of Mechanical Engineering at 2:00 PM. for Finalization of Academic curriculum for B.Tech (Mechanical Engg.) & M.Tech. (CAD/CAM) programms.

H. Jagapathi Raju

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BHIMAVARAM-534 204.

Members present
(ANDHRA UNIVERSITY)

S NO	Name of Faculty	Designation	Signature
01	P V S GANESH KUMAR	ASSOCIATE DIRECTOR	
02	Prof K. Venkata Subbaiah	Professor	
03	G. Ranga Janardhana	Professor	
04	B. Durga prasad	professor	
05	Prof P V Kumar Raju	Professor	
06	D. S. N RAJU	professor	
07	K. Satyanarayana	PROFESSOR	
08	G. Chatapathi Rao	Associate Prof.	
09	Prof. N. V. SUBBA RAJU	Professor	
10	Dr. V. DURGA PRASAD	Professor	
11	Dr. K V M K Raju	professor	
12	C. SRINIVAS	Associate professor	
13	V. K. VISWANADHA RAJU	Associate Professor	
14	D. V. R. SRADHA RAJU	Associate Professor	
15	Dr. P Ramamurthy Raju	Professor	
16	Dr. S. RAJESH	Assoc. professor	
17	Dr. K. SITA RAMA RAJU	Assoc. Professor	
18	Dr K BRAHMA RAJU	Prof & Head	
19	K. TARUN KUMAR	Student representative 3/4	K. Tarunkumar
20	K. Sai Teja	Std. Rep. IV/IV	K. Sai Teja
21	CVSRK Raju	Associate prof	
22	CH. Gopala Raju	Associate Prof.	
23	V. Mani Kumari	student representative(girls)	V. Mani

P. Jagapathi Raju

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Contd...

MINUTES OF THE MEETING RESOLUTIONS
(ANDHRA UNIVERSITY)

(1) Resolved to fix a total of 220 credits for B.Tech Mechanical Engineering program.

(2) Resolved to Fix a total of 80 credits for M.Tech CAD/CAM program.

(3) Resolved to offer 3 Electives with 6 subjects in Each Elective for B.Tech Mechanical Engg. program.

(4) Resolved to offer 4 Electives for M.Tech CAD/CAM program.

(5) Finalized the syllabus for Engineering Graphics (1/4 - B.Tech I semester) & Metallurgy & Materials Engineering (1/4 - B.Tech - I semester) courses.

(6) Resolved to change the subjects Names ETD-I, E.T.D-II & E.T.D-III to Thermodynamics, Thermal Engineering & I.C Engine & Gas Turbines.

(7) Resolved to introduce new subjects like production planning & Control (PPC), Refrigeration & Air Conditioning (R&AC) and Vibrations with the regular subjects in the Autonomous Pattern.

(8) Resolved to Combine Electrical Technology & Industrial Electronics in to one subject as Electrical & Electronics Engineering.

(9) Resolved to Combine Machine Drawing & production Drawing in to one subject as Mechanical Engg. Drawing.

(10) Finalized the Academic Curriculum for 4 years B.Tech Mechanical Engineering programme.

(11) Finalized the Academic Curriculum for 2 years M.Tech CAD/CAM Programme.

(12) Discussed about various Feedbacks while designing curriculum & syllabus

Professor & Head
Dept. of Mechanical Engg
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RESOLUTIONS FOR THE MEETING DATED 17-07-2016

(1) Resolved to fix a total of 220 Credits for B.Tech Mechanical Engineering program.

YEAR	1ST SEMESTER	2ND SEMESTER	TOTAL CREDITS
I/IV	26	24	50
II/IV	31	29	60
III/IV	34	34	68
IV/IV	20	22	42
		TOTAL CREDITS	220

(2) Resolved to Fix a total of 80 credits for M.Tech CAD/CAM program.

YEAR	1ST SEMESTER	2ND SEMESTER	TOTAL CREDITS
I/II	28	28	56
II/II	10	14	24
		TOTAL CREDITS	80

(3) Resolved to offer 3 Electives with 6 subjects in Each Elective for B.Tech Mechanical Engg program.

#ELE-I	B16 ME 3106	Finite Element Analysis
	B16 ME 3107	Automation in Manufacturing
	B16 ME 3108	Tool Design
	B16 ME 3109	Non-Conventional Energy Resources
	B16 ME 3110	Production Planning and Control
	B16 ME 3111	Rapid Prototyping

	Code No.	Name of the Course
# ELE-II	B16 ME 3206	Control Systems
	B16 ME 3207	Optimization Techniques
	B16 ME 3208	Automobile Engineering
	B16 ME 3209	Supply Chain Management
	B16 ME 3210	Nano Technology
	B16 ME 3211	Computational Fluid Dynamics
# ELE-III	B16 ME 4104	Mechanical Vibrations
	B16 ME 4105	Project Management
	B16 ME 4106	Non-Destructive Testing
	B16 ME 4107	Power Plant Engineering
	B16 ME 4108	Mechatronics
	B16 ME 4109	Design for Manufacturing

(4) Resolved to offer 4 Electives for M.Tech CAD/CAM program.

	Course Code	Course
#1-Elective-I	M16 CAD 1105	Advanced Optimization Techniques
	M16 CAD 1106	Neural Networks & Fuzzy Techniques
	M16 CAD 1107	Tool Design
#2-Elective-II	M16 CAD 1108	Design of Hydraulic & Pneumatics Systems
	M16 CAD 1109	Product Design
	M16 CAD 1110	Advanced Numerical Methods

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	Course Code	Course
#3-Elective-III	M16 CAD 1205	Vision Systems & Image Processing
	M16 CAD 1206	Intelligent Manufacturing Systems
	M16 CAD 1207	Concurrent Engineering
#4-Elective-IV	M16 CAD 1208	Signal Analysis & Condition Monitoring
	M16 CAD 1209	Additive Manufacturing
	M16 CAD 1210	Metrology and Non Destructive Testing

(5) Finalized the syllabus for Engineering Graphics (1/4 - B.Tech, I semester) & Metallurgy & Materials Engineering (1/4 - B.Tech - I semester) Courses.

Estd: 1980

SYLLABUS: ENGINEERING GRAPHICS (B16 ENG 1204)

(Common to CIVIL, CSE & IT)

Introduction

Lines, Lettering and Dimensioning. Geometrical Constructions.

Curves

Conic sections: General construction of ellipse, parabola and hyperbola. Construction of involutes Normal and Tangent.

Projections of Points

Principal or Reference Planes, Projections of a point situated in any one of the four quadrants

Projections of Straight Lines

Projections of straight lines parallel to both reference planes, perpendicular to one reference plane and parallel to other reference plane, inclined to one reference plane and parallel to the other reference plane. Projections of straight line inclined to both the reference planes:

Projections of Planes

Projection of Perpendicular planes: Perpendicular to both reference planes, perpendicular to one reference plane and parallel to other reference plane. perpendicular to one reference plane and inclined to other reference plane. Projection of Oblique planes. Introduction to Auxiliary Planes.

Projections of Solids

Types of solids: Polyhedra and Solids of revolution. Projection of solids in simple positions: Axis perpendicular to horizontal plane. Axis perpendicular to vertical plane and Axis parallel to both the reference planes, Projection of Solids with axis inclined to one reference plane and parallel to other and axes inclined to both the reference planes.

Projections of Section of Solids

Section Planes: Parallel and inclined section planes, Sections and True shape of section. Sections of Solids: Prism, Pyramid, Cylinder and Cone.

Development of Surfaces

Methods of Development: Parallel line development and radial line development. Development of a cube, prism, cylinder, pyramid and cone.

Isometric Views

Introduction to Isometric projection, Isometric scale and Isometric view. Isometric views of simple planes. Isometric view of Prisms, Pyramids, cylinder and cone. Isometric view of a combination of solids.

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Dept. of Mechanical Engg.
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SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (AUTONOMOUS)

ChinnaAmiram, Bhimavaram-534204. (AP)

ESTD: 1980

SYLLABUS: METALLURGY AND MATERIALS ENGINEERING (B16 ME 1208)

(For Mechanical Engineering)

Structure of crystalline solids

Atomic structure & bonding in solids- Crystal structures-calculations of radius, Coordination Number and Atomic Packing Factor for different cubic structures - Imperfection in solids, point defects, Linear defects, Planar defects and Volume defects- Concept of Slip & twinning.

Phase diagrams

Basic terms- phase rule- Lever rule & free energy of phase mixtures cooling curves- Phase diagram & phase transformation - construction of phase diagrams- binary phase diagrams - Brass, Bronze, Al-Cu and AlSi phase diagrams- Invariant reactions, eutectic, ,peritectic, eutectoid, peritectoid, metatectic&monotectic reactions, Iron carbon phase diagram & microstructures of plain carbon steel & cast iron

Heat treatment

Heat treatment of steel- Annealing, and its types, normalizing, hardening, tempering, martemering, austempering - TTT diagrams, drawing of TTT diagram, TTT diagram for hypo-& hypereutectoid steels, effect of alloying elements, CCT diagram- Martensitic transformation, nature of martensitic transformation- Surface hardening processes like case hardening, carburizing, cyaniding, nitriding Induction hardening, hardenability, Jominy end-quench test, Age hardening of Al & Cu alloys Precipitation Hardening

Engineering Alloys

Properties, composition, microstructure and uses of low carbon, mild medium & high carbon steels. stainless steels, high speed steels, Hadfield steels, tool steels - Cast irons, gray CI, white CI, malleable CI, SC iron-The light alloys- Al & Mg & Titanium alloys- Copper & its alloys: brasses & bronzes- super alloys, Smart materials- Nano materials.

Composite Materials

Classification of composite materials, dispersion strengthened, particle reinforced and fiber reinforced composite laminates properties of matrix and reinforcement materials and structural applications of different types of composite materials.

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(b) Resolved to change the subjects Names ETD-I, E.T.D-II & E.T.D-III to Thermodynamics, Thermal Engineering & IC Engine & Gas Turbines.

Regulation: 16	II/ IV - B.TECH I- Semester

MECHANICAL ENGINEERING
(under Choice Based Credit System / Elective Course System)

SCHEME OF INSTRUCTION & EXAMINATION
(With effect from 2016-17 admitted Batch onwards)

CodeNo.	Course	Category	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ENG2101	Mathematics-IV	BS	4	3	1	--	30	70	100
B16 ME2101	Mechanics of Solids	ES	4	3	1	--	30	70	100
B16 ME2102	Thermodynamics	ES	4	3	1	--	30	70	100
B16 ME2103	Manufacturing Process	ES	4	4	--	--	30	70	100
B16 ME2104	Engineering Mechanics	BS	4	3	1	--	30	70	100
B16 ME2105	Mechanical Engineering Drawing	BS	4	--	--	4	30	70	100
B16 ME2107	Mechanical Engineering Lab	ES	2	--	--	3	50	50	100
B16 CE2108	Mechanics of Solids Lab	ES	2	--	--	3	50	50	100
B16 ENG2104	English Proficiency	BS	2	1	1	--	50	50	100
B16 ME2108	Auto CAD	ES	1	--	--	2	50	--	50
Total			**31**	**17**	**5**	**12**	**380**	**570**	**950**

Regulation: 16	II/ IV - B.Tech. II- Semester

MECHANICAL ENGINEERING
(under Choice Based Credit System / Elective Course System)

SCHEME OF INSTRUCTION & EXAMINATION
(With effect from 2016-17 admitted Batch onwards)

CodeNo.	Course	C	Cr	L	T	Lab	Sessional Marks	Exam Marks	Total Marks
B16 ME2201	Advanced Strength of Materials	ES	4	3	1	--	30	70	100
B16 ME2202	Thermal Engineering	ES	4	3	1	--	30	70	100
B16 ME2203	Metal Cutting & Machine Tools	ES	4	4	--	--	30	70	100
B16 ENG2202	Engineering Economics	ES	4	4	--	--	30	70	100
B16 EE2204	Basic Electrical & Electronics Engineering	ES	4	4	--	--	30	70	100
B16 ENG2201	Environmental Studies	BS	4	3	1	--	30	70	100
B16 ME2205	Manufacturing Process Lab	ES	2	--	--	3	50	50	100
B16 EE2206	Basic Electrical & Electronics Engineering Lab	ES	2	--	--	3	50	50	100
B16 ME2206	Industry Oriented Technology Lab	BS	1	--	--	2	50	--	50
Total			**29**	**21**	**3**	**8**	**330**	**520**	**850**

M. Jagapathi Raju

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Regulation: 16	III/ IV - B.TECH I- Semester

MECHANICAL ENGINEERING
(under Choice Based Credit System / Elective Course System)

SCHEME OF INSTRUCTION & EXAMINATION
(With effect from 2016-17 admitted Batch onwards)

CodeNo.	Course	C	Cr	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ME3101	Operations Research	ES	4	3	1	--	30	70	100
B16 ME3102	Fluid Mechanics	ES	4	3	1	--	30	70	100
B16 ME3103	IC Engines & Gas Turbines	ES	4	3	1	--	30	70	100
B16 ME3104	Industrial Measurements & Metrology	ES	4	3	1	--	30	70	100
B16 ME3105	Kinematics of Machines	ES	4	3	1	--	30	70	100
#ELE-I	Elective-I	BS	4	3	1	--	30	70	100
B16 ME3112	Industrial Metrology & Mechatronics Lab	ES	2	--	--	3	50	50	100
B16 ME3113	IC Engines Lab	ES	2	--	--	3	50	50	100
B16 ENG3102	Verbal & Quantitative Aptitude-I	BS	2	5	--	--	100	--	100
# M-I	MOOCS -I	ES	2	4	--	--	100	--	100
# M-II	MOOCS -II	ES	2	4	--	--	100	--	100
Total			**34**	**31**	**6**	**6**	**580**	**520**	**1100**

(7) Resolved to introduce new subjects like production planning & Control (PPC), Refrigeration & Air conditioning (R&AC) and Vibrations with the regular subjects in the Autonomous Pattern.

#ELE-I	B16 ME 3106	Finite Element Analysis
	B16 ME 3107	Automation in Manufacturing
	B16 ME 3108	Tool Design
	B16 ME 3109	Non-Conventional Energy Resources
	B16 ME 3110	Production Planning and Control
	B16 ME 3111	Rapid Prototyping

# ELE-III	B16 ME 4104	Mechanical Vibrations
	B16 ME 4105	Project Management
	B16 ME 4106	Non-Destructive Testing
	B16 ME 4107	Power Plant Engineering
	B16 ME 4108	Mechatronics
	B16 ME 4109	Design for Manufacturing

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Regulation: 16	III/ IV - B.TECH II- Semester

MECHANICAL ENGINEERING
(under Choice Based Credit System / Elective Course System)

SCHEME OF INSTRUCTION & EXAMINATION
(With effect from 2016-17 admitted Batch onwards)

CodeNo.	Course	C	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ME3201	Industrial Engineering & Management	ES	4	3	1	--	30	70	100
B16 ME3202	Fluid Machinery & Systems	ES	4	3	1	--	30	70	100
B16 ME3203	Design of Machine Elements	ES	4	3	1	--	30	70	100
B16 ME3204	Refrigeration and Air Conditioning	ES	4	3	1	--	30	70	100
B16 ME3205	Dynamics of Machines	ES	4	3	1	--	30	70	100
# ELE-II	Elective-II	BS	4	3	1	--	30	70	100
B16 ME3212	Industrial Engineering Lab	ES	2	--	--	3	50	50	100
B16 ME3213	Fluid Mechanics & Machines Lab	ES	2	--	--	3	50	50	100
B16 ENG3202	Verbal & Quantitative Aptitude-II	BS	2	5	--	--	100	--	100
B16 ME3214	Mini Project	ES	2	--	--	3	50	--	50
# M-III	MOOCS-III	ES	2	4	--	--	100	--	100
Total			**34**	**27**	**6**	**9**	**530**	**520**	**1050**

(R) Resolved to Combine Electrical Technology & Industrial Electronics in to one subject as Electrical & Electronics Engineering.

Regulation: 16	II/ IV - B.Tech. II- Semester

MECHANICAL ENGINEERING
(under Choice Based Credit System / Elective Course System)

SCHEME OF INSTRUCTION & EXAMINATION
(With effect from 2016-17 admitted Batch onwards)

CodeNo.	Course	C	Cr	L	T	Lab	Sessional Marks	Exam Marks	Total Marks
B16 ME2201	Advanced Strength of Materials	ES	4	3	1	--	30	70	100
B16 ME2202	Thermal Engineering	ES	4	3	1	--	30	70	100
B16 ME2203	Metal Cutting & Machine Tools	ES	4	4	--	--	30	70	100
B16 ENG2202	Engineering Economics	ES	4	4	--	--	30	70	100
B16 EE2204	Basic Electrical & Electronics Engineering	ES	4	4	--	--	30	70	100
B16 ENG2201	Environmental Studies	BS	4	3	1	--	30	70	100
B16 ME2205	Manufacturing Process Lab	ES	2	--	--	3	50	50	100
B16 EE2206	Basic Electrical & Electronics Engineering Lab	ES	2	--	--	3	50	50	100
B16 ME2206	Industry Oriented Technology Lab	BS	1	--	--	2	50	--	50
Total			**29**	**21**	**3**	**8**	**330**	**520**	**850**

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(9) Resolved to combine Machine Drawing & production Drawing in to one subject as Mechanical Engg. Drawing.

Regulation: 16	II/ IV - B.TECH I- Semester

MECHANICAL ENGINEERING
(under Choice Based Credit System / Elective Course System)

SCHEME OF INSTRUCTION & EXAMINATION
(With effect from 2016-17 admitted Batch onwards)

CodeNo.	Course	Category	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ENG2101	Mathematics-IV	BS	4	3	1	--	30	70	100
B16 ME2101	Mechanics of Solids	ES	4	3	1	--	30	70	100
B16 ME2102	Thermodynamics	ES	4	3	1	--	30	70	100
B16 ME2103	Manufacturing Process	ES	4	4	--	--	30	70	100
B16 ME2104	Engineering Mechanics	BS	4	3	1	--	30	70	100
B16 ME2105	Mechanical Engineering Drawing	BS	4	--	--	4	30	70	100
B16 ME2107	Mechanical Engineering Lab	ES	2	--	--	3	50	50	100
B16 CE2108	Mechanics of SolidsLab	ES	2	--	--	3	50	50	100
B16 ENG2104	English Proficiency	BS	2	1	1	--	50	50	100
B16 ME2108	Auto CAD	ES	1	--	--	2	50	--	50
Total			**31**	**17**	**5**	**12**	**380**	**570**	**950**

(10) Finalized the Academic curriculum for 4 years B.Tech Mechanical Engineering programme.

Regulation: 16	I/ IV - B.TECH I- Semester

MECHANICAL ENGINEERING
(under Choice Based Credit System / Elective Course System)

SCHEME OF INSTRUCTION & EXAMINATION
(With effect from 2016-17 admitted Batch onwards)

CodeNo.	Course	C	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ENG1101	English *	ES	4	3	1	--	30	70	100
B16 ENG1102	Mathematics-I*	ES	4	3	1	--	30	70	100
B16 ENG1103	Mathematics-II*	BS	4	3	1	--	30	70	100
B16 ENG1105	Physics	ES	4	3	1	--	30	70	100
B16 ENG1107	Engineering Graphics	ES	4	2	--	3	30	70	100
B16 ENG1109	Professional Ethics & Moral Values	ES	2	2	--	--	30	70	100
B16 ENG1111	Physics Lab	ES	2	--	--	3	50	50	100
B16 ENG1113	Workshop	ES	2	--	--	3	50	50	100
B16 ENG1114	NCC/NSS (Audit)	BS	--	--	--	--	--	--	--
	Total		26	16	4	9	280	520	800

Regulation: 16	I/ IV - B.TECH II- Semester

MECHANICAL ENGINEERING
(under Choice Based Credit System / Elective Course System)

SCHEME OF INSTRUCTION & EXAMINATION
(With effect from 2016-17 admitted Batch onwards)

CodeNo.	Course	C	Cr	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ENG1201	Mathematics-III *	BS	4	3	1	--	30	70	100
B16 ENG1203	Chemistry	BS	4	3	1	--	30	70	100
B16 ENG1205	Computer Programming Using C & Numerical Methods	ES	4	3	1	--	30	70	100
B16 ENG1207	History of Science and Technology	HS	2	2	--	--	30	70	100
DS	Department Subject *	ES	4	3	1	--	30	70	100
B16 ENG1210	Chemistry Lab	ES	2	--	--	3	50	50	100
B16 ENG1212	Computer programming Using C & Numerical Methods Lab	ES	2	--	--	3	50	50	100
B16 ENG1213	English Language Lab *	ES	2	--	--	3	50	50	100
B16 ENG1214	Sports (Audit)	ES	--	--	--	--	--	--	--
	Total		24	14	4	9	300	500	800

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S.R.K.R. Engg. College
BHIMAVARAM-534 204.

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BHIMAVARAM-534 204.

Regulation: 16									II/ IV - B.TECH I- Semester
MECHANICAL ENGINEERING (under Choice Based Credit System / Elective Course System)									
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2016-17 admitted Batch onwards)									
CodeNo.	Course	Category	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ENG2101	Mathematics-IV	BS	4	3	1	--	30	70	100
B16 ME2101	Mechanics of Solids	ES	4	3	1	--	30	70	100
B16 ME2102	Thermodynamics	ES	4	3	1	--	30	70	100
B16 ME2103	Manufacturing Process	ES	4	4	--	--	30	70	100
B16 ME2104	Engineering Mechanics	BS	4	3	1	--	30	70	100
B16 ME2105	Mechanical Engineering Drawing	BS	4	--	--	4	30	70	100
B16 ME2107	Mechanical Engineering Lab	ES	2	--	--	3	50	50	100
B16 CE2108	Mechanics of SolidsLab	ES	2	--	--	3	50	50	100
B16 ENG2104	English Proficiency	BS	2	1	1	--	50	50	100
B16 ME2108	Auto CAD	ES	1	--	--	2	50	--	50
Total			31	17	5	12	380	570	950

Regulation: 16									II/ IV - B.Tech. II- Semester
MECHANICAL ENGINEERING (under Choice Based Credit System / Elective Course System)									
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2016-17 admitted Batch onwards)									
CodeNo.	Course	C	Cr	L	T	Lab	Sessional Marks	Exam Marks	Total Marks
B16 ME2201	Advanced Strength of Materials	ES	4	3	1	--	30	70	100
B16 ME2202	Thermal Engineering	ES	4	3	1	--	30	70	100
B16 ME2203	Metal Cutting & Machine Tools	ES	4	4	--	--	30	70	100
B16 ENG2202	Engineering Economics	ES	4	4	--	--	30	70	100
B16 EE2204	Basic Electrical & Electronics Engineering	ES	4	4	--	--	30	70	100
B16 ENG2201	Environmental Studies	BS	4	3	1	--	30	70	100
B16 ME2205	Manufacturing Process Lab	ES	2	--	--	3	50	50	100
B16 EE2206	Basic Electrical & Electronics Engineering Lab	ES	2	--	--	3	50	50	100
B16 ME2208	Industry Oriented Technology Lab	BS	1	--	--	2	50	--	50
Total			29	21	3	8	330	520	850

Regulation: 16									III/ IV - B.TECH I- Semester
MECHANICAL ENGINEERING (under Choice Based Credit System / Elective Course System)									
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2016-17 admitted Batch onwards)									
CodeNo.	Course	C	Cr	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ME3101	Operations Research	ES	4	3	1	--	30	70	100
B16 ME3102	Fluid Mechanics	ES	4	3	1	--	30	70	100
B16 ME3103	IC Engines & Gas Turbines	ES	4	3	1	--	30	70	100
B16 ME3104	Industrial Measurements & Metrology	ES	4	3	1	--	30	70	100
B16 ME3105	Kinematics of Machines	ES	4	3	1	--	30	70	100
#ELE-I	Elective-I	BS	4	3	1	--	30	70	100
B16 ME3112	Industrial Metrology & Mechatronics Lab	ES	2	--	--	3	50	50	100
B16 ME3113	IC Engines Lab	ES	2	--	--	3	50	50	100
B16 ENG3102	Verbal & Quantitative Aptitude-I	BS	2	5	--	--	100	--	100
# M-I	MOOCS -I	ES	2	4	--	--	100	--	100
# M-II	MOOCS -II	ES	2	4	--	--	100	--	100
Total			34	31	6	6	580	520	1100

Regulation: 16									III/ IV - B.TECH II- Semester
MECHANICAL ENGINEERING (under Choice Based Credit System / Elective Course System)									
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2016-17 admitted Batch onwards)									
CodeNo.	Course	C	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ME3201	Industrial Engineering & Management	ES	4	3	1	--	30	70	100
B16 ME3202	Fluid Machinery & Systems	ES	4	3	1	--	30	70	100
B16 ME3203	Design of Machine Elements	ES	4	3	1	--	30	70	100
B16 ME3204	Refrigeration and Air Conditioning	ES	4	3	1	--	30	70	100
B16 ME3205	Dynamics of Machines	ES	4	3	1	--	30	70	100
# ELE-II	Elective-II	BS	4	3	1	--	30	70	100
B16 ME3212	Industrial Engineering Lab	ES	2	--	--	3	50	50	100
B16 ME3213	Fluid Mechanics & Machines Lab	ES	2	--	--	3	50	50	100
B16 ENG3202	Verbal & Quantitative Aptitude-II	BS	2	5	--	--	100	--	100
B16 ME3214	Mini Project	ES	2	--	--	3	50	--	50
# M-III	MOOCS-III	ES	2	4	--	--	100	--	100
Total			34	27	6	9	530	520	1050

Regulation: 16									IV/ IV - B.TECH I- Semester
MECHANICAL ENGINEERING (under Choice Based Credit System / Elective Course System)									
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2016-17 admitted Batch onwards)									
CodeNo.	Course	C	Cr	L	T	Lab	Sessional Marks	Exam Marks	Total Marks
B16 ME4101	Computer Aided Design	ES	4	3	1	-	30	70	100
B16 ME4102	Machine Design	ES	4	3	1	-	30	70	100
B16 ME4103	Heat and Mass Transfer	ES	4	3	1	-	30	70	100
# ELE-III	ELECTIVE-III	ES	4	3	1	-	30	70	100
B16 ME4110	Heat Transfer Lab	ES	2	-	-	3	50	50	100
B16 ME4111	Project Phase-I	ES	2	--	--	3	50	--	50
Total			20	12	4	6	220	330	550

Regulation: 16									IV/ IV - B.TECH II- Semester
MECHANICAL ENGINEERING (under Choice Based Credit System / Elective Course System)									
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2016-17 admitted Batch onwards)									
CodeNo.	Course	Category	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ME4201	Computer Aided Manufacturing	ES	4	3	1	-	30	70	100
B16 ME4202	Quality Control and Assurance	ES	4	3	1	-	30	70	100
B16 ME4203	CAD/CAM Lab	ES	2	-	-	3	50	50	100
B16 ME4204	Project Phase-II	ES	12	-	-	9	50	100	150
Total			22	6	2	12	160	290	450

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(11) Finalized the Academic Curriculum for 2 year M Tech CAD/CAM Programm.

Regulation: R16								M.TECH I- Semester
MECHANICAL ENGINEERING(CAD/CAM)								
(under Choice Based Credit System / Elective Course System)								
SCHEME OF INSTRUCTION & EXAMINATION								
(With effect from 2016-17 admitted Batch onwards)								
Course Code	Course	Category	Credits	Lecture hours	Lab hours	Sessional Marks	Exam Marks	Total Marks
M16 CAD1101	Computer Graphics	ES	4	4	--	30	70	100
M16 CAD1102	Integrated Computer Aided Design	ES	4	4	--	30	70	100
M16 CAD1103	Computer Numerical Computer Technology	ES	4	4	--	30	70	100
M16 CAD1104	Robotics	ES	4	4	--	30	70	100
#1	Elective-I	ES	4	4	--	30	70	100
#2	Elective-II	ES	4	4	--	30	70	100
M16 CAD1111	CAD Lab	ES	2	--	3	50	50	100
M16 CAD1112	Seminar-I	ES	2	--	3	100	--	100
Total			28	24	6	330	470	800

Regulation: R16								M.TECH II- Semester
MECHANICAL ENGINEERING(CAD/CAM)								
(under Choice Based Credit System / Elective Course System)								
SCHEME OF INSTRUCTION & EXAMINATION								
(With effect from 2016-17 admitted Batch onwards)								
Course Code	Course	Category	Credits	Lecture hours	Lab hours	Sessional Marks	Exam Marks	Total Marks
M16 CAD1201	Computer Integrated Manufacturing	ES	4	4	--	30	70	100
M16 CAD1202	Mechatronics	ES	4	4	--	30	70	100
M16 CAD1203	Flexible Manufacturing Systems	ES	4	4	--	30	70	100
M16 CAD1204	Finite Element Analysis	ES	4	4	--	30	70	100
#3	Elective-III	ES	4	4	--	30	70	100
#4	Elective-IV	ES	4	4	--	30	70	100
M16 CAD1211	CAM Lab	ES	2	--	3	50	50	100
M16 CAD1212	Seminar-II	ES	2	--	3	100	--	100
Total			28	24	6	330	470	800

Regulation: R16				M.TECH III- Semester
MECHANICAL ENGINEERING(CAD/CAM)				
(under Choice Based Credit System / Elective Course System)				
SCHEME OF INSTRUCTION & EXAMINATION				
(With effect from 2016-17 admitted Batch onwards)				
Course Code	Course Title	Credits	Scheme of Examination	Exam Marks	Total Marks
M16 CAD 2101	Thesis Work-Preliminary	10	Review	100	100

Regulation: R16				M.TECH IV- Semester
MECHANICAL ENGINEERING(CAD/CAM)				
(under Choice Based Credit System / Elective Course System)				
SCHEME OF INSTRUCTION & EXAMINATION				
(With effect from 2016-17 admitted Batch onwards)				
Course Code	Course Title	Credits	Scheme of Examination	Exam Marks	Total Marks
M16 CAD 2201	Thesis Work - Final	14	Viva-voce	100	100

(12) Discussed about various Feedbacks while designing curriculum & syllabus

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MEETING-2

SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE(A)
CHINNA AMIRAM :: BHIMAVARAM-534204
DEPARTMENT OF MECHANICAL ENGINEERING

Dt: 31-05-2017

CIRCULAR

This is to inform you that the Department of Mechanical Engineering will hold a meeting on 08-06-2017 at 02.00 PM in Room No. M-101 (E-class room) of Mechanical Department. In this connection, all the members of the Board of Studies are requested to attend the same.

Agenda:

1. To discuss and finalize syllabus for 2/4 - B.Tech Mechanical Engineering program.
2. To finalize course curriculum for 4/4 – B.Tech Mechanical Engineering program.
3. Any other items for discussion.

Head of the Department
Professor & Head
Dept. of Mechanical Engg.
S.R.K.R. Engineering College
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C.C to:

1. The Members of Board of studies
2. Office file

Dept. of Mechanical * BHIMAVARAM 534 204 * S.R.K.R. Engg. College

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MINUTES OF THE MEETING
(ANDHRA UNIVERSITY AUTONOMOUS)

Second Board of studies meeting was held on 08-06-2017 in M 101 (E-class Room) of Department of Mechanical Engineering at 2:00 P.M. for Finalization of Syllabus for 2/4 B.Tech (Mechanical Engineering Program) & Academic curriculum for 3/4 & 4/4 B.Tech (Mechanical Engineering program)

P. Jagapathi Raju

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MINUTES OF THE MEETING RESOLUTIONS
(ANDHRA UNIVERSITY AUTONOMOUS)

(1) Resolved to fix 32 Credits for 2/4 B.Tech First Semester & 28 Credits for 2/4 B.Tech Second Semester (Mechanical Engineering program)

(2) Resolved to introduce the following courses in addition to regular curriculum for 2/4 B.Tech Mech Engg. program.

S.NO.	C.Code	Course Name	Semester	CREDITS
01	B16 ENG2103	ENGLISH PROFICIENCY	FIRST	2
02	B16 ME2107	AUTO CAD	FIRST	2
03	B16 ME2206	INDUSTRY ORIENTED TECH. LAB	SECOND	2
04	B16 ENG2202	INDUSTRY ORIENTED TRAINING	SECOND	2

(3) Resolved to change the Subjects Name ETD-I & ETD-II to Thermodynamics & Thermal Engineering in 2/4 B.Tech Mechanical Engineering program.

(4) Resolved to combine Electrical Technology & Industrial Electronics in to one subject as Basic Electrical & Electronics Engineering & also resolved to introduce the Electronic lab in addition to Electrical Technology lab. & changed the lab Name as Basic Electrical & Electronics Engineering lab.

(5) Resolved to combine Machine Drawing & production Drawing in to one subject as Mechanical Engg. Drawing.

(6) The structure of syllabus, Course objectives & Course Outcomes of 2/4 B.Tech Mechanical Engineering course were discussed in the Meeting. After discussion some Modifications were suggested by the members and Finally Finalized the Syllabus for 2/4 B.Tech Mechanical Engineering program.

(7) Finalized the Academic curriculum for 3/4 & 4/4 B.Tech Mechanical Engineering program.

(8) Discussed about students Feedbacks, Alumni Feedbacks, Parents feedbacks and ~~Alumni~~ Employee feedbacks while framing the course structure & syllabus.

M. Jagapathi Raju

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MEMBERS PRESENT
(ANDHRA UNIVERSITY AUTONOMOUS)

S.NO	NAME OF FACULTY	DESIGNATION	SIGNATURE
1.	Dr. B. Durga prasad	professor & HOD JNTUACEA, ATP	Durga
2.	Dr. V. DURGA PRASAD	Professor	Prasad
3.	Dr K BRAHMA RAJU	Professor & Head	
4	Prof K. Satyanarayana	Professor	
5.	Prof D.S.N. RAJU	PROFESSOR	
6	P.V.R.S. PADMA RAJU	Prof. Dr.	
7	C.V.S.R.K. Raju	Associate professor	
8.	N.V. Subba Raju	Professor	
9.	CH. Gopala Raju	Associate Prof.	
10	Dr. A. Balakrishna	professor	
11	P.V. Kumari Devi	Professor	
12	Dr. K.V.M.K. Raju	Professor	
13	DR. PRAMAMURTY RAJU	PROFESSOR	
14	V. KASI VISWANADHA RAJU	Associate Professor	
15	CH SRINIVAS	Associate professor	
16	Dr. S. RAJESH	ASSOCIATE PROFESSOR	
17	Dr. K. SITA RAMA RAJU	"	
18	Dr. K. Suresh Babu	Professor	
19	Dr. K. Venkata Subbaiah	Professor & Dean, R&D Andhra University	
20	P.V. Gopala Raju	Assoc. Prof., Mechanical.	

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RESOLUTIONS FOR THE MEETING DATED 08-06-2017

(1) Resolved to fix 32 Credits for 2/4 B.Tech First Semester & 28 Credits for 2/4 B.Tech Second Semester (Mechanical Engineering program)

Regulation: 16									II/ IV - B.TECH I- Semester
MECHANICAL ENGINEERING (under Choice Based Credit System / Elective Course System)									
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2016-17 admitted Batch onwards)									
CodeNo.	Course	Category	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ENG2101	Mathematics-IV	BS	4	3	1	--	30	70	100
B16 ME2101	Mechanics of Solids	ES	4	3	1	--	30	70	100
B16 ME2102	Thermodynamics	ES	4	3	1	--	30	70	100
B16 ME2103	Manufacturing Process	ES	4	4	--	--	30	70	100
B16 ME2104	Engineering Mechanics	BS	4	3	1	--	30	70	100
B16 ME2105	Mechanical Engineering Drawing	BS	4	--	--	4	30	70	100
B16 ME2107	Mechanical Engineering Lab	ES	2	--	--	3	50	50	100
B16 CE2108	Mechanics of SolidsLab	ES	2	--	--	3	50	50	100
B16 ENG2104	English Proficiency	BS	2	1	1	--	50	50	100
B16 ME2108	Auto CAD	ES	1	--	--	2	50	--	50
Total			31	17	5	12	380	570	950

Regulation: 16									II/ IV - B.Tech. II- Semester
MECHANICAL ENGINEERING (under Choice Based Credit System / Elective Course System)									
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2016-17 admitted Batch onwards)									
CodeNo.	Course	C	Cr	L	T	Lab	Sessional Marks	Exam Marks	Total Marks
B16 ME2201	Advanced Strength of Materials	ES	4	3	1	--	30	70	100
B16 ME2202	Thermal Engineering	ES	4	3	1	--	30	70	100
B16 ME2203	Metal Cutting & Machine Tools	ES	4	4	--	--	30	70	100
B16 ENG2202	Engineering Economics	ES	4	4	--	--	30	70	100
B16 EE2204	Basic Electrical & Electronics Engineering	ES	4	4	--	--	30	70	100
B16 ENG2201	Environmental Studies	BS	4	3	1	--	30	70	100
B16 ME2205	Manufacturing Process Lab	ES	2	--	--	3	50	50	100
B16 EE2206	Basic Electrical & Electronics Engineering Lab	ES	2	--	--	3	50	50	100
B16 ME2206	Industry Oriented Technology Lab	BS	1	--	--	2	50	--	50
Total			29	21	3	8	330	520	850

M. Jagapathi

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(2) Resolved to introduce the following courses in addition to regular curriculum for 2/4 B.Tech Mech. Engg. program.

S.NO.	C.Code	Course Name	Semester	CREDITS
01	B16 ENG2103	ENGLISH PROFICIENCY	FIRST	2
02	B16 ME2107	AUTO CAD	FIRST	2
03	B16 ME2206	INDUSTRY ORIENTED TECH. LAB	SECOND	2
04	B16 ENG2202	INDUSTRY ORIENTED TRAINING	SECOND	2

Regulation: 16 — **II/ IV - B.TECH I- Semester**

MECHANICAL ENGINEERING
(under Choice Based Credit System / Elective Course System)

SCHEME OF INSTRUCTION & EXAMINATION
(With effect from 2016-17 admitted Batch onwards)

CodeNo.	Course	Category	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ENG2101	Mathematics-IV	BS	4	3	1	--	30	70	100
B16 ME2101	Mechanics of Solids	ES	4	3	1	--	30	70	100
B16 ME2102	Thermodynamics	ES	4	3	1	--	30	70	100
B16 ME2103	Manufacturing Process	ES	4	4	--	--	30	70	100
B16 ME2104	Engineering Mechanics	BS	4	3	1	--	30	70	100
B16 ME2105	Mechanical Engineering Drawing	BS	4	--	--	4	30	70	100
B16 ME2107	Mechanical Engineering Lab	ES	2	--	--	3	50	50	100
B16 CE2108	Mechanics of SolidsLab	ES	2	--	--	3	50	50	100
B16 ENG2104	English Proficiency	BS	2	1	1	--	50	50	100
B16 ME2108	Auto CAD	ES	1	--	--	2	50	--	50
Total			**31**	**17**	**5**	**12**	**380**	**570**	**950**

Regulation: 16 — **II/ IV - B.Tech. II- Semester**

MECHANICAL ENGINEERING
(under Choice Based Credit System / Elective Course System)

SCHEME OF INSTRUCTION & EXAMINATION
(With effect from 2016-17 admitted Batch onwards)

CodeNo.	Course	C	Cr	L	T	Lab	Sessional Marks	Exam Marks	Total Marks
B16 ME2201	Advanced Strength of Materials	ES	4	3	1	--	30	70	100
B16 ME2202	Thermal Engineering	ES	4	3	1	--	30	70	100
B16 ME2203	Metal Cutting & Machine Tools	ES	4	4	--	--	30	70	100
B16 ENG2202	Engineering Economics	ES	4	4	--	--	30	70	100
B16 EE2204	Basic Electrical & Electronics Engineering	ES	4	4	--	--	30	70	100
B16 ENG2201	Environmental Studies	BS	4	3	1	--	30	70	100
B16 ME2205	Manufacturing Process Lab	ES	2	--	--	3	50	50	100
B16 EE2206	Basic Electrical & Electronics Engineering Lab	ES	2	--	--	3	50	50	100
B16 ME2206	Industry Oriented Technology Lab	BS	1	--	--	2	50	--	50
Total			**29**	**21**	**3**	**8**	**330**	**520**	**850**

P. Jagapathi Raju

PRINCIPAL
S.R.K.R. Engg. College
BHIMAVARAM-534 204.

Professor & Head
Dept. of Mechanical Engg.
S.R.K.R. Engineering College
CHINA AMIRAM (P.O.)
BHIMAVARAM-534 204.

(3) Resolved to change the Subjects Name ETD-I & ETD-II to Thermodynamics & Thermal Engineering in 2/4 B.Tech Mechanical Engineering Program.

Regulation: 16									II/ IV - B.TECH I- Semester
MECHANICAL ENGINEERING (under Choice Based Credit System / Elective Course System)									
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2016-17 admitted Batch onwards)									
CodeNo.	Course	Category	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ENG2101	Mathematics-IV	BS	4	3	1	--	30	70	100
B16 ME2101	Mechanics of Solids	ES	4	3	1	--	30	70	100
B16 ME2102	Thermodynamics	ES	4	3	1	--	30	70	100
B16 ME2103	Manufacturing Process	ES	4	4	--	--	30	70	100
B16 ME2104	Engineering Mechanics	BS	4	3	1	--	30	70	100
B16 ME2105	Mechanical Engineering Drawing	BS	4	--	--	4	30	70	100
B16 ME2107	Mechanical Engineering Lab	ES	2	--	--	3	50	50	100
B16 CE2108	Mechanics of SolidsLab	ES	2	--	--	3	50	50	100
B16 ENG2104	English Proficiency	BS	2	1	1	--	50	50	100
B16 ME2108	Auto CAD	ES	1	--	--	2	50	--	50
Total			31	17	5	12	380	570	950

Regulation: 16									II/ IV - B.Tech. II- Semester
MECHANICAL ENGINEERING (under Choice Based Credit System / Elective Course System)									
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2016-17 admitted Batch onwards)									
CodeNo.	Course	C	Cr	L	T	Lab	Sessional Marks	Exam Marks	Total Marks
B16 ME2201	Advanced Strength of Materials	ES	4	3	1	--	30	70	100
B16 ME2202	Thermal Engineering	ES	4	3	1	--	30	70	100
B16 ME2203	Metal Cutting & Machine Tools	ES	4	4	--	--	30	70	100
B16 ENG2202	Engineering Economics	ES	4	4	--	--	30	70	100
B16 EE2204	Basic Electrical & Electronics Engineering	ES	4	4	--	--	30	70	100
B16 ENG2201	Environmental Studies	BS	4	3	1	--	30	70	100
B16 ME2205	Manufacturing Process Lab	ES	2	--	--	3	50	50	100
B16 EE2206	Basic Electrical & Electronics Engineering Lab	ES	2	--	--	3	50	50	100
B16 ME2206	Industry Oriented Technology Lab	BS	1	--	--	2	50	--	50
Total			29	21	3	8	330	520	850

P. Jagapathi Raju

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(4) Resolved to combine Electrical Technology & Industrial Electronics in to one subject as Basic Electrical & Electronics Engineering & also resolved to introduce the Electronic lab in addition to Electrical Technology lab. & changed the lab Name as Basic Electrical & Electronics Engineering lab.

Regulation: 16									II/ IV - B.Tech. II- Semester
MECHANICAL ENGINEERING (under Choice Based Credit System / Elective Course System)									
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2016-17 admitted Batch onwards)									
CodeNo.	Course	C	Cr	L	T	Lab	Sessional Marks	Exam Marks	Total Marks
B16 ME2201	Advanced Strength of Materials	ES	4	3	1	--	30	70	100
B16 ME2202	Thermal Engineering	ES	4	3	1	--	30	70	100
B16 ME2203	Metal Cutting & Machine Tools	ES	4	4	--	--	30	70	100
B16 ENG2202	Engineering Economics	ES	4	4	--	--	30	70	100
B16 EE2204	Basic Electrical & Electronics Engineering	ES	4	4	--	--	30	70	100
B16 ENG2201	Environmental Studies	BS	4	3	1	--	30	70	100
B16 ME2205	Manufacturing Process Lab	ES	2	--	--	3	50	50	100
B16 EE2206	Basic Electrical & Electronics Engineering Lab	ES	2	--	--	3	50	50	100
B16 ME2206	Industry Oriented Technology Lab	BS	1	--	--	2	50	--	50
Total			29	21	3	8	330	520	850

(5) Resolved to combine Machine Drawing & production Drawing in to one subject as Mechanical Engg. Drawing.

Regulation: 16									II/ IV - B.TECH I- Semester
MECHANICAL ENGINEERING (under Choice Based Credit System / Elective Course System)									
SCHEME OF INSTRUCTION & EXAMINATION (With effect from 2016-17 admitted Batch onwards)									
CodeNo.	Course	Category	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ENG2101	Mathematics-IV	BS	4	3	1	--	30	70	100
B16 ME2101	Mechanics of Solids	ES	4	3	1	--	30	70	100
B16 ME2102	Thermodynamics	ES	4	3	1	--	30	70	100
B16 ME2103	Manufacturing Process	ES	4	4	--	--	30	70	100
B16 ME2104	Engineering Mechanics	BS	4	3	1	--	30	70	100
B16 ME2105	Mechanical Engineering Drawing	BS	4	--	--	4	30	70	100
B16 ME2107	Mechanical Engineering Lab	ES	2	--	--	3	50	50	100
B16 CE2108	Mechanics of SolidsLab	ES	2	--	--	3	50	50	100
B16 ENG2104	English Proficiency	BS	2	1	1	--	50	50	100
B16 ME2108	Auto CAD	ES	1	--	--	2	50	--	50
Total			31	17	5	12	380	570	950

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(6) The structure of syllabus, Course objectives & Course Outcomes of 2/4 B.Tech Mechanical Engineering course were discussed in the Meeting. After discussion Some modifications were suggested by the members and Finally Finalized the Syllabus for 2/4 B.Tech Mechanical Engineering program.

Regulation: 16 | II/IV - B.TECH I- Semester

MECHANICAL ENGINEERING
(under Choice Based Credit System / Elective Course System)

SCHEME OF INSTRUCTION & EXAMINATION
(With effect from 2016-17 admitted Batch onwards)

CodeNo.	Course	Category	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ENG2101	Mathematics-IV	BS	4	3	1	--	30	70	100
B16 ME2101	Mechanics of Solids	ES	4	3	1	--	30	70	100
B16 ME2102	Thermodynamics	ES	4	3	1	--	30	70	100
B16 ME2103	Manufacturing Process	ES	4	4	--	--	30	70	100
B16 ME2104	Engineering Mechanics	ES	4	3	1	--	30	70	100
B16 ME2105	Mechanical Engineering Drawing	ES	4	--	--	4	30	70	100
B16 ME2107	Mechanical Engineering Lab	ES	2	--	--	3	50	50	100
B16 CE2108	Mechanics of Solids Lab	ES	2	--	--	3	50	50	100
B16 ENG2104	English Proficiency	HS	2	1	1	--	50	50	100
B16 ME2108	Auto CAD	ES	1	--	--	2	50	--	50
Total			31	17	5	12	380	570	950

Regulation: 16 | II/IV - B.Tech. II- Semester

MECHANICAL ENGINEERING
(under Choice Based Credit System / Elective Course System)

SCHEME OF INSTRUCTION & EXAMINATION
(With effect from 2016-17 admitted Batch onwards)

CodeNo.	Course	C	Cr	L	T	Lab	Sessional Marks	Exam Marks	Total Marks
B16 ME2201	Advanced Strength of Materials	ES	4	3	1	--	30	70	100
B16 ME2202	Thermal Engineering	ES	4	3	1	--	30	70	100
B16 ME2203	Metal Cutting & Machine Tools	ES	4	4	--	--	30	70	100
B16 ENG2202	Engineering Economics	HS	4	4	--	--	30	70	100
B16 EE2204	Basic Electrical & Electronics Engineering	ES	4	4	--	--	30	70	100
B16 ENG2201	Environmental Studies	HS	4	3	1	--	30	70	100
B16 ME2205	Manufacturing Process Lab	ES	2	--	--	3	50	50	100
B16 EE2206	Basic Electrical & Electronics Engineering Lab	ES	2	--	--	3	50	50	100
B16 ME2206	Industry Oriented Technology Lab	BS	1	--	--	2	50	--	50
Total			29	21	3	8	330	520	850

(7) Finalized the Academic curriculum for 3/4 & 4/4 B.Tech Mechanical Engineering program.

Regulation: 16 | III/IV - B.TECH I- Semester

MECHANICAL ENGINEERING
(under Choice Based Credit System / Elective Course System)

SCHEME OF INSTRUCTION & EXAMINATION
(With effect from 2016-17 admitted Batch onwards)

CodeNo.	Course	C	Cr	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ME3101	Operations Research	ES	4	3	1	--	30	70	100
B16 ME3102	Fluid Mechanics	ES	4	3	1	--	30	70	100
B16 ME3103	IC Engines & Gas Turbines	ES	4	3	1	--	30	70	100
B16 ME3104	Industrial Measurements & Metrology	ES	4	3	1	--	30	70	100
B16 ME3105	Kinematics of Machines	ES	4	3	1	--	30	70	100
#ELE-I	Elective-I	BS	4	3	1	--	30	70	100
B16 ME3112	Industrial Metrology & Mechatronics Lab	ES	2	--	--	3	50	50	100
B16 ME3113	IC Engines Lab	ES	2	--	--	3	50	50	100
B16 ENG3102	Verbal & Quantitative Aptitude-I	BS	2	5	--	--	100	--	100
# M-I	MOOCS -I	ES	2	4	--	--	100	--	100
# M-II	MOOCS -II	ES	2	4	--	--	100	--	100
Total			34	31	6	6	580	520	1100

Regulation: 16 | III/IV - B.TECH II- Semester

MECHANICAL ENGINEERING
(under Choice Based Credit System / Elective Course System)

SCHEME OF INSTRUCTION & EXAMINATION
(With effect from 2016-17 admitted Batch onwards)

CodeNo.	Course	C	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ME3201	Industrial Engineering & Management	ES	4	3	1	--	30	70	100
B16 ME3202	Fluid Machinery & Systems	ES	4	3	1	--	30	70	100
B16 ME3203	Design of Machine Elements	ES	4	3	1	--	30	70	100
B16 ME3204	Refrigeration and Air Conditioning	ES	4	3	1	--	30	70	100
B16 ME3205	Dynamics of Machines	ES	4	3	1	--	30	70	100
# ELE-II	Elective-II	BS	4	3	1	--	30	70	100
B16 ME3212	Industial Engineering Lab	ES	2	--	--	3	50	50	100
B16 ME3213	Fluid Mechanics & Machines Lab	ES	2	--	--	3	50	50	100
B16 ENG3202	Verbal & Quantitative Aptitude-II	BS	2	5	--	--	100	--	100
B16 ME3214	Mini Project	ES	2	--	--	3	50	--	50
# M-III	MOOCS-III	ES	2	4	--	--	100	--	100
Total			34	27	6	9	530	520	1050

Regulation: 16 | IV/IV - B.TECH I- Semester

MECHANICAL ENGINEERING
(under Choice Based Credit System / Elective Course System)

SCHEME OF INSTRUCTION & EXAMINATION
(With effect from 2016-17 admitted Batch onwards)

CodeNo.	Course	C	Cr	L	T	Lab	Sessional Marks	Exam. Marks	Total Marks
B16 ME4101	Computer Aided Design	ES	4	3	1	-	30	70	100
B16 ME4102	Machine Design	ES	4	3	1	-	30	70	100
B16 ME4103	Heat and Mass Transfer	ES	4	3	1	-	30	70	100
# ELE-III	ELECTIVE-III	ES	4	3	1	-	30	70	100
B16 ME4110	Heat Transfer Lab	ES	2	-	-	3	50	50	100
B16 ME4111	Project Phase-I	ES	2	-	-	3	50	--	50
Total			20	12	4	6	220	330	550

Regulation: 16 | IV/IV - B.TECH II- Semester

MECHANICAL ENGINEERING
(under Choice Based Credit System / Elective Course System)

SCHEME OF INSTRUCTION & EXAMINATION
(With effect from 2016-17 admitted Batch onwards)

CodeNo.	Course	Category	Credits	Lecture Hrs	Tutorial Hrs	Lab Hrs	Sessional Marks	Exam Marks	Total Marks
B16 ME4201	Computer Aided Manufacturing	ES	4	3	1	-	30	70	100
B16 ME4202	Quality Control and Assurance	ES	4	3	1	-	30	70	100
B16 ME4203	CAD/CAM Lab	ES	2	-	-	3	50	50	100
B16 ME4204	Project Phase-II	ES	12	-	-	9	50	100	150
Total			22	6	2	12	160	290	450

PRINCIPAL
B.R.K.R. Engg. College
BHIMAVARAM-534 :

Professor & Head
Dept. of Mechanical Engg.
S.R.K.R. Engineering College
CHINA AMIRAM (P.O.)
BHIMAVARAM-534 204.

MEETING-1

Dt: 17.07.2016.

SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)
China Amiram (P O)::Bhimavaram :: W.G.Dt., A.P., India - 534204

Circular

Date: 15-07-2016

All the members of Common Board of Studies are requested to attend a meeting on 17-07-2016 at 2.30 pm in e-classroom, WET Centre without fail.

AGENDA:

1. To discuss and finalize the syllabus of R16 Regulation I/IV B.Tech.
2. Any other item.

Common BOS Chairman

Professor,
Department of
Engineering Mathematics & Humanities
S.R.K.R. Engineering College
BHIMAVARAM - 534 204

PRINCIPAL
S.R.K.R. Engg. College
BHIMAVARAM-534 204

Dt: 17.07.2016.

COMMON BOARD OF STUDIES MEETING Reg.. 1/4 B.Tech curriculum & Syllabus

Minutes of the Meeting.

3

The meeting of Common Board of Studies is held on 17.7.2016 at 2:30 PM in e-class room of WET Centre, SRKREC to discuss and finalize cirriculum and syllabus of B.Tech I/II with commanality, chaired by Dr. C.N.B. Rao, Professor of Mathematics.

SRKR Engineering college, Chinamiram, Bhimavaram is sanctioned Autonomous Status by UGC from the academic year 2016-17 and endorsed by Andhra University, Visakhapatnam.

A Joint Board of Studies meeting chaired by the Principal of the college and attended by experts from Industry, R&D organisations, Academic Institutions, Heads of the Departments, Subject experts from various Departments and also members from Professional Organizations, was held at 11:00 AM on 17.07.2016 in A/C Auditorium of the College (I-101).

The Student community is divided into two groups, Group A consisting of Civil, CSE and IT branches; and Group B consisting of ECE, EEE and Mechanical Engg branches

Resolutions :-

1. Approved the resolutions taken in the Joint Board of Studies meeting held at 11:00 AM in I-101 in toto regarding the cirriculum and Academic regulations.
2. Approved the syllabi of B.Tech I/II courses pertaining to both I and II semesters for both Group A & Group B, namely syllabi of English, Mathematics-I, Mathematics-II, Chemistry, Physics, History of Science and Technology (HST), Professional Ethics and Moral Values (PE&MV), Chemistry lab, Physics lab, Sports/NCC/NSS, Mathematics-III and English language lab. These syllabi are planned according to the needs of the Industry, R&D and the societal issues, consisting of Basic concepts, Applications, R&D & Industrial Requirements in the ratio 60:20:20.
3. Resolved to constitute a committee consisting of HOD's concerned for discussing and planning syllabi for the

M. Jagapathi Raju

remaining years of course of study. To review & discuss the curriculum and syllabi of I/IV B.Tech taking into consideration Innovative Teaching & Learning Methodologies as well as R&D activities.

4. Resolved to establish a Centre of Excellence in Basic Sciences, Humanities & Social Sciences for promoting R&D activities among Students and faculty.

5. Resolved to prepare a panel of paper setters, and valuers for all subjects concerned, both Internal and External.

6. Resolved to constitute a Committee for the Introduction of New Courses for the advantage of students in preparation for GATE, Campus Interviews etc..

7. Suggestions from Experts:- All the subject experts from AU & SRKREC expressed their satisfaction over the Scheme of instruc^n, examina^n & Syllabi of I/IV B.Tech courses. Some imp recommendations/Sugges^s of experts are:

ⓐ Prof. Byragi Reddy expressed that syllabus in "E.S" is originally designed for one academic year & can't be covered in a single semester. So, syllabus should be reduced and condensed. The 12th module, "Field work" may be replaced by "Environmental Diary".

ⓑ Prof. Hanuman suggested that students should converse only in English so that they develop their communication skills. He also suggested the establishment of "English Language Learning Laboratory" for the use of the students of the college and also for outsiders.

ⓒ Prof. Ramakrishna emphasized the imp of Basic Sciences & suggested the Introduc^n of 2 Physics courses, one in each semester, the second one being an Applied Physics course covering topics like Material Science & Semiconductors.

ⓓ Prof. Vasudeva Reddy pointed out that the old Mathematics-IV is not being offered now in 2nd year except for ECE Students. All essential topics should be distributed among the 4 or 5 mathematics courses being offered, depending upon the need of the Engineering Branches.

ⓔ Mr. G. Santhi pointed out that certain topics required for GATE are not being covered in Mathematics courses and steps may be taken in future for their coverage.

ⓕ Dr. PARK Raju, Dean R&D, SRKREC has expressed his desire for preparation & offering of "Best Possible Syllabi" in SRKREC, on par with top most Institutions of the world.

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Chair: Prof. C.N.B. Rao

5

University Nominees:

1. Prof. P. Vasudeva Reddy — 17-7-2016.
2. Prof. Y. Ramakrishna — T. Rama Krishna
3. Prof. Rama Naga Hanuman — 17/7/2016
4. Prof. Ch. Pandisanga Reddy — Ch. Reddy
5. Prof. T. Byragi Reddy
6. Prof. B. Venkateswara Rao — K.

Faculty of SRKREC

1.	Dr. K. Suresh Babu	Prof Cell	
2.	A. Venkatesh	Placement Officer	
3.	N. VEERRAJU	EM&H	
4.	K.S. SRINIVASA BABU	EM&H	
5.	J. Jeevan Kumar	WET Centre	
6.	V. Seeta Ramaiah	Physics	
7.	Dr KV Ramana Murty	Engg Physics	
8.	S. Satyanarayana Raju	Engg Physics	Raju
9	Dr M.S.R. Reddy	WET Center	
10	G. Santhi	EM&H	
11	D. Sridevi	E.M & H	
12	P. Bhuvaneswari	T & P	
13.	Dr. V. Vani Sree	WET Center	V. Vani Sree
14	Dr V. Vasudevamurty	Prof & HOD of EM&H dept	VVMurty
15	Dr. P.A.R.K. RAJU	WET Centre	PARaju
16.	Dr. K.A. Siva Reddy	Prof & HOD Chem	K.A. Siva
17.	Sri T. Rambabu		

(C.N.B. Rao)
Chairman, (BoS) Common Board of Studies
17/7/2016.

H. Jagapathi Raju

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BHIMAVARAM-534 204.

R16

I/IV B.Tech,
Group-A, I-Sem

Code: B16 ENG 1101

ENGLISH
(Common to All Branches)

Theory	: 3 Periods	Sessionals	: 30
Tutorial	: 1 Period	Ext. Marks	: 70
Exam	: 3 Hrs.	Credits	: 4

COURSE OBJECTIVES:

Reading Skills

1. Addressing explicit and implicit meanings of a text on current topics.
2. Understanding the context.
3. Learning new words and phrases.
4. Using words and phrases in different contexts.

Writing Skills

1. Using the basic structure of a sentence.
2. Applying relevant writing formats to create paragraphs, essays, letters, emails, reports and presentations.
3. Retaining a logical flow while writing.
4. Planning and executing an assignment creatively.

Interactive Skills

1. Analyzing a topic of discussion and relating to it.
2. Participating in discussions and influencing them.
3. Communicating ideas effectively.
4. Presenting ideas coherently within a stipulated time.

Life Skills and Core Skills

1. Examining self-attributes and identifying areas that require improvement: self-diagnosis and self-motivation.
2. Adapting to a given situation and developing a functional approach to finding solutions: adaptability and problem solving.
3. Understanding the importance of helping others: community services and enthusiasm.

COURSE OUTCOMES:

1. The overall performance of the students will be enhanced after the course; they will be in a position to make presentations on topics of current interests – politics, famous personalities, science and technology, tourism, work and business environment, with increased public speaking skills.
2. Students will be able to read, listen, speak and write effectively in both academic and non-academic environment.
3. The students will be updated with certain real life situations, which they can handle when come face to face.

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SYLLABUS

Listening Skills

Conversations: Life in a Hostel – Eating Away those Blues – Meeting Carl Jung – A Documentary on the Big Cat – A Consultant Interviewing Employees – A Conversation about a Business Idea.

Speaking Skills

Your Favorite Holiday Destination – Describe Yourself – Why we need to save our Tiger – A Dialogue – Your First Interview – Pair Work: Setting up a New Business.

Reading Skills

Reading Comprehension: Famous People – What is Personality, Personality based on Blood Groups – News Report, Magazine Article, Mobile Towers and Health – An Excerpt from a Short Story, An Excerpt from a Biography – Open Letter to Prime Minister, Business Dilemmas: An Email Exchange – A Review of IPL: The Inside Story, Mark Zukerberg: World's Youngest Billionaire.

Writing Skills

Letter Writing, Essay Writing, Email Writing, Report Writing, Paragraph Writing, Drafting a Pamphlet, Argument Writing, Dialogue Writing.

Grammar

Types of Sentences, Articles, Prepositions, Gerunds and Infinitives, Conjunctions, Tense, Quantifiers, Punctuations, Correction of Sentences, Fill-in the Blanks.

Vocabulary

Synonyms, Antonyms, Idioms, One Word Substitution.

Life Skills and Core Skills

Self Awareness and Self Motivation – Communication, Adaptability – Motivation, Problem Solving – Personal Presentation Skills, Stress Management – Professionalism – Ethics.

TEXT BOOK:

1. Life Through Language: A Holistic Approach to Language Learning. Board of Editors, Pearson Publishers, India 2013.

REFERENCE BOOKS:

1. Basic Vocabulary. Edgar Thorpe, Showick Thorpe. Pearson P. 2008
2. Quick Solutions to Common Errors in English, Angela Bunt. MacMillan P. 2008
3. Know Your English (Volume 1 & 2), by Dr. S. Upendra, Universities Press, India 2012
4. Business Communication Strategies. Maathukutty Monipally. Tata Mc Grahill P. 2009.

Code: B16 ENG 1213

ENGLISH LANGUAGE LAB
(Common to All Branches)

Lab	: 3 Periods		
Exam	: 3 Hrs.	Sessionals	: 50
		Ext. Marks	: 50
		Credits	: 2

The Language Lab focuses on the production and practices of sounds of language and familiarizes the students with use of English in everyday situations and contexts.

COURSE OBJECTIVES:

1. To make students recognize the sounds of English through Audio-Visual aids.
2. To help students build their confidence and help overcome their inhibitions and self consciousness while speaking in English. *The focus shall be on fluency.*
3. To familiarize the students with stress and intonation and enable them to speak English effectively.

COURSE OUTCOMES:

1. Students will be sensitized towards recognition of English sound pattern.
2. The fluency in speech will be enhanced.

SYLLABUS

1. English Sound Pattern – Letters
2. Sounds of English
3. Pronunciation
4. Stress and Intonation

Laboratory Practice Sessions:

1. Letters and Sounds, Worksheet-1
2. Interactions-1, Worksheet-2
3. The Sounds of English, Worksheet-3
4. Interactions-2, Worksheet-4
5. Pronouncing Words-Some Important Patterns, Worksheet-5
6. Interactions-3, Worksheet-2
7. Stress and Intonation, Worksheet-2

REFERENCE BOOKS:

1. Speak Well, Board of Editors, Orient Black Swan Publishers, Hyderabad, 2012.
2. Cambridge English Pronouncing Dictionary, Cambridge University Press, India, 2012.
3. A Textbook of English phonetics for Indian students by T. Balasubramanian, Macmillan publisher, 1981.

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Code: B16 ENG 1206

PROFESSIONAL ETHICS AND MORAL VALUES

(Common to CIVIL, CSE & IT)

Theory	**: 2 Periods**	**Sessionals**	**: 30**
Exam	**: 3 Hrs.**	**Ext. Marks**	**: 70**
		Credits	**: 2**

COURSE OBJECTIVES:

1. To inculcate Ethics and Human Values into the young minds.
2. To develop moral responsibility and mould them as best professionals.
3. To create ethical vision and achieve harmony in life.

COURSE OUTCOME:

1. By the end of the course student should be able to understand the importance of ethics and values in life and society.

SYLLABUS

Ethics and Human Values

Ethics and Values, Ethical Vision, Ethical Decisions, **Human Values** – Classification of Values, Universality of Values.

Engineering Ethics

Nature of Engineering Ethics, Profession and Professionalism, Professional Ethics, Code of Ethics, Sample Codes – IEEE, ASCE, ASME and CSI.

Engineering as Social Experimentation

Engineering as social experimentation, Engineering Professionals – life skills, Engineers as Managers, Consultants and Leaders, Role of engineers in promoting ethical climate, balanced outlook on law.

Safety Social Responsibility and Rights

Safety and Risk, moral responsibility of engineers for safety, case studies - Bhopal gas tragedy, Chernobyl disaster, Fukushima Nuclear disaster, Professional rights, Gender discrimination, Sexual harassment at work place.

Global Issues

Globalization and MNCs, Environmental Ethics, Computer Ethics, Cyber Crimes, Ethical living, concept of Harmony in life.

TEXT BOOKS:

1. Govindharajan, M., Natarajan, S. and Senthil Kumar, V.S., Engineering Ethics, Prentice Hall of India, (PHI) Delhi, 2004.
2. Subramainam, R., Professional Ethics, Oxford University Press, New Delhi, 2013.

REFERENCE BOOK:

1. Charles D, Fleddermann, "Engineering Ethics", Pearson / PHI, New Jersey 2004 (Indian Reprint)

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Code: B16 ENG 1207

HISTORY OF SCIENCE AND TECHNOLOGY

(Common to ECE, EEE & Mechanical)

Theory	: 2 periods	Sessionals	:30
Exam	: 3 Hrs.	Ext. Marks	:70
		Credits	: 2

COURSE OBJECTIVES:

1. To know the contributions of scientists for the development of society over a period of time.
2. To understand the Science and Technological developments that lead to human welfare.
3. To appreciate the Science and Technological contributions for the development of various sectors of the economy.
4. To identify the technological transfer versus economic progress of the countries.

COURSE OUTCOMES:

1. By the end of this course the students should be able to understand the contribution of Scientific and Technological developments for the benefit of society at large.

SYLLABUS

Historical Perspective of Science and Technology

Nature and Definitions; Roots of Science – In Ancient Period and Modern Period (During the British Period); Science and Society; Role of Scientist in the Society.

Policies and Plans after Independence

Science and Technology Policy Resolutions; New Technology Fund; Technology Development (TIFAC); Programs aimed at Technological Self Reliance; Activities of Council of Scientific and Industrial Research.

Science and Technological Developments in Critical Areas

Space – The Indian Space Program: India's Geostationary Satellite Services – INSAT System And INSAT Services; **Defense Research and Technology** – Research Coordination, Research efforts and Development of technologies and Spin-off technologies for civilian use; **Nuclear Energy** –Effects of a nuclear explosion and India's safety measures.

Impact of Science and Technology in Major Areas

Ocean Development: Objectives of Ocean Development, Biological and Mineral resources, Marine Research and Capacity Building; **Biotechnology:** Meaning, Biotechnology techniques-Bioreactors, Cell fusion, Cell or Tissue Culture, DNA Fingerprinting, Cloning, Artificial Insemination and Embryo Transfer Technology and Stem Cell Technology; Application of Biotechnology – Medicine, Biocatalysts, Food Biotechnology, Fuel and Fodder and Development of Biosensors.

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Technology Transfer and Development
Transfer of Technology – Types, Methods, Mechanisms, Process, Channels and Techniques; **Appropriate Technology** - Criteria and Selection of an Appropriate Technology; Barriers of Technological Change. .

TEXT BOOKS:

1. Kalpana Rajaram, Science and Technology in India, Published and Distributed by Spectrum Books (P) Ltd., New Delhi-58.
2. Srinivasan, M., Management of Science and Technology (Problems & Prospects), East –West Press (P) Ltd., New Delhi.

REFERENCE BOOKS:

1. Dr. G.R. Kohli, History of Science and Technology and Environmental Movements in India, Surjeet Publications, New Delhi

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Code: B16 ENG 1102

MATHEMATICS - I
(Common to All Branches)

Theory	: 3 Periods	Sessionals	: 30
Tutorial	: 1 Period	Ext. Marks	: 70
Exam	: 3 Hrs.	Credits	: 4

COURSE OBJECTIVES:

Students learn

1. How to find partial derivatives, Jacobians, how to change from one set of variables to another set of variables
2. Know Geometrical interpretation of partial derivatives
3. Learn applications to errors and approximations, maxima and minima
4. How to form ordinary differential equations (ODE) and solve equations of first order and first degree.
5. Applications of first order ODE to orthogonal trajectories, simple electrical circuits, Newton's law of cooling, Law of natural growth and decay
6. How to solve higher order linear differential equations with constant coefficients, Cauchy's linear equation, Legendre's linear equation and simultaneous first order ODEs
7. How to obtain Fourier Series for a periodic function of period 2π and Period 2C (C is a constant)
8. How to obtain Half range Cosine & Sine series and also Parseval's formula

COURSE OUTCOMES:

Students will be able to

1. Find partial derivatives, expand a function of more than one variable in a Taylor series and utilize them for errors and approximations, maxima and minima.
2. Solve a first order ODE and also find orthogonal trajectories and solve problems related to simple applications.
3. Solve a given higher order ODE, an equation with constant coefficients, a Cauchy's equation or a Legendre's equation.
4. Utilize knowledge of Fourier series for solving partial differential equations and also in understanding courses like Signals & Systems

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SYLLABUS

Partial Differentiation

Functions of two or more variables – Partial derivatives – Homogeneous Functions – Euler's Theorem – Total Derivative – Change of Variables – Jacobians – Geometrical Interpretation: Tangent Plane and Normal to a Surface.

Applications of Partial Differentiation

Taylor's Theorem for functions of two variables – Errors and Approximations – Total Differential – Maxima and Minima of functions of two variables – Lagrange's Method of Undetermined Multipliers – Differentiation Under the Integral Sign – Liebnitz's Rules.

Ordinary Differential Equations of First Order and First Degree

Formation of ordinary differential equations (ODEs) – Solution of an ordinary differential equation – Equations of the First Order and First Degree – Linear Differential Equation – Bernoulli's Equation – Exact Differential Equations – Equations Reducible to exact equations.

Applications of Differential Equations of First Order

Orthogonal Trajectories – Simple electric (LR & CR) Circuits – Newton's Law of Cooling – Law of Natural growth and decay.

Linear Differential Equations of Higher Order

Solutions of Linear Ordinary Differential Equations With Constant Coefficients – Rules for finding Complimentary Function – Rules for finding the particular integral – Method of variation of parameters – Cauchy's linear equation – Legendre's Linear Equation – Simultaneous linear equations.

Fourier series

Introduction - Euler's Formulae - Conditions for a Fourier Expansion - Functions having points of discontinuity - Change of Interval - Odd and Even Functions - Expansions of Odd or Even Periodic Functions, Half-Range Series - Parseval's Formula.

TEXT BOOK:

1. Scope and Treatment as in "Higher Engineering Mathematics", by Dr. B. S. Grewal, 43rd edition, Khanna Publishers.

REFERENCE BOOKS:

1. Advanced Engineering Mathematics by Erwin Kreyszig, Wiley.
2. A text book of Engineering Mathematics, by N. P. Bali and Dr. Manish Goyal, Lakshmi Publications.
3. Advanced Engineering Mathematics by H. K. Dass, S. Chand Company.
4. Higher Engineering Mathematics by B. V. Ramana, Tata Mc Graw Hill Company
5. Higher Engineering Mathematics by Dr. M. K. Venkataraman,The National Publishing Company.

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S.R.K.R. Engg. College
BHIMAVARAM-534 204.

Dr. V. VASUDEVAMMA
M.Sc., Ph.D., PGDAS
Professor & Head
Department of Engineering
Mathematics & Humanities
SRKR Engineering College
BHIMAVARAM-534 202.

Code: B16 ENG 1103

MATHEMATICS – II
(Common to All Branches)

Theory	: 3 Periods	Sessionals	: 30
Tutorial	: 1 Period	Ext. Marks	: 70
Exam	: 3 Hrs.	Credits	: 4

COURSE OBJECTIVES:

Students learn

1. The concept of rank, Normal form of a matrix, consistency of a system of linear algebraic equations
2. Eigen values and Eigen vectors of a matrix, the Cayley Hamilton theorem
3. Orthogonal reduction of a quadratic form.
4. Complex matrices and their properties
5. Laplace transform, existence, properties.
6. Inverse Laplace transform, convolution theorem, how to solve Ordinary Differential Equations (ODE) and simultaneous ODEs by the use of Laplace transforms.
7. Difference equations and their methods of solution.
8. Z-transform, its properties, important results and its use to solve difference equations.

COURSE OUTCOMES:

Students will be capable of

1. Utilizing the knowledge of matrices for solving linear simultaneous equations, find Eigen values and Eigen vectors and handle quadratic forms
2. Utilizing the knowledge of Laplace Transforms to find transforms of important functions that arise in applications and also solve ODE
3. Also utilizing the knowledge of Laplace Transforms in courses like Net Works, Signals & Systems and Control Systems
4. Utilizing the knowledge of difference equations and Z-transforms in understanding courses like Discrete Mathematical Structures and also Signals & Systems.

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SYLLABUS

Matrices – I

Rank of a matrix - Normal Form – Solutions of Linear System of Equations- Consistency of Linear System of Equations – Rouche's Theorem(statement) - Direct Methods: Gauss Elimination Method, LU Factorization Method – Eigen Values and Eigen Vectors of a Matrix – Properties - Cayley – Hamilton Theorem – Inverse and Powers of a Matrix using Cayley – Hamilton Theorem.

Matrices – II

Diagonalization of a Matrix – Quadratic Forms – Reduction of Quadratic Form to Canonical Form – Nature of a Quadratic Form – Complex Matrices: Hermitian, Skew-Hermitian and Unitary Matrices and their Properties.

Laplace Transforms-I

Introduction – Existence Conditions – Transforms of Elementary Functions – Properties of Laplace Transforms – Transforms of Derivatives – Transforms of Integrals – Multiplication by 't' – Division by t – Evaluation of Integrals by Laplace Transforms – Laplace Transforms of Unit Step Function, Unit Impulse Function and Periodic Functions.

Laplace Transforms-II

Inverse Laplace Transform – different methods - Convolution Theorem – Applications of Laplace Transforms to Ordinary Differential Equations, Simultaneous Linear Differential Equations with Constant Coefficients.

Difference Equations

Definition - order and solution of a difference equation - Formation of difference equations - Linear difference equations - Rules for finding C.F. - Rules for finding P.I.- Simultaneous difference equations with constant coefficients. Application to deflection of a loaded string.

Z-transforms

Z-transforms – definition - some standard Z-transforms - Linear property, Damping rule - some standard results - shifting rules - initial and final value theorems - convolution theorem - Evaluation of inverse transforms - Applications of Z-transform to difference equation.

TEXT BOOK:

1. Scope and Treatment as in "Higher Engineering Mathematics", by Dr. B. S. Grewal, 43rd edition, Khanna Publishers.

REFERENCE BOOKS:

1. Advanced Engineering Mathematics by Erwin Kreyszig,Wiley.
2. A text book of Engineering Mathematics, by N. P. Bali and Dr. Manish Goyal, Lakshmi Publications.
3. Advanced Engineering Mathematics by H. K. Dass, S. Chand Company.
4. Higher Engineering Mathematics by B. V. Ramana, Tata Mc Graw Hill Company

V. Vasudevamurty

Dr. V. VASUDEVAMURTY
M.Sc., Ph.D., PGDAS
Professor & Head
Department of Engineering Mathematics & Humanities
SRKR Engineering College
BHIMAVARAM-534 202.

H. Jagapathi Raju

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I/IV B.Tech,
Group-A, II-Sem

Code: B16 ENG 1201

MATHEMATICS – III
(Common to All Branches)

Theory	: 3 Periods	Sessionals	: 30
Tutorial	: 1 Period	Ext. Marks	: 70
Exam	: 3 Hrs.	Credits	: 4

COURSE OBJECTIVES:

Students learn

1. Equations of a line, shortest distance between skew lines
2. About sphere, cone and cylinder
3. Double integrals, change of order of integration
4. Beta function, Gamma function, error function
5. Applications of double integrals to Areas, Volumes, mass, centre of gravity, Moment of inertia
6. The concept of Fourier Integral, Fourier Transform, properties.
7. Parseval's formulae

COURSE OUTCOMES:

Students will be able to

1. Utilize knowledge of line, sphere etc. in his engineering subjects
2. Utilize the knowledge of Beta and Gamma functions and multiple integrals to evaluate the integrals they come across in their applications
3. Utilize the knowledge of Fourier Transform in courses like Signals and Systems and in the solution of partial differential equations at a later stage

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SYLLABUS

Solid Geometry

Equations of a plane, Normal form, Intercept form, Equations of Straight Line – Conditions for a line to lie in a Plane – Coplanar lines – Shortest distance between two skew lines - Intersection of three Planes – Equations of Sphere – Tangent Plane to a Sphere –Cone – Cylinder.

Multiple Integrals-1

Double Integrals - Change of Order of Integration - Double Integrals in Polar Coordinates - Triple Integrals - Change of Variables.

Multiple Integrals-2

Beta Function - Gamma Function - Relation between Beta and Gamma Functions-Error Function - Area enclosed by plane curves - Volumes of solids - Area of a curved surface - Calculation of mass - Center of gravity of a plane lamina- Moment of inertia.

Fourier Transforms

Introduction – definition - Fourier integral - Sine and Cosine integrals - Complex form of Fourier integral - Fourier transform - Fourier Sine and Cosine transforms -Finite Fourier Sine and Cosine transforms - properties of Fourier transforms, Convolution theorem for Fourier transforms - Parseval's identity for Fourier transforms - Fourier transforms of derivatives of a function.

TEXT BOOK:

1. Scope and Treatment as in "Higher Engineering Mathematics", by Dr. B. S. Grewal, 43rd edition, Khanna Publishers.

REFERENCE BOOKS:

1. Advanced Engineering Mathematics by Erwin Kreyszig,Wiley.
2. A text book of Engineering Mathematics, by N. P. Bali and Dr. Manish Goyal, Lakshmi Publications.
3. Advanced Engineering Mathematics by H. K. Dass, S. Chand Company.
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V. Vasudevamurty

Dr. V. VASUDEVAMURTY
M.Sc., Ph.D., PGDAS
Professor & Head
Department of Engineering Mathematics & Humanities
SRKR Engineering College
BHIMAVARAM-534 202.

PRINCIPAL
S.R.K.R. Engg. College
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Code: B16 CS 1208

PROBABILITY, STATISTICS AND QUEUING THEORY

(Common to CSE & IT)

Theory	**: 3 Periods**	**Sessionals**	**: 30**
Tutorials	**: 1 Period**	**Ext. Marks**	**: 70**
Exam	**: 3 Hrs.**	**Credits**	**: 4**

COURSE OBJECTIVES:

1. To discuss various definitions of probability and related theorems, understand the concepts of prior and posterior probabilities used in Baye's theorem and their use in decision making.
2. To illustrate the concept of a random variable and their properties
3. To learn the assumptions, p.m.f.'s /p.d.f.'s and analyse various statistical measures of a few discrete/continuous distributions.
4. To understand and compute the correlation coefficient, and estimation techniques from regression lines.
5. To develop a framework for testing of hypothesis in giving inferences about Population Parameter.
6. To study Queuing models and their Characteristics.

COURSE OUTCOMES:

At the end of the course a student able to

1. Handle the situation of uncertainty in decision making in our day-to-day life.
2. Identify the random variable as discrete/continuous and analyse it.
3. Predict the distribution suitable for the given data from its moments.
4. Measure the intensity of association between the variables and to fit a best suitable Curve for the given data.
5. Decide the test applicable for giving inference about Population Parameter based on Sample statistic.
6. Make business decisions about the resources needed to provide a service in day-to-day life applications including telecommunication, traffic engineering, computing and the design of factories, shops, offices and hospitals.

SYLLABUS

Probability:

Various definitions of probability, Addition theorem, Conditional probability, Multiplication theorem, Baye's theorem of probability and Geometric probability.

Random Variables And Their Properties:

Definition, Distribution function, Properties of Distribution Function, Discrete Random Variable, Probability Mass Function, Discrete Distribution Function, Continuous Random Variable, Probability Density Function, Continuous Distribution Function. Mathematical Expectation of a Random Variable, Expected Value of function of a Random Variable, Addition Theorem and Multiplication Theorem of Expectation (**without proofs**), Statistical Measures like Mean ,Variance, Moments and Covariance in terms of Expectations, Moment generating Function, Characteristic Function and Probability generating Function of a Random Variable.

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Distributions:

Discrete Distributions:
Binomial distribution and Poisson distribution (Definition, Mean, Variance, m.g.f., Characteristic function, p.g.f., Fitting of distributions)
Continuous Distributions: Uniform distribution, its Mean and Variance. Normal Distribution and its Properties (without proofs), Standard Normal Variate, Importance of Normal distribution. Exponential Distribution, Definition, Mean Variance Memory less property of Exponential distribution

Bivariate Analysis and Curve Fitting:
CORRELATION: Definition, Karl Pearson's Coefficient of Correlation, Limits for correlation coefficient, Rank Correlation, Spearman's formula for rank correlation coefficient.
CURVE FITTING, Method of least Squares, Fitting of a Straight line, Fitting of a Parabola
REGRESSION ANALYSIS: Regression Lines, Regression Coefficients and their properties (without proofs)

Sampling Theory:
Sample, population, statistic, parameter, Sampling distribution, standard error, interval estimation. Testing of Hypothesis: Formulation of Null hypothesis, Alternative hypothesis, Critical region, Critical value, level of significance, Statistical Inference, Type-I-error, Type-II-error, One-tailed/Two-tailed test.
Large Sample Theory
Test of significance of single sample proportion, Test of significance for difference of proportions, Test of significance of single sample mean, Test of significance for difference of means.
Small Sample Theory: Degrees of freedom, Student's-t-distribution: definition, t-test for single mean, t-test for difference of means, Paired t-test for difference of means.
F-distribution: definition, F-test for equality of two population variances. Chi-square distribution definition, Chi-square test for goodness of fit, Chi-square test for single Population Variance.

Queuing Theory: Queue description, Birth and Death Process, Distribution of Inter-arrival times, Distribution of service times, Kendall's representation of a queueing model, Operating characteristics of a queueing model, steady-state solutions of {M/M/1: ∞/FCFS} Model and {M/M/1 ; N/FCFS} Model.

TEXT BOOK:

1. Probability, Statistics and Random Processes by T.Veerarajan, Tata Mc Graw Hill Pub.

REFERENCE BOOKS:

1. Probability & Statistics with Reliability, Queueing and Computer Applications by Kishore.S.Trivedi, Prentice Hall of India, 1999.
2. Fundamentals of Mathematical Statistics by S.C.Gupta and V.K.Kapoor, Sultan Chand & Sons Publishers.

V. Vasudevamurty
Dr. V. VASUDEVAMURTY
M.Sc., Ph.D., PGDAS
Professor & Head
Department of Engineering Mathematics & Humanities
SRKR Engineering College
BHIMAVARAM-534 202.

P. Jagapathi Raju

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II/IV B.Tech-I Sem
CIVIL

Code: B16 ENG 2101

MATHEMATICS – IV
(Common to CIV,ECE,EEE & ME)

Theory	: 3 Periods	Sessionals	: 30
Tutorial	: 1 Period	Ext. Marks	: 70
Exam	: 3 Hrs.	Credits	: 4

Course Objectives:

Students learn

1. The concepts of Gradient, Divergence, Curl, Directional derivative, solenoidal and Irrotational fields
2. Green's, Stokes' and Divergence theorems
3. Classification of 2nd order Partial Differential Equations as well as solution of 1-Dimensional Wave equation and 1-Dimensional Heat equation
4. the concept of Analytic function, CR equations
5. Cauchy's Integral Theorem and Integral Formula
6. Taylor and Laurent series, Residues and Residue theorem

Course Outcomes:

Students will be able to

1. Apply the concepts of Gradient, Divergence, Curl, Directional derivative, solenoidal and Irrotational fields
2. Determine scalar potential, circulation and work done
3. Evaluate integrals using Green's, Stokes' and Divergence theorems
4. Obtain the solution of 1-D wave equation and 1-D heat equation
5. Determine the zeroes and poles of functions and residues at poles
6. Evaluate certain real definite integrals that arise in applications by the use of Residue theorem

SYLLABUS

Vector Calculus-1

Definitions of Scalar and Vector point functions, Differentiation of vectors, Vector differential operator del, Del applied to scalar point function – gradient, Del applied to vector point function- divergence and curl, physical interpretation of gradient, divergence and curl(without proof), Del applied twice to a point function, Del applied to product of two functions, Irrotational and Solenoidal Fields, scalar potential

Vector Calculus-2

Integration of vectors, line integral, circulation, work done, surface integral, Flux, Green's, Stokes' and Gauss Divergence Theorems (Without proofs). Introduction to orthogonal curvilinear coordinates, cylindrical polar coordinates and spherical polar coordinates.

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Applications Of Partial Differential Equations

Classification of second order partial differential equations, Method of separation of variables, One –dimensional wave equation- vibrations of a stretched string (no derivation)-, one-dimensional heat equation – Heat flow along a long horizontal bar (no derivation) (problems on heat equation involving homogeneous end conditions only), two dimensional Laplace equation in Cartesian coordinates.

Complex Variables-1

Review- Cartesian form and polar form of a complex variable, Real and Imaginary parts of z^n, e^z, sin z, sinh z and log z .

Limit and continuity of a function of the complex variable, derivative, analytic function, properties of Analytic functions, Cauchy- Riemann equations, Harmonic functions and Orthogonal system, application of analytic function to flow problems, geometric representation of w=f(z), conformal mapping – Bilinear transformation only.

Complex Variables-2

Integration of complex functions, Cauchy's theorem, Cauchy's integral formula (statements only) . Taylor and Laurent series expansions of functions (statement of theorems only), zeros and singularities, Residue, calculation of residues, Cauchy's Residue theorem (without proof), Evaluation of real and definite integrals- Integration around a unit circle

Text Book:

1. "Higher Engineering Mathematics", by Dr.B.S.Grewal, 43rd Edition, Khanna Publishers.

Reference Books:

1. Advanced Engineering Mathematics, by Erwin Kreyszig, Wiley.
2. A text book of Engineering Mathematics, by N.P.Bali and Dr. Manish Goyal, Lakshmi Publications.
3. Advanced Engineering Mathematics, by H.K.Dass, S.Chand Company.
4. Higher Engineering Mathematics, by B.V.Ramana, Tata Mc Graw Hill Company.
5. Higher Engineering Mathematics, by Dr. M.K.Venkatraman, The National Publishing Company.

V. Vasudevamurty

Dr. V. VASUDEVAMURTY
M.Sc , Ph.D., PGDAS
Professor & Head
Department of Engineering
Mathematics & Humanities
SRKR Engineering College
BHIMAVARAM-534 202.

H. Jagapathi Raju

PRINCIPAL
S.R.K.R. Engg. College
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Code: B16 ENG 2102

DISCRETE MATHEMATICAL STRUCTURES
(Common to CSE & IT)

Theory	**: 3 Periods**	**Sessionals**	**: 30**
Tutorial	**: 1 Period**	**Ext. Marks**	**: 70**
Exam	**: 3 Hrs.**	**Credits**	**: 4**

Course Objectives:

1. To understand mathematical arguments using logical connectives and quantifiers and verify the validity arguments using propositional, predicate logic & truth tables.
2. To know about the concepts of counting techniques
3. To know how to solve recurrence relations.
4. To understand various types of relations and discuss varies properties of the relations.
5. To understand the concepts in graphs and trees.
6. To learn about Groups, Lattices and their properties, Boolean algebra and its importance in computer field and minimization of Boolean expressions.

Course Outcomes:

At the end of the course students will be able to

1. Rewrite the mathematical arguments using logical connectives and quantifiers and verify the validity of the arguments using propositional and predicate logic.
2. Solve different counting problems.
3. Solve the recurrence relations which occur in many fields.
4. Identify and give examples of various types of relations and describe various properties of relations.
5. Determine isomorphism of graphs and utilize the concepts in graphs & trees in their fields.
6. Understand the importance of Groups, lattice structures and their diagrammatic representations and also the importance of Boolean algebra in computer science.

SYLLABUS

Introduction :

Sets – Operations on sets – Logic : Logical inferences, Methods of proof of an implications– First order logic and other proof methods-Rules of inference for quantified propositions-mathematical induction.

Elementary Combinatorics & Recurrence relations :

Basics of counting – Combinations and Permutations – their enumeration with and without repetition - Principle of Inclusion and Exclusion and its applications, Generating functions of sequences - Calculating their coefficients-Recurrence relations-solving recurrence relations-method of characteristic roots-Non-homogeneous recurrence relations and their solutions.

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Relations and Diagraphs :
Relations and directed graphs-Special properties of binary relations-equivalence relations-Ordering relations-operations on relations-Paths and closures-Directed graphs and Adjacency matrices.

Graphs Theory :
Basic concepts – Isomorphism – sub graphs - planar graphs - Euler's formula -Multi graphs and Euler Circuits - Hamiltonian graphs – Graph coloring and Chromatic number – Four color theorem - Trees and their properties – definitions of different tree structures.

Groups :
Definitions of Binary operation, Algebraic Structure, Semi-group, Monoid, Group and Abelian group.

Lattices :
Lattices and Properties of lattices – lattices as partially ordered sets – sublattices – Direct product and Homomorphisms - Isomorphisms – Modular lattices Distributive lattices – Complemented lattices.

Boolean Algebra :
Definition – Sub algebra – Direct product – Homomorphisms – Isomorphisms – Boolean functions – Representation of Boolean functions – Minimizations of Boolean functions using K-maps.

Text Books :

1. For the first four topics, scope and treatment as in "Discrete Mathematics for computer scientists and mathematicians" by Joe. L .Mott, Abraham Kandel & T.P. Baker, Prentice Hal of India Ltd, New Delhi.

2. For the topics five and six, scope and treatment as in "Discrete mathematical structures with applications to computer science" by J.P. Trembly & R. Manohar, Tata McGraw-Hill Publishing company, New Delhi.

Reference Books :

1. "Discrete mathematics and its applications" by Keneth. H. Rosen, Tata McGraw-Hill Publishing Company, New Delhi.
2. "Discrete Mathematics" by Richard Johnson Baug, Pearson Education, New Delhi.
3. "Discrete and Combinatorial Mathematics" by Ralph. G. Grimaldi, Pearson Education, New Delhi.

V. Vasudevamurty

Dr. V. VASUDEVAMURTY
M.Sc , Ph.D., PGDAS
Professor & Head
Department of Engineering
Mathematics & Humanities
SRKR Engineering College
BHIMAVARAM-534 202.

M. Jagapathi Raju

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Code: B16 ENG 1108

HISTORY OF SCIENCE AND TECHNOLOGY

(Common to CIVIL, CSE & IT)

Theory	: 2 periods	Sessionals	: 30
Exam	: 3 Hrs.	Ext. Marks	: 70
		Credits	: 2

COURSE OBJECTIVES:

1. To know the contributions of scientists for the development of society over a period of time.
2. To understand the Science and Technological developments that lead to human welfare.
3. To appreciate the Science and Technological contributions for the development of various sectors of the economy.
4. To identify the technological transfer versus economic progress of the countries.

COURSE OUTCOMES:

1. By the end of this course the students should be able to understand the contribution of Scientific and Technological developments for the benefit of society at large.

SYLLABUS

Historical Perspective of Science and Technology

Nature and Definitions; Roots of Science – In Ancient Period and Modern Period (During the British Period); Science and Society; Role of Scientist in the Society.

Policies and Plans after Independence

Science and Technology Policy Resolutions; New Technology Fund; Technology Development (TIFAC); Programs aimed at Technological Self Reliance; Activities of Council of Scientific and Industrial Research.

Science and Technological Developments in Critical Areas

Space – The Indian Space Program: India's Geostationary Satellite Services – INSAT System And INSAT Services; **Defense Research and Technology** – Research Coordination, Research efforts and Development of technologies and Spin-off technologies for civilian use; **Nuclear Energy** –Effects of a nuclear explosion and India's safety measures.

Impact of Science and Technology in Major Areas

Ocean Development: Objectives of Ocean Development, Biological and Mineral resources, Marine Research and Capacity Building; **Biotechnology:** Meaning, Biotechnology techniques- Bioreactors, Cell fusion, Cell or Tissue Culture, DNA Fingerprinting, Cloning, Artificial Insemination and Embryo Transfer Technology and Stem Cell Technology; Application of Biotechnology – Medicine, Biocatalysts, Food Biotechnology, Fuel and Fodder and Development of Biosensors.

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BHIMAVARAM-534 204.

Technology Transfer and Development

Transfer of Technology – Types, Methods, Mechanisms, Process, Channels and Techniques; **Appropriate Technology** - Criteria and Selection of an Appropriate Technology; Barriers of Technological Change. .

TEXT BOOKS:

1. Kalpana Rajaram, Science and Technology in India, Published and Distributed by Spectrum Books (P) Ltd., New Delhi-58.
2. Srinivasan, M., Management of Science and Technology (Problems & Prospects), East – West Press (P) Ltd., New Delhi.

REFERENCE BOOK:

1. Dr. G.R. Kohli, History of Science and Technology and Environmental Movements in India, Surjeet Publications, New Delhi

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Code: B16 ENG 1109

PROFESSIONAL ETHICS AND MORAL VALUES

(Common to ECE, EEE & Mechanical)

Theory	: 2 Periods	Sessionals	: 30
Exam	: 3 Hrs.	Ext. Marks	: 70
		Credits	: 2

COURSE OBJECTIVES:

1. To inculcate Ethics and Human Values into the young minds.
2. To develop moral responsibility and mould them as best professionals.
3. To create ethical vision and achieve harmony in life.

COURSE OUTCOME:

1. By the end of the course student should be able to understand the importance of ethics and values in life and society.

SYLLABUS

Ethics and Human Values

Ethics and Values, Ethical Vision, Ethical Decisions, **Human Values** – Classification of Values, Universality of Values.

Engineering Ethics

Nature of Engineering Ethics, Profession and Professionalism, Professional Ethics, Code of Ethics, Sample Codes – IEEE, ASCE, ASME and CSI.

Engineering as Social Experimentation

Engineering as social experimentation, Engineering Professionals – life skills, Engineers as Managers, Consultants and Leaders, Role of engineers in promoting ethical climate, balanced outlook on law.

Safety Social Responsibility and Rights

Safety and Risk, moral responsibility of engineers for safety, case studies – Bhopal gas tragedy, Chernobyl disaster, Fukushima Nuclear disaster, Professional rights, Gender discrimination, Sexual harassment at work place.

Global Issues

Globalization and MNCs, Environmental Ethics, Computer Ethics, Cyber Crimes, Ethical living, concept of Harmony in life.

TEXT BOOKS:

1. Govindharajan, M., Natarajan, S. and Senthil Kumar, V.S., Engineering Ethics, Prentice Hall of India, (PHI) Delhi, 2004.
2. Subramainam, R., Professional Ethics, Oxford University Press, New Delhi, 2013.

REFERENCE BOOK:

1. Charles D, Fleddermann, "Engineering Ethics", Pearson / PHI, New Jersey 2004 (Indian Reprint)

Code: B16 ENG 1104

CHEMISTRY
(Common to CIVIL, CSE & IT)

Theory	: 3 Periods	Sessionals	: 30
Tutorial	: 1 Period	Ext. Marks	: 70
Exam	: 3 Hrs.	Credits	: 4

COURSE OBJECTIVES:

1. To develop full pledged laboratories for the analysis of engineering materials.
2. To develop full pledged lab for pollution, corrosion, polymers and electrochemical cells.
3. Extend the infrastructure facilities of the department for the project works of engineering students and also guide the project work under faculty supervision.
4. To develop full pledged lab for analysis of Water, Cement, Hydrogen Peroxide, pollutants and raw materials.

COURSE OUTCOMES:

1. Students learn in-depth about the topics of desalination of sea water, CNG, LPG Biogas, Semiconductors, Liquid crystals, Conducting polymers, fiber reinforced plastics, building materials.
2. Students understand the basic and advanced applied concepts.
3. Students learn to interrelate the theory and with the relevant experiment.
4. Students learn experimental techniques and understand the theory about experiments.

SYLLABUS

Water Chemistry

Source of water- impurities- Hardness and its determination by EDTA method- Boiler troubles and their removal. Water softening methods- lime soda, zeolite and ion exchange. Municipal water treatment- Break point chlorination. Desalination of sea water – electro dialysis and reverse osmosis methods.

Building Materials

Portland cement: Manufacture-Chemistry involved in setting and hardening of cement – Cement concrete -RCC –Decay of concrete.
Refractories: Classification-Properties and Engineering applications.
Ceramics: Classification-Properties and uses.

Solid State Chemistry

Classification of solids-Types of crystals-properties-Imperfections in crystals. Band theory of solids. Chemistry of semi conductors –Intrinsic, Extrinsic, compound and defect. Organic semi conductors Purification of solids by Zone refining-Single crystal growth – epitaxial growth. Elementary ideas on Liquid crystals.

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Corrosion Chemistry

Definition of corrosion- Types of corrosion-chemical & electrochemical corrosion –Pitting, stress corrosion, Galvanic corrosion, Water line corrosion Factors affecting corrosion – Prevention of corrosion- Cathodic protection. Corrosion inhibitors Protective coatings- Metallic coatings, electro plating, electroless plating, chemical conversion coatings- phosphate coatings, chromate coatings, anodizing, Organic coatings-Paints.

Polymers And Plastics

Definition-Types of polymerization – mechanism of free radical polymerization. plastics- Thermosetting and thermoplastic resins cellulose derivatives, vinyl resins, nylon 6,6, bakelite-Compounding of plastics-Fabrication of plastics. Fiber reinforced plastics – conducting polymers -Engineering applications of polymers.

Fuels And Lubricants

Solid fuels: Coal –Analysis of coal – Metallurgical coke- manufacture-Engineering applications.

Petroleum-refining-Knocking and Octane number of gasolilne-Cetane number of diesel oil. Synthetic petrol – LPG-CNG–Applications. Rocket fuels – Propellants-classification.

LUBRICANTS: Principles of lubrications, classification of lubricants and properties of lubricants (any five)

TEXT BOOKS:

1. Engineering chemistry by Jain & Jain 15th edition Dhanpatrai publishing company.
2. Engineering chemistry by Dr. K.AnjiReddy and Dr. M.Sita rama reddy, silicon publications, 2015.

REFERENCE BOOKS:

1. A Text Book of Engineering Chemistry by S.S.Dara; S.Chand & Company Ltd.
2. Engineering Chemistry by B.Siva Sankar Mc.Graw Hill Education(India) Pvt.Ltd.
3. A Text Book of Engineering Chemistry by Sashi Chawla, Dhanpatrai & Co.

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Code: B16 ENG 1110

CHEMISTRY LAB
(Common to CIVIL, CSE & IT)

Lab	: 3 periods	Sessionals	: 50
Exam	: 3 Hrs.	Ext. Marks	: 50
		Credits	: 2

LIST OF PRACTICAL EXPERIMENTS:

1. Estimation of Sodium hydroxide with HCl(Na_2CO_3 primary standard).
2. Estimation of Iron as Ferrous iron in an Ore Sample.
3. Estimation of Oxalic acid by a redox method
4. Estimation of Calcium in a sample of Portland cement.
5. Estimation of Volume strength of Hydrogen Peroxide.
6. Estimation of Mohr's salt by Potassium dichromate
7. Determination of Hardness of an underground water sample.
8. Estimation of Zinc by EDTA method.
9. Determination of Alkalinity of water sample.

DEMONSTRATION EXPERIMENTS:

10. Determination of Viscosity and Viscosity index of a lubricant.
11. Printed Circuit Board
12. Determination of dissolved oxygen in given water sample.
13. Potentiometric titrations.
14. P^H Determination by using P^H meter.

REFERENCE BOOKS:

1. Essentials Experimental Engineering Chemistry by Sashi Chawla, Dhanpatrai & Co Pvt. Ltd.
2. Laboratory Manual on Engineering Chemistry by Dr. Sudha Rani, Dhanpatrai Publishing Company.
3. Engineering Chemistry Laboratory Manual by Dr. K.Anji Reddy, Tulip Publications.

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Code: B16 ENG 1203

CHEMISTRY

(Common to ECE, EEE & Mechanical)

Theory	: 3 Periods	Sessionals	: 30
Tutorial	: 1 Period	Ext. Marks	: 70
Exam	: 3 Hrs.	Credits	: 4

COURSE OBJECTIVES:

1. To develop full pledged laboratories for the analysis of engineering materials.
2. To develop full pledged lab for pollution, corrosion, polymers and electrochemical cells.
3. Extend the infrastructure facilities of the department for the project works of engineering students and also guide the project work under faculty supervision.
4. To develop full pledged lab for analysis of Water, Cement, Hydrogen Peroxide, pollutants and raw materials.

COURSE OUTCOMES:

1. Students learn in-depth about the topics of desalination of sea water, CNG, LPG Biogas; Semiconductors, Liquid crystals, Conducting polymers, fiber reinformed plastics, building materials.
2. Students understand the basic and advanced applied concepts.
3. Students learn to interrelate the theory and with the relevant experiment.
4. Students learn experimental techniques and understand the theory about experiments.

SYLLABUS

Water Chemistry

Source of water- impurities- Hardness and its determination by EDTA method- Boiler troubles and their removal. Water softening methods- lime soda, zeolite and ion exchange. Municipal water treatment- Break point chlorination. Desalination of sea water – electro dialysis and reverse osmosis methods.

Building Materials

Portland cement: Manufacture-Chemistry involved in setting and hardening of cement –Cement concrete -RCC –Decay of concrete.
Refractories: Classification-Properties and Engineering applications.
Ceramics: Classification-Properties and uses.

Solid State Chemistry

Classification of solids-Types of crystals-properties-Imperfections in crystals. Band theory of solids. Chemistry of semi conductors –Intrinsic, Extrinsic, compound and defect. Organic semi conductors Purification of solids by Zone refining-Single crystal growth – epitaxial growth. Elementary ideas on Liquid crystals.

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Corrosion Chemistry

Definition of corrosion- Types of corrosion-chemical & electrochemical corrosion –Pitting, stress corrosion, Galvanic corrosion, Water line corrosion Factors affecting corrosion – Prevention of corrosion- Cathodic protection. Corrosion inhibitors Protective coatings-Metallic coatings, electro plating, electroless plating, chemical conversion coatings- phosphate coatings, chromate coatings, anodizing. Organic coatings-Paints.

Polymers And Plastics

Definition-Types of polymerization .– mechanism of free radical polymerization. plastics-Thermosetting and thermoplastic resins cellulose derivatives, vinyl resins, nylon 6,6, bakelite-Compounding of plastics-Fabrication of plastics. Fiber reinforced plastics – conducting polymers -Engineering applications of polymers.

Fuels And Lubricants

Solid fuels: Coal –Analysis of coal – Metallurgical coke- manufacture-Engineering applications.

Petroleum-refining-Knocking and Octane number of gasolilne-Cetane number of diesel oil. Synthetic petrol – LPG-CNG–Applications. Rocket fuels – Propellants-classification.
LUBRICANTS: Principles of lubrications, classification of lubricants and properties of lubricants (any five)

TEXT BOOKS:

1. Engineering chemistry by Jain & Jain 15th edition Dhanpatrai publishing company.
2. Engineering chemistry by Dr. K.AnjiReddy and Dr. M.Sita rama reddy, silicon publications, 2015.

REFERENCE BOOKS:

1. A Text Book of Engineering Chemistry by S.S.Dara; S.Chand & Company Ltd.
2. Engineering Chemistry by B.Siva Sankar Mc.Graw Hill Education(India) Pvt.Ltd.
3. A Text Book of Engineering Chemistry by Sashi Chawla, Dhanpatrai & Co.

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Code: B16 ENG 1210

CHEMISTRY LAB
(Common to ECE, EEE & Mechanical)

Lab	: 3 periods	Sessionals	: 50
Exam	: 3 Hrs.	Ext. Marks	: 50
		Credits	: 2

LIST OF PRACTICAL EXPERIMENTS:

1. Estimation of Sodium hydroxide with HCl (Na_2CO_3 primary standard).
2. Estimation of Iron as Ferrous iron in an Ore Sample.
3. Estimation of Oxalic acid by a redox method
4. Estimation of Calcium in a sample of Portland cement.
5. Estimation of Volume strength of Hydrogen Peroxide.
6. Estimation of Mohr's salt by Potassium dichromate
7. Determination of Hardness of an underground water sample.
8. Estimation of Zinc by EDTA method.
9. Determination of Alkalinity of water sample.

DEMONSTRATION EXPERIMENTS:

10. Determination of Viscosity and Viscosity index of a lubricant.
11. Printed Circuit Board
12. Determination of dissolved oxygen in given water sample.
13. Potentiometric titrations.
14. P^H Determination by using P^H meter.

REFERENCE BOOKS:

1. Essentials Experimental Engineering Chemistry by Sashi Chawla, Dhanpatrai & Co Pvt. Ltd.
2. Laboratory Manual on Engineering Chemistry by Dr. Sudha Rani, Dhanpatrai Publishing Company.
3. Engineering Chemistry Laboratory Manual by Dr. K.Anji Reddy, Tulip Publications.

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(R-16)

Code: B16 ENG 1105

PHYSICS
(Common to ECE, EEE & Mechanical)

Theory	: 3 Periods	Sessionals	: 30
Tutorial	: 1 Period	Ext. Marks	: 70
Exam	: 3 Hrs.	Credits	: 4

COURSE OBJECTIVES:

1. To understand the basic and advanced concepts of classical and modern physics – Identify, analyze, formulate and solve a wide variety of real world problems.
2. To develop scientific reasoning and problem solving methods.
3. To bring awareness of latest technologies (physics based) – lasers and fiber optics.

COURSE OUTCOMES:

1. Students learn in depth about the topics of Lasers, fiber optics, quantum mechanical theory and classical theories of thermodynamics and electromagnetism.
2. Students understand the classical and modern concepts.

SYLLABUS

Thermodynamics

Introduction, Heat and Work, First Law of Thermodynamics and applications, Reversible and Irreversible Process, Carnot Cycle and Efficiency, Second Law of Thermodynamics, Carnot's Theorem, Entropy, Second Law in terms of entropy, Entropy and disorder, Third Law of Thermodynamics (Statement Only).

Electromagnetism

Effect of Magnetic Field on – moving charges, current in long straight wire and rectangular Current Loop, Hall Effect, Biot-Savart's Law, B near a Long Wire, B for a Circular Current Loop, Ampere's Law, B for a Solenoid, Faraday's Law of electromagnetic induction, Lenz's law, Inductance of a solenoid, L-R Circuit, Displacement Current, Maxwell's Equations (integral form) and their significance (without derivation).

Interference

Principle of Super Position – Young's Experiment – Coherence – Inference in thin transparent films, Newton's Rings, Michelson Interferometer and its applications.

Lasers

Introduction, spontaneous and stimulated emissions, requirements of laser device, Ruby Laser, Gas Laser (He-Ne Laser), Semiconductor diode Laser, Characteristics and applications of Lasers.

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Optical Fibers

Introduction, Principles of light propagation in optical fiber, Acceptance angle, Numerical aperture, types of fiber, Applications of Optical Fibers, Optical Fiber in Communications, advantages.

Ultrasonics

Definition, Production of Ultrasonics by Magnetostriction and Piezoelectric methods, detection methods, acoustic grating, characteristics and applications cf Ultrasonics.

Modern Physics

Introduction, de Broglie concept of matter waves, Properties of matter waves, experimental verification (Davisson - Germer experiment), Heisenberg uncertainty principle, Wave function and its physical significance, Schrodinger time independent wave equation, application to a particle in a box, Band theory of Solids, Kronig - Penney model (qualitative treatment), Origin of energy band formation in solids, Classification of materials into conductors, semi conductors and insulators .

Nanophase Materials

Definition, Synthesis – Synthesis methods, Condensation and Ball milling, Chemical vapour deposition method – sol-gel methods, Characterisation, analysis and applications of nano materials.

TEXT BOOKS

1. Physics by David Halliday and Robert Resnick – Part I and Part II, Wiley Eastern India(pvt.) Ltd.
2. Engineering Physics by M.N. Avadhanulu & P.G. Kshirasagar; S. Chand & Company Ltd

REFERENCE BOOKS

1. Modern Engineering Physics by A.S. Vasudeva, S. Chand & Company Ltd
2. University Physics by Young and Freedman, Addison-Wesley
3. Engineering Physics by R.K. Gaur and S.L. Gupta, Dhanpat Rai & CO

P. Jagapathi Raju

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Code: B16 ENG 1111

PHYSICS LAB
(Common to ECE, EEE & Mechanical)

Lab	: 3 Periods	Sessionals	: 50
Exam	: 3 Hrs.	Ext. Marks	: 50
		Credits	: 2

LIST OF EXPERIMENTS

1. Sonometer – verification of laws of transverse vibrations in stretched strings.
2. Melde's Experiment – Determination of the frequency of an electrically maintained tuning fork.
3. Newton's Rings – Determination of radius of curvature of a convex lens.
4. Diffraction Grating – Determination of Wavelengths of lines of mercury spectrum using spectrometer by normal incidence method.
5. Determination of Cauchy's constants of the material of the given prism using Spectrometer and mercury light.
6. Wedge Method – Determination of thickness of a paper by forming parallel interference fringes.
7. Variation of magnetic field along the axis of current carrying circular coil – Stewart and Gee's apparatus.
8. Carey Foster's bridge – Verification of laws of resistances.
9. Lee's Method – Determination of coefficient of thermal conductivity of a bad conductor.
10. Calibration of voltmeter using potentiometer.
11. Calibration of low range Ammeter using potentiometer.
12. Laser – Diffraction.

REFERENCE BOOK:

1. Advanced Practical Physics Vol I & II by SP Singh and MS Chauhan, Pragathi Prakasam Publications

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Code: B16 ENG 1202

PHYSICS
(Common to CIVIL, CSE & IT)

Theory	: 3 Periods	Sessionals	: 30
Tutorial	: 1 Period	Ext. Marks	: 70
Exam	: 3 Hrs.	Credits	: 4

COURSE OBJECTIVES:

1. To understand the basic and advanced concepts of classical and modern physics – Identify, analyze, formulate and solve a wide variety of real world problems.
2. To develop scientific reasoning and problem solving methods.
3. To bring awareness of latest technologies (physics based) – lasers and fiber optics.

COURSE OUTCOMES:

1. Students learn in depth about the topics of Lasers, fiber optics, quantum mechanical Theory and classical theories of thermodynamics and electromagnetism.
2. Students understand the classical and modern concepts.

SYLLABUS

Thermodynamics

Introduction, Heat and Work, First Law of Thermodynamics and applications, Reversible and Irreversible Process, Carnot Cycle and Efficiency, Second Law of Thermodynamics, Carnot's Theorem, Entropy, Second Law in terms of entropy, Entropy and disorder, Third Law of Thermodynamics (Statement Only).

Electromagnetism

Effect of Magnetic Field on – moving charges, current in long straight wire and rectangular Current Loop, Hall Effect, Biot-Savart's Law, B near a Long Wire, B for a Circular Current Loop, Ampere's Law, B for a Solenoid, Faraday's Law of electromagnetic induction, Lenz's law, Inductance of a solenoid, L-R Circuit, Displacement Current, Maxwell's Equations (integral form) and their significance (without derivation).

Interference

Principle of Super Position – Young's Experiment – Coherence – Inference in thin transparent films, Newton's Rings, Michelson Interferometer and its applications.

Lasers

Introduction, spontaneous and stimulated emissions, requirements of laser device, Ruby Laser, Gas Laser (He-Ne Laser), Semiconductor diode Laser, Characteristics and applications of Lasers.

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Optical Fibers

Introduction, Principles of light propagation in optical fiber, Acceptance angle, Numerical aperture, types of fiber, Applications of Optical Fibers, Optical Fiber in Communications, advantages.

Ultrasonics

Definition, Production of Ultrasonics by Magnetostriction and Piezoelectric methods, detection methods, acoustic grating, characteristics and applications of Ultrasonics.

Modern Physics

Introduction, de Broglie concept of matter waves, Properties of matter waves, experimental verification (Davisson-Germer experiment), Heisenberg uncertainty principle, Wave function and its physical significance, Schrodinger time independent wave equation, application to a particle in a box, Band theory of Solids, Kronig - Penney model (qualitative treatment), Origin of energy band formation in solids, Classification of materials into conductors, semi conductors and insulators .

Nanophase Materials

Definition, Synthesis – Synthesis methods, Condensation and Ball milling, Chemical vapour deposition method – sol-gel methods, Characterisation, analysis and applications of nano materials.

TEXT BOOKS:

1. Physics by David Halliday and Robert Resnick – Part I and Part II, Wiley Eastern India (pvt.) Ltd.
2. Engineering Physics by M.N. Avadhanulu & P.G. Kshirasagar; S. Chand & Company Ltd

REFERENCE BOOKS:

1. Modern Engineering Physics by A.S. Vasudeva, S. Chand & Company Ltd
2. University Physics by Young and Freedman, Addison-Wesley
3. Engineering Physics by R.K. Gaur and S.L. Gupta, Dhanpat Rai & CO

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BHIMAVARAM-534 204.

Code: B16 ENG 1209

PHYSICS LAB
(Common to CIVIL, CSE & IT)

Lab	: 3 Periods	Sessionals	: 50
Exam	: 3 Hrs.	Ext. Marks	: 50
		Credits	: 2

LIST OF EXPERIMENTS

1. Sonometer – verification of laws of transverse vibrations in stretched strings.
2. Melde's Experiment – Determination of the frequency of an electrically maintained tuning fork.
3. Newton's Rings – Determination of radius of curvature of a convex lens.
4. Diffraction Grating – Determination of Wavelengths of lines of mercury spectrum using spectrometer by normal incidence method.
5. Determination of Cauchy's constants of the material of the given prism using Spectrometer and mercury light.
6. Wedge Method – Determination of thickness of a paper by forming parallel interference fringes.
7. Variation of magnetic field along the axis of current carrying circular coil – Stewart and Gee's apparatus.
8. Carey Foster's bridge – Verification of laws of resistance.
9. Lee's Method – Determination of coefficient of thermal conductivity of a bad conductor.
10. Calibration of voltmeter using potentiometer.
11. Calibration of low range Ammeter using potentiometer.
12. Laser – Diffraction.

REFERENCE BOOK:

1. Advanced Practical Physics Vol I & II by SP Singh and MS Chauhan, Pragathi Prakasam Publications

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MEETING-2

SAGI RAMA KRISHNAM RAJU ENGINEERING COLLEGE (A)
China Amiram (P O)::Bhimavaram :: W.G.Dt., A.P., India - 534204

Circular

Date: 06-06-2017

All the members of Common Board of Studies are requested to attend a meeting on 08-06-2017 at 11.00 am in I-101 seminar hall without fail.

AGENDA:

1. To discuss and finalize the syllabus of Mathematics courses and Environmental studies for II/IV B.Tech.

2. Any other item.

Common BOS Chairman
Professor,
Department of
Engineering Mathematics & Humanities
S.R.K.R. Engineering College
BHIMAVARAM - 534 204

PRINCIPAL
S.R.K.R. Engg. College
BHIMAVARAM-534 204.

Dt: 8th June 2017.

7

COMBINED BOARD OF STUDIES MEETING HELD ON 08th June 2017.

Sub: B.Tech. Curriculum and Syllabus. –

We, SRKR Engineering College (Autonomous), Bhimavaram have followed, in to-to, the resolutions pertaining to the scheme of instruction and examination as approved in the Board of Studies meetings held in our campus on 17th July 2016 and successfully completed the first year of Autonomous status.

The suggestions of the subject experts from Andhra University and experts from SRKR Engineering College are taken into consideration and almost all of them are incorporated in the curriculum of I/IV B.Tech.

Resolutions of the meeting dt. 8th June 2017:

1. Approved the resolutions taken in the Joint Board of Studies meeting held at 11AM in I-101 in to to regarding the curriculum and academic regulations.
2. Approved the Syllabi of B.Tech II/IV courses pertaining to both Ist and IInd semesters for both Group-A and Group B, namely Syllabi (i) 'Environmental studies' (for all six branches), (ii) 'English Proficiency' and (iii) 'English skills for Employability' (for all the six branches) and (iv) 'Mathematics-IV' consisting of certain essential topics of Mathematics (for Civil, ECE, EEE and Mechanical Engineering branches). These syllabi are planned according to the needs of the Industry, R&D and the societal issues, consisting of Basic Concepts, Applications, R&D & Industrial requirements in the ratio 60:20:20.
3. Resolved to constitute a Committee consisting of HOD's concerned for discussing and planning syllabi for the remaining years of course of study. To review and discuss the curriculum and syllabi of II/IV B.Tech taking into consideration Innovative teaching & Learning methodologies as well as R&D activities.
4. Resolved to establish a Centre of excellence in Basic Sciences, Humanities & Social Sciences for promoting R&D activities among students and faculty.
5. Resolved to prepare a panel of paper setters and valuers for all relevant subjects, both internal and external.
6. Resolved to constitute a committee for the introduction of new courses for the advantage of students in preparation for GATE, campus interviews etc.

P. Jagapathi Raju

PRINCIPAL
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Chair: Prof. C.N. B.Rao.

University Nominees:

1. Prof. P. Vasudeva Reddy.
2. Prof. Y. Ramakrishna. — Y. Ramakrishna
3. Prof. A. Rama Naga Hanuman. — 8/6/2017
4. Prof. Ch. Pardha Ranga Reddy — Ch. 8/6/2017
5. Prof. T. Byragi Reddy.
6. Prof. B. Venkateshwara Rao — B.V.

Faculty of SRKREC (A)

1. Prof. V. Vasudeva Murthy — V. Vasudevamurthy
2. Prof. K.V. Ramana Murthy — K. Ramana
3. Prof. K. Anji Reddy — K. Anji Reddy
4. Prof. K. Subbha Babu
5. Dr. N. Satish Kumar
6. Sri. Riyaz mohammed
7. Smt. P. Bhuvaneshwari — P.
8. Sri V. Seetaramaiah
9. Prof P.A.R.K. Raju — Dean, R&D (Invitee) — PARK
10. Prof M.S.R. Reddy
11. Dr. V. Vani Sree. — V. Vani Sree
12. Sri P. RAGHURAM — P. Raghu
13. Sri J. Jeevan Kumar
14. Dr. K. Kiran Kumar Varma. — K. Kiran Kumar Varma
15. T. RAMBABU

8/6/2017.
(CNBR)

M. Jagapathi Raju

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BHIMAVARAM-534 204.

Code: B16 ENG 2103

ENVIRONMENTAL STUDIES
(Common to CIV, CSE & IT)

Theory	: 3 Periods	Sessionals	: 30
Tutorial	: 1 Period.	Ext. Marks	: 70
Exam	: 3 Hrs	Credits	: 2

Course Objectives:

Students learn

1. To develop an awareness and sensitivity to the total environment and its related problems.
2. To participate actively participation in environmental protection and improvement.
3. To develop skills for active identification and development of solutions to environmental problems
4. To evaluate environment programmes in terms of social, economic, ecological and aesthetic factors.
5. To Create a "CONCERN AND RESPECT FOR THE ENVIRONMENT"

Course Outcomes:

Students will be able to

1. Get awareness among the students about the nature and natural ecosystems.
2. Learn sustainable utilization of natural resources like water, land, minerals, air.
3. Learn resource pollution and over exploitation of land, water, air and catastrophic (events) impacts of climate change, global warming, ozone layer depletion, marine, radioactive pollution etc to inculcate the students about environmental awareness and safe transfer of our mother earth and its natural resources to the next generation.
4. Safe guard against industrial accidents particularly nuclear accidents.
5. Learn Constitutional provisions for the protection of natural resources.

SYLLABUS

Global Environmental Crisis:

Environmental Studies - Definition, Scope and importance, Need for public awareness. Global Environmental Crisis

Ecosystems:

Basic concepts, Forest Ecosystems, Grassland Ecosystems and Desert Ecosystems, Aquatic Ecosystems

Biodiversity:

Introduction to Biodiversity, Value of Bio-diversity, Bio-geographical classification of India, India as a Mega-diversity habitat, Threats to biodiversity, Conservation of Biodiversity: In-situ and Ex-situ conservation of bio-diversity.

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Environmental and Natural Resources Management:

Land Resources: Land degradation, soil erosion and desertification, Effects of modern agriculture **Forest Resources:** Use and over exploitation-Mining and Dams-their effects on forest and tribal people, **Water resources**: Use and over utilization of surface and ground water, Floods, droughts, conflict over water, water logging and salinity, dams – benefits and problems

Energy Resources: Renewable and non-renewable energy sources, use of alternate energy sources-impact of energy use on environment.

Environmental Pollution:

Causes, Effects and Control measures of - Air pollution, Water pollution, Soil pollution, Marine Pollution, Thermal pollution, Noise pollution, Nuclear Hazards; Climate change and global warming, acid rain and Ozone layer depletion.

Environmental Problems in India:

Drinking water, Sanitation and Public health, population growth and environment; Water Scarcity and Ground Water Depletion; Rain water harvesting, Cloud seeding and Watershed management.

Text Books:

1. Environmental Studies (From Crisis to Cure) by R. Rajagopalan, Oxford university Press, 2008
2. Environmental Studies by Anubha Kaushik & C.P. Kauskik, New Age International (P) Ltd, New Delhi, 2006

Reference Books:

1. Environmental Sciences by G.Tyler Miller, JR,10th ed, Thomson publishers, 2004

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4th B. Tech
I SEM
CSE, IT

Code: B16ENG4101

PRINCIPLES OF ECONOMICS & MANAGEMENT

(Common to CSE & IT)

Theory	: 3 Periods	Sessionals	: 30
Tutorial	: 1 Period	Ext. Marks	: 70
Exam	: 3 Hrs.	Credits	: 4

Course Objectives:

1. Apply economic reasoning to the analysis of selected contemporary economic problems.
2. Understand how households (demand) and businesses (supply) interact in various market structures to determine price and quantity of goods and services produced and consumed.
3. Analyze the efficiency and equity implications of government interference in markets.
4. Recognize and identify situations leading to market failures and government failures.

Course Outcomes:

1. Understand the links between production costs and the economic models of supply.
2. Represent supply, in graphical form, including the upward slope of the supply curve and what shifts the supply curve.
3. Understand the efficiency and equity implications of market interference, including government policy.
4. Understand how different degrees of competition in a market affect pricing and output.
5. Apply economic reasoning to individual and firm behavior.

SYLLABUS

Introduction to Managerial Economics: Wealth, Welfare and Scarce Definitions of Economics; micro and Macro Economics; Demand- Law of Demand, Elasticity of Demand, types of Elasticity and factors of determining price elasticity of Demand: utility- Law of Diminishing Marginal Utility and its limitations.

Conditions of Different Market Structures: Perfect Competition, Monopolistic Competition, Monopoly, Oligopoly, and Duopoly.

Forms of Business Organizations: Sole Proprietorship, Partnership, Joint Stock Company- Private Limited and Public Limited Companies, Public Enterprises and their types.

Introduction to Management: Functions of Management- Taylor's Scientific management; Henry Fayol's Principle of Management; Human Resource Management- basic Functions of HR Manager; Man Power Planning, Recruitment, Selection, Training, Development, Placement, Compensation and performance Appraisal(in brief).

Production Management: Production Planning and Control, plant Location, Break- Even Analysis, assumptions and applications.

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Financial Management: Types of Capital: Fixed and Working Capital , and Methods of Raining Finance; Depreciation: Straight Line and Diminishing Balance Methods. Marketing Management: Functions of marketing and Distribution Channels.

Entrepreneurship: Entrepreneurial Functions, Entrepreneurial Development: Objectives, Training, Benefits: Phases of Installing a project

Text Books :

1. K.K.DEWETT, Modern Economic Theory, S.Chand and Company, New Delhi-55.
2. S.C. Sharma and Banga T. R., Industrial Organization & Engineering Economics, khanna Publications, Delhi-6.

Reference Books

1. A.R. AryaSri, Management Science, TMH publications, New Delhi-20.
2. A.R. AryaSri, Managerial Economics and Financial Analysis, TMH Publications, new Delhi-20.

V. Vasudevamurty

Dr. V. VASUDEVAMURTY
M.Sc., Ph.D., PGDAS
Professor & Head
Department of Engineering Mathematics & Humanities
SRKR Engineering College
BHIMAVARAM-534 202.

M. Jagapathi Raju

PRINCIPAL
S.R.K.R. Engg. College
BHIMAVARAM-534 204.

3rd B.Tech
1st Sem
ECE

Code: B16 ENG 3101

PRINCIPLES OF ECONOMICS AND MANAGEMENT

Theory	: 3 Periods	Sessionals	: 30
Tutorial	: 1 Period	Ext. Marks	: 70
Exam	: 3 Hrs.	Credits	: 4

Course objectives

1. To familiarise Engineering students with the real world of business.
2. To provide capacity to analyse business decisions by understanding the origin & concepts of economics.
3. To provide capacity to analyse business decisions by understanding the concepts ofmanagement.
4. To help engineering students know the need and importance of entrepreneurship.

Course outcomes

1. Students will be able to gain empirical knowledge and understand the complete frame work of business.
2. To analyse the concepts pertaining to economic decision making.
3. To analyse the concepts of Managerial decision making.
4. To inculcate the spirit of Entrepreneurship and gain knowledge for setting up an enterprise.

SYLLABUS

Introduction to Managerial Economics:

Wealth, Welfare and Scarce Definitions of Economics, Micro and Macro Economics, Demand –Law of Demand, Elasticity of Demand, Types of Elasticity and Factors Determining price Elasticity; Demand :Utility-Law of Diminishing Marginal Utility and its limitations.

Conditions of Different Market Structures:

Perfect Competition, Monopolistic Competition, Monopoly, Oligopoly and Duopoly.

Forms of Business Organisation:

Sole Proprietorship, Partnership, Joint Stock Company-Private,Limited and public limited Companies. Public Enterprise and their types.

Introduction to Management:

Functions of Management – Taylor's Scientific Management; Henry Fayol's Principles of Management;

Human Resource Management:

Basic functions of HR Manager; Man Power Planning, Recruitment, Selection, Training, Development, Placement, Compensation and Performance Appraisal (In Brief).

CHAIRMAN BOS

Production Management:

Production Planning and Control, Plant Location, Break-Even Analysis, Assumptions and Applications.

Financial Management:

Types of capital; Fixed and Working Capital and Methods of Raising Finance; Depreciation; Straight Line and Diminishing Balance Methods.

Marketing Management:

Functions of Marketing and Distribution channels

Entrepreneurship-

Entrepreneurial Functions, Entrepreneurial Development; Objectives,Training, Benefits; Phase of Installing a Project.

Text Books:

1. K KDewtt, Modern Economic Theory ,S.Chand& Company New Delhi-55
2. S.C.Sharma and Banga T.R, Industrial Organisation and engineering EconomicsKhanna Publications Delhi-6

Reference Books:

1. A.R.Araryasri Management Science,Tata McGraw-Hill,New Delhi-20
2. A.R.Araryasri, Managerial Economics and financial analysis, Tata McGraw-Hill,New Delhi-20

V. Vasudevamurty

Dr. V. VASUDEVAMURTY
M.Sc., Ph.D., PGDAS
Professor & Head
Department of Engineering Mathematics & Computing
SRKR Engineering College
BHIMAVARAM-534 202.

P. Jagapathi Raju

PRINCIPAL
S.R.K.R. Engg. College
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Code: B16 ENG 3201

PRINCIPLES OF ECONOMICS AND MANAGEMENT

Theory	: 3 Periods	Sessionals	: 30
Tutorial	: 1 Period	Ext. Marks	: 70
Exam	: 3 Hrs.	Credits	: 4

Course objectives

1. To familiarise Engineering students with the real world of business.
2. To provide capacity to analyse business decisions by understanding the origin & concepts of economics.
3. To provide capacity to analyse business decisions by understanding the concepts of management.
4. To help engineering students know the need and importance of entrepreneurship.

Course outcomes

1. Students will be able to gain empirical knowledge and understand the complete frame work of business.
2. To analyse the concepts pertaining to economic decision making.
3. To analyse the concepts of Managerial decision making.
4. To inculcate the spirit of Entrepreneurship and gain knowledge for setting up an enterprise.

SYLLABUS

Introduction to Managerial Economics:
Wealth, Welfare and Scarce Definitions of Economics, Micro and Macro Economics, Demand –Law of Demand, Elasticity of Demand, Types of Elasticity and Factors Determining price Elasticity; Demand :Utility-Law of Diminishing Marginal Utility and its limitations.

Conditions of Different Market Structures:
Perfect Competition, Monopolistic Competition, Monopoly, Oligopoly and Duopoly.

Forms of Business Organisation:
Sole Proprietorship, Partnership, Joint Stock Company-Private Limited and public limited Companies. Public Enterprise and their types.

Introduction to Management:
Functions of Management – Taylor's Scientific Management; Henry Fayol's Principles of Management;

Human Resource Management:
Basic functions of HR Manager; Man Power Planning, Recruitment, Selection, Training, Development, Placement, Compensation and Performance Appraisal (In Brief).

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Production Management:
Production Planning and Control, Plant Location, Break-Even Analysis, Assumptions and Applications.

Financial Management:
Types of capital; Fixed and Working Capital and Methods of Raising Finance; Depreciation; Straight Line and Diminishing Balance Methods.

Marketing Management:
Functions of Marketing and Distribution channels

Entrepreneurship-
Entrepreneurial Functions, Entrepreneurial Development; Objectives, Training, Benefits; Phase of Installing a Project.

Text Books:

1. K KDewtt, Modern Economic Theory ,S.Chand& Company New Delhi-55
2. S.C.Sharma and Banga T.R, Industrial Organisation and engineering EconomicsKhanna Publications Delhi-6

Reference Books:

1. A.R.Araryasri Management Science,Tata McGraw-Hill,New Delhi-20
2. A.R.Araryasri, Managerial Economics and financial analysis, Tata McGraw-Hill,New Delhi-20

V. Vasudevamurty
Dr. V. VASUDEVAMURTY
M.Sc., Ph.D., PGDAS
Professor & Head
Department of Engineering Mathematics & Humanities
SRKR Engineering College
BHIMAVARAM-534 202.

P. Jagapathi Raju

PRINCIPAL
S.R.K.R. Engg. College
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Code: B16 ENG 2104

ENGLISH PROFICIENCY
(Common to All Branches)

Theory	**: 1 Period**	**Sessionals**	**: 50**
Tutorial	**: 1 Period**	**Ext. Marks**	**: 50**
Exam	**: 3 Hrs.**	**Credits**	**: 2**

AIM:

Enriching the communicative competency of the students by adopting the activity-based as well as the class-oriented instruction with a view to facilitate and enable them to enhance their language proficiency skills.

Course Objectives:

Students be able to

1. Understand the importance of professional communication.
2. Learn language skills and vocabulary in order to improve their language competency.
3. Know and perform well in real life contexts.
4. Identify and examine their self-attributes which require improvementand motivation.
5. Build their confidence and overcome their inhibitions.
6. Improve their strategies in reading skills.

Course Outcomes:

1. Students enhance their vocabulary and use it in the relevant contexts .
2. They improve speaking skills.
3. They learn and practice the skills of composition writing.
4. They enhance their reading and understanding of different texts.
5. They enrich their communication both in formal and informalcontexts.
6. They strengthen their confidence in presentation skills.

SYLLABUS

Speaking Skills
PPT
Describing event/place/thing
Picture Description
Extempore
Debate
Telephonic Skills
Analyzing Proverbs

Vocabulary
Affixes
Pairs of Words

Reading Skills
Reading Comprehension
Reading/Summarizing News Paper Artic

Writing Skills
Designing Posters
Essay writing
Resume Writing

Reference Books:

1. Interchange (4th edition) Student's books 1&2 by Jack C. Richards, CUP.
2. Fundamentals of Technical Communication by Meenakshiraman, Sangeta Sharma of OUP
3. English and Communication Skills for Students of Science and Engineering, by S.P.
4. Dhanavel, Orient Blackswan Ltd. 2009
5. Enriching Speaking and Writing Skills, Orient Blackswan Publishers
6. The Oxford Guide to Writing and Speaking by John Seely OUP

(***Note: Sessional Marks will be evaluated based on Continuous Comprehensive Evaluation of the students' Performance - 40M, Attendance – 10M and External Marks will be evaluated based on Presentation Skills – 30M, Project 20M)