VASAVI COLLEGE OF ENGINEERING
(Autonomous)

Ibrahimbagh, Hyderabad-31, Telangana State
(Approved by AICTE and Affiliated to Osmania University)
Established in 1981

STUDENT HAND BOOK 2015-2016

Sponsored by

VASAVI ACADEMY OF EDUCATION, Hyderabad

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www.vce.ac.in

VASAVI COLLEGE OF ENGINEERING(AUTONOMOUS)
Ibrahimbagh, Hyderabad-31

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College Vision

Striving for a symbiosis of technological excellence and human values

College Mission

To arm the young brains with competitive technology and nurture the holistic development of the individuals for a better tomorrow

Quality Policy

Education without quality is like a flower without fragrance. It is our earnest resolve to strive towards imparting high standards of teaching, training and developing human resources

VASAVI COLLEGE OF ENGINEERING(AUTONOMOUS)
Ibrahimbagh, Hyderabad-31

Approved by A.I.C.T.E., New Delhi and
Affiliated to Osmania University, Hyderabad-07

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ABOUT THE COLLEGE

> ## Vision
> *Striving for a symbiosis of technological excellence and human values*

Established in 1981 by Vasavi Academy of Education under the stewardship of Late Sri Pendekanti Venkata Subbaiah, a veteran statesman of independent India and by a few eminent people from different walks of life Vasavi College of Engineering represents a rich tradition of excellence in technology based education in a stimulating environment. From a modest beginning with just three undergraduate programs, viz., B.E. degree programs in Civil, Mechanical and Electronics & Communication Engineering, with dedicated efforts for over **33** years, it has now grown into a mighty center of learning with excellent and well-developed infrastructural facilities, offering 6 undergraduate programs, viz., B.E. in Civil, Mechanical, Electrical & Electronics, Electronics & Communication Engineering, Computer Science & Engineering, and Information Technology, in addition to a 3-year postgraduate program in Computer Applications (MCA), and 2-Year Postgraduate Programmes in CSE, ECE, EEE and Mechanical Engineering.

> ## MISSION
> *To arm the young brains with competitive technology and nurture the holistic development of the individuals for a better tomorrow*

All the undergraduate (B.E) programs were accredited by National Board of Accreditation (NBA) for the academic years 2013-2015. The college sought fresh approval for NBA accreditation for two eligible PG programs and MCA program. The college has been recognized under 12(B) and 2(f) sections of the University Grants Commission (UGC).

The College has **191** highly qualified and experienced faculty members consisting of Professors, Associate Professors and Assistant Professors and around**158** technical and supporting staff. The college has very

good infrastructural facilities which go beyond the curriculum requirements. The college offers value-added courses in GIS, CAD/CAM, DSP, VLSI, Networking, J2EE and communication skills to bridge the gap between the curriculum and the requirements of the Industry. Finishing school has been made part of curriculum from the second year onwards to improve the skills of the students.

A Research & Development (R&D) Cell is established by personnel from industry / research organization to encourage the faculty and the students in acquiring additional qualifications and knowledge.

This Cell also facilitates the faculty for interaction with industry/research organizations in getting sponsored research projects. In addition, the college extends consultancy in various fields of engineering and technology.The Center for Counseling and Placement at Vasavi College of Engineering provides personal and career-related support to its students. The educational experience at the college is enlivened and enriched by an array of extra-curricular activities to fulfill the cultural and emotional needs of students.

A good number of ranks in university examinations are secured by our students every year.   The allround development of a student is achieved by exposing him/her to the outside world in a systematic and well planned manner. Just not marks and ranks, but also ethics and morals are

> **QUALITY POLICY**
> *Education without quality is like a flower without fragrance. It is our earnest resolve to strive towards high standards of teaching, training and developing human resources.*

incorporatedinto psyche of a student at Vasavi in a cautious way. This unification of tradition and technology makes Vasavi a place for paradise of learning.

VASAVI ACADEMY OF EDUCATION (VAE)

GOVERNING BODY MEMBERS

Sri P. Ramamohan Rao	:	President
Prof. T.V. Subba Rao	:	Vice-President
Sri M. Krishna Murthy	:	Secretary
Sri K. Vasudeva Gupta	:	Joint-Secretary
Sri P.V. Ratnam	:	Treasurer
Sri P. Balaji	:	Member
Sri K.V. Rangaiah	:	Member
Sri K. Ashok Kumar	:	Member
Smt. P. Indrani	:	Member
Sri Gouri Prasad	:	Member
Sri V.M. Parthasarathi	:	Member
Sri Lagisetty Subbagurumurthi	:	Member
Prof. V. Srinivasulu	:	Special Invitee

Institutions sponsored by Vasavi Academy of Education

INSTITUTION	ESTABLISHED
Vasavi College of Engineering	1981
Vasavi Public School	1983
Vasavi Polytechnic	1984
Pendekanti Law College	1990
Pendekanti Institute of Management	1991
Vasavi College of Music & Dance	1996

VASAVI COLLEGE OF ENGINEERING
MANAGEMENT COMMITTEE

Sri P Ramamohan Rao	President
Prof. T.V. Subba Rao	Vice President
Sri M Krishna Murthy	Secretary
Sri K. Vasudeva Gupta	Joint Secretary
Sri P V Ratnam	Treasurer
Sri D.B. Ramanatha Gupta	Member
Dr. G.V. Ramana Murty	Principal & Ex-Officio Member

VASAVI COLLEGE OF ENGINEERING
BOARD OF GOVERNORS

1	Prof. Mohammad Suleman Siddiqi, **Chairman**
	Former Vice Chancellor, Osmania University, Hyderabad
2	Prof. A. Venugopal Reddy, University Nominee
3	UGC Nomimee
4	State Government nominee
5	AICTE nominee
6	Sri P Ramamohan Rao
7	Prof. T.V. Subba Rao
8	Sri M. Krishna Murthy
9	Sri P. V .Ratnam
10	Sri P. Balaji
11	Dr. M.R. Madhav
12	Sri Bommidala Srikrishna Murthy
13	Dr. K. Jaya Sankar
14	Dr. N. Vasantha
15	Dr. G.V. Ramana Murty, Principal

Principal   : Dr. G.V. Ramana Murty
Telephone No   : +91-40-23146002
Fax   : +91-40-23146090
Website   : www.vce.ac.in
E-mail   : principal@staff.vce.ac.in

STUDENT PERSONAL DATA

Name   :
Hall Ticket No   :
Class   :
Branch:
Address   :

PHOTO

Phone Nos.   :
Home   :
Mobile   :
E-mail ID   :
Bank A/c. No.   :
Credit Card No.   :
Passport No.   :
Driving License   :
Vehicle No   :

Medical Information
Height   :
Weight   :
Blood Group   :

In case of Emergency, Contact
Name   :
Phone No.   :

Name   :
Phone No.   :

COLLEGE PROFILE

Vasavi College of Engineering, established in 1981, is a self-financed institution, approved by AICTE, New Delhi and affiliated to Osmania University, Hyderabad and offers the following courses:

Branch	Starting Year	Intake (2015-16)
4-Year Undergraduate Programmes		
Civil Engineering	1981	60
Electronics & Communication Engineering	1981	120
Mechanical Engineering	1981	120
Computer Science & Engineering	1994	120
Electrical & Electronics Engineering	1999	60
Information Technology	2000	120
2-Year PG Programmes (Full-time 4 semesters)		
Embedded Systems & VLSI Design (ECE)	2003	18
Communication Engineering & Signal Processing (ECE)	2011	18
Advanced Design & Manufacturing (Mechanical)	2003	18
Computer Science & Engineering (CSE)	2011	18
Power Systems and Power Electronics (EEE)	2012	24
3-Year Postgraduate Programmes		
Master in Computer Applications (MCA)	1994	60

All the U.G programmes of accredited by National Board of Accreditation (NBA) for two years with effect from September 2013.The Departments Computer Science & Engineering (*CSE*), Electronics & Communication Engineering (*ECE*) and Mechanical Engineering (*ME*) have been recognized by the Osmania University, Hyderabad as *Research Centers.*

Some of the Faculty members have been recognised as research supervisor by the Osmania University and JNTU-Hyderabad in the above departments.

INFRASTRUCTURE

VASAVI, in its constant pursuit of offering quality education, has created excellent infrastructural facilities for all the programmes and established certain advanced laboratories such as, CISCO Networking Lab, VLSI Design Centre, Embedded Systems, DSP, CAD/CAM and GIS dealing with contemporary technologies. Common facilities for the academic support, the Basic Science Laboratories, Central Computing Laboratory, Manufacturing Practice Laboratory and Language Laboratory were established for the first year courses. The Phonetics Laboratory, Interactive Communication Laboratory and reading room were set up, much before it was made mandatory by the university, to improve the communication skills of the students. Recently, the English Language Laboratory is upgraded to Multi-Media Laboratory. There are a total of974computer systems in the college with latest configuration. The College main computer centre houses 64 latest computer systemsand 14 servers. All the systems in the college campus are networked through LAN. Well established intranet supports the faculty and the administration for online data retrieval of student details, marks, attendance, faculty publications etc.

FACULTY

The college has 191 highly qualified and experienced faculty members including 23Professor, 30Associate Professors.

With a view to strengthen in the teaching-learning process and quality improvement, the College conducts staff development program.All well ventilated, spacious and luminous classrooms located in architecturally style fine buildings amidst lush green lawns provide a pleasant stay to the students at campus of Vasavi College of Engineering.

Supporting facilities such as buses for comfortable and safe transport, campus wide EPBAXtelephone systems, 24X7internet connectivity, Generators (500 KVA, 120 KVA) for uninterrupted power supply, bank and subsidized canteen are provided to the students and staff. The college has installed roof top solar power plant of 200KWp capacity.

COMPUTER CENTER

The College has established a high-speed campus-wide network that connects all the computer systems located in the college campus. A fully distributed computing environment based on clusters of workstations and PC's provides the staff and students ready access to computing resources, services, software and applications. The environment is tailored to the specific teaching/learning needs of each Department. Full access is provided to email, the Internet, on-line journals, e-content, QEEE facilities, departmental Intranets and other online sources of services and information through BSNL leased line Internet connectivity of 30 mbps and a separate line of 30Mbps from Beam Fiber.

The Server room houses the various servers - Windows Server, LINUX Server, Oracle Database Server are connected to the LAN, thereby providing diverse computing platforms to the students, across the campus. The Internet Gateway comprises a Web Server, Symantec Protection Suite Enterprise 3.0, Fortigate 310B UTM, Fortianalyzer 100C, CISCO Router 2800, CISCO Switch and the other networking components required for an efficient LAN.There are 64 computer systems in the center.

FACILITIES

SNo	Particulars	Availability
1	No. of Servers	14
2	No. of Computers	974
3	No. of Learning Resources	NPTEL Courses(192 Web + 212 Video Courses)

SOFTWARE

SNo	Name of the Software	Make
1	MATLAB Image Processing Tool Box Computer vision tool box Image acqution tool box Neural Network tool box Optimization tool box Fuzz logic tool box Parallel computing tool box	Mathworks
2	Aneka, NET cloud computing software Enterprize edition 3.0	MANJRA Soft
3	Oracle 11G Standard Edition	Oracle
4	Services IBM Rational Seed Suit Enterprise Software	IBM
5	Adobe Acrobat 10.0 Professional	Adobe
6	Symantec Protection Suite Enterprise Edition 3.0	Symantec
7	IT Academy MSDN Academic Alliance OS: XP, Vista, Windows 7, Windows Server 2003 & 2008, 2012 Developer Tools: Visual studio 2003/2005/2008 and 2010, 2013 Designer Tools: Expression Studio 1/2/3/4 RDBMS : SQL Server 2000/2005/2008 MSDN Library: 2001 -10 MSDN Library	Microsoft
8	Informatica Power center 8 standards edition on windows	Informatica
11	MS Office 2007 suite	Microsoft
12	VxWorks 5.5 OEM Development License, includes one Board Support Package and BSP Developers kit for X86 Or PPCXX Host PC Turnado 2.2.1 Standard IDE Package includes Core Tools.Code.Documentation – 5 Users Node Locked. Licenses	Mistral
	Oracle 9i Developer, Internet Suite	Oracle
	Borland C Suite	Borland & Turbo
13	Developer 2000	Oracle
14	Red Hat Enterprise Linux 6.0	Red Hat

DR. SARVEPALLI RADHAKRISHNAN LEARNING RESOURCE CENTRE: CENTRAL LIBRARY

Dr. Sarvepalli Radhakrishnan Learning Resources Centre, the central library has a total built up area of 44,503.36 Sq. ft.It houses 11724titles and 99952volumes. The college subscribes to **66**and **39**National and International Journals and magazines respectively in print form and a total of 3374 online journals are at the disposal of the students published by Professional Bodies like Institute of Electrical & Electronics Engineers (IEEE), American Society for Mechanical Engineers (ASME) and American Society for Civil Engineers (ASCE). The College is a member of Delhi Library Network (DELNET). Digital library is provided to the students in 415 sq.ft space.

E - JOURNALS & E-BOOKS SUBSCRIBED	
ASCE	35
ASME	28
IEEE ASPP	155
ACM Digital Library	1138
Springer Mechanical	49
Total GIST E-Journals	1405
DELNET CONSORTIUM (IESTC E-Journals -2014)	1152
DELNET E-Journals	817
Total e-journals	3374
DELNET MEMBERSHIP E-Books	335
TOTAL E-JOURNALS/E-BOOKS & COST	3709

The college provides a book-lending scheme to the students with a full set of textbooks for a nominal annual payment in addition to the provision of issuing **4** library cards per student. The Library is fully computerized and availability of any book in the library can be checked just by a click of mouse.

NPTEL Courses: To reinforce the technical knowledge of the students, college has purchased courseware from National Program on Technology Enabled Learning (NPTEL) developed by IITs and IISc and given free access through Intranet to all the students and faculty.

CO-CURRICULAR & EXTRA – CURRICULAR ACTIVITIES

Vasavi campus is a place of extravaganza of co-curricular and extra activities. Students' brains are sharpened by conducting various workshops, seminars, quizzes, debates, essay writings, presentation of technical papers, working model exhibitions etc.

Every year college hosts National Technical Symposium on the banner **ACUMEN** for which students throughout India are invited to the campus to compete and present the best technical papers. The college annual day is celebrated in a big way on the name of **EUPHORIA** in which students can show their hidden talents in cultural and other events.

To improve the oral and writing skills, Department of H&SS conducts events and competitions through **Speak Easy Club** and **Vasavi Talkies.** To bring the hidden talents and nurture the culture innovative dreams of the students Vasavi has Mahathi – '**Music Club'**, Kirdaar–the '**Dramatics Club',** Kriti – the '**Painting and Art Club',** Abhinay, **Eco Club Quiz club and Sports Club.The** College publishes '**Voices**', the college news letter, '**In-touch'**, the Alumni News letter, **Reminiscences** and **Technocrats**, the Annual College Magazine etc.

The Physical Education Department encourages and provides practice to the students to participate in sports & games at Inter Collegiate, Intra-University and National level Tournaments. The college has facilities for indoor and outdoor games & sports.

NATIONAL SERVICE SCHEME (NSS)

The College has an NSS unit and the student volunteers take up socially useful activities. The unit has organized blood donation camps, service camps to orphanages, tree plantation camps, flood relief camps etc.

CAREER GUIDANCE, TRAINING AND PLACEMENT CELL

Human Resources (HR) Department provides career guidance and counselling to the budding engineers. It prepares students to meet industry's requirements technically and enrich them to suit the corporate world with excellent soft skills.

The department arranges personality development programmes for the students and takes care of the pre-placement training & placements. It explores the various career options in the fields of All India Civil Services, All India Engineering Services, Scientific, Research and Industrial Organizations, Defence Services in addition to arranging counselling sessions on higher education avenues in India and abroad.

SWAYAM – THE ENTREPRENEURSHIP CELL

Swayam – The Entrepreneurship Cell of the College is established to develop and nourish the latent entrepreneurial spirit inherent in students, and help them to become Entrepreneurs. The vision of the cell is to develop entrepreneurs by creating an ecosystem that encourages and supports the entrepreneurial potential of students. The mission of the cell is to inculcate the spirit of entrepreneurship among students and to provide them with all necessary support and mentoring including equipping them with the right skills and attitude to convert an idea into a business venture.

INNOVATION AND ENTREPRENEURSHIP DEVELOPMENT CENTRE (IEDC)

The Government of India recognized that young technocrats are looking for opportunities to exploit their full potential by setting up their own ventures thus becoming "job generators". As part of this strategy **National Science & Technology Entrepreneurship Development Board (NSTEDB),** Department of Science & Technology, Government of India, had set up Entrepreneurship Development Cells (EDCs) in educational institutions. The main objective of creating such cells is to *"Develop institutional mechanism to create entrepreneurial culture in academic institutions to foster growth of innovation and entrepreneurship amongst the faculty and students".*

Vasavi College of Engineering is selected as part of this scheme and NSTEDB had sanctioned Rs.48.5 lacs to carry out innovative projects by the students. The Project will continue for five years with an annual funding by NSTEDB from 2011.

TEQIP PHASE-II

The college is a participating institution of TEQIP phase-II subcomponent 1.1.(Private Institution)

SAFETY NORMS & CHECKS

The safety measures and checks are followed in buildings, laboratories and in other critical installations as per the standard norms. The entire campus is equipped with a modern fire fighting system. In addition allthe buildings are fitted with fire extinguishers

EMERGENCY MEDICAL CARE AND FIRST-AID

The college provides First-Aid and medical help at the centralized place with trained staff. The health center is equipped with four beds and common medicines. To meet the emergency medical attention, college has appointed a doctor and a staff nurse. A special ambulance has been provided to meet critical medical care needs.

TEACHING-LEARNING PROCESS

The members of faculty maintain course files, lesson plan and lesson record to conduct the classes and laboratory courses as per the curriculum requirement. The quality of assignments tests and semester examinations is maintained to meet the program education objectives. The tutorial classes/remedial classes are conducted as per the schedule in the timetable.

To monitor the academic progress and holistic development of students intimately, **proctor system** (mentoring system) has been introduced in the college. In this system, each student is kept under the care and guidance of a faculty member who acts as a *loco parentis.* For every faculty member twenty students are allotted. Proctor continuously monitors the progress and welfare throughout the stay of the student in the college. The Class Coordinator of each class monitors classwork schedule, discipline of students coming in time, etc.

The college has introduced **Professional Practice School** to associate second year B.E. students with an industry during their summer vacation. The college has been building purposive partnership with the industry to provide practical learning experience and to expose the students to the emerging trends and contemporary technologies; the College has signed **Memorandum of Understandings (MOUs)** with various corporate houses and Industries.

ALUMNI

The College has been interacting with the Alumni regularly with a view to providing career guidance to their juniors and facilitate connectivity with industry in areas of students' visits, projects, placements, consultancy etc. Alumni Meet 'REFLECTIONS' is organized every year. The alumni website is *www.vcealumni.org*

ACADEMIC RULES AND REGULATIONS
FOR FOUR YEAR B.E DEGREE COURSE
Under Autonomous Status with effect from 2015-16 Academic

DURATION OF STUDY

1. The duration of the course is four years. The every academic year shall comprise of two semesters, each of 16 weeks (minimum) of instruction. The two semesters hereinafter referred to as the First semester and second semester in chronological order.

   No readmission/admission/promotions can be made after 4 weeks of the commencement of instruction of semester in I, II, III and IV years. In case there is any court cases consequent to which the Convener of Admissions/Principal is compelled to admit a student after the announced last date of admissions, the admission (seat) of such a student be reserved for the subsequent year on a supernumerary basis.

   No make-up/supplementary or any other examinations except the internal tests shall be conducted during the instruction period of the semester course, except for the IV year II semester course.

2. a) Candidates of four year degree program, who fail to fulfill all the requirements for the award of the degree as specified hereinafter within eight academic years from the time of admission, will forfeit their seat in the course and their admission will stand cancelled.

   b) Diploma candidates admitted to the second year under lateral entry scheme shall fulfill all the requirements for the award of the degree as specified hereinafter within six academic years from the time of admission failing which they will forfeit their seat in the course and their admission will stand cancelled.

AWARD OF DEGREE

1. The degree of Bachelor of Engineering will be conferred on a candidate who has pursued a "Regular Course of Study" for four academic years (three academic years for candidates admitted in II-Year under lateral entry scheme), as hereinafter prescribed in the scheme of instruction and has obtained all the credits prescribed in the scheme of examination.

2. i) A regular course of study for eligibility to appear at the BE Examination of any semester shall mean putting in attendance of *not less than 75%* aggregate in lectures, practicals, drawing, workshops, field work, project, seminars extension etc., in the subjects listed in the scheme of instruction. The cumulative monthly attendance in each subject and the aggregate attendance shall be displayed on the notice board.

   ii) Attendance at N.C.C. Camps or Inter Collegiate or Inter University or Inter State or International matches or debates or Educational excursion or such other Inter University activities as approved by the authorities, involving journeys outside the city in which the college is situated will not be counted as absence. However, such absence should not exceed (4) weeks of the period of instruction, in a semester. Students participating in the above events shall take prior permission from the authorities.

   iii) In any semester of the course if a candidate fails to secure the minimum percentage of attendance, he/she shall not be eligible to appear in the semester examinations of that semester and he/she shall have to enroll himself/herself to undergo afresh a "Regular Course of Study" of the corresponding semester in subsequent academic session, in order to become eligible to appear for semester examinations.

   Provided that in special cases and for sufficient causes shown, the Principal/Academic Council on the recommendation of the concerned HOD, may condone the deficiency of attendance *not exceeding 10%* for ill-health when application made for such a condonation is supported by a Medical Certificate issued by an authorized Medical Officer and approved by the Principal of the college. Absence not exceeding two weeks, for activities like N.S.S., Inter-University Competitions and debates will be condoned if the candidate is sponsored by the University for such activities.

> *A student is allowed to use medical condonation facility only 4 (four) times in the entire period of 8 semesters in span of 4 years.*

    v)   The attendance shall be calculated from the date of admission into the course.

    vi)   The candidates of the First Year , I semester, course who have detained can seek readmission without appearing for the Entrance Test during subsequent year, and such admissions shall be treated as supernumerary.

3.   If a candidate who has pursued a Regular Course of Study of any semester wishes to undergo the same course again, he/she may be permitted to enroll again as a regular student for the course of the semester, when next time offered, depending on the availability of seats, provided that he/she undertakes to forgo his/her attendance secured by him/her for that semester previously and provided further that he/she has not pursued a "Regular Course of Study" in any higher semester. For the award of division, however, he/she shall have the benefit of the higher of the aggregate marks secured in that semester.

SCHEME OF INSTRUCTION AND EXAMINATION

1.   Instruction in the various subjects in each semester shall be provided by the college as per the scheme of instruction and syllabus prescribed.
2.   All the courses shall be on the semester pattern.
3.   The distribution of marks of sessional examinations based on the internal assessment and Semester Examination shall be as follows:

Subject	Marks	
	Sessional Exams	**Semester Exams**
i) Each theory subject	25*	50**
ii) Each practical or drawing subject	20*	30

*   5 Marks will be allotted for assignments and 5 marks for quiz tests. Three assignments and three quizzes shall be conducted in a semester and average marks will be considered for computing internal marks. In addition, there shall be two internal examinations of 15 marks each in every subject in a semester. The total sessional marks 25 will be computed by considering 15 (average) marks from internal examinations and 10 (average) marks from assignments and quizzes.

**   The semester question paper will be of two parts, Part-A and Part- B. Part -A is compulsory and should cover the entire syllabus, and carries 15 marks. The marks awarded to each question may be 1 or 2 with a minimum number of questions as 10. Part B will comprise seven (7) questions and it carries 35 marks for all the subjects offered in I and II

semesters. There has to be one question in each unit of the syllabus and the remaining two questions may be drawn from the total syllabus of all 5 units. However, there should not be more than 2 questions from any unit.

4. The program of instruction, examination and vacations shall be notified by the Director (Academic).

5. The medium of instruction and examination shall be English.
   Note: To enable the B.E final year students to complete the course requirements in time, there shall be make-up exams for IV-Year II-Semester only, within one month of publication of results of IV-Year II-Semester main examinations.

6. The semester examinations prescribed may be conducted by means of written papers, practicals and oral tests, inspection of certified sessional work in drawing and laboratories and workshop or by means of any combination of these methods as may be deemed necessary.

7. All the general rules for examinations shall be adhered to.

8. A candidate shall be deemed to have fully passed the examination of any semester, if he/she secures all the credits of that program as prescribed. Minimum Pass Marks in each subject of any semester end Examinations shall be

Each theory subject	:	40%
Each practical subjects/project	:	50%
Overall aggregate of sem exams& sessional examinations of a semester	:	50%

   A student shall secure a minimum of 40% aggregate marks in the sessional examinations of all the subjects put together in any semesterto eligible for appearing semester end exams. Those students who fail to secure minimum of 40% aggregate will not be allowed to appear for the semester examinations.

9. A student who secures 'F' grade in *semester exam and sessional put together* will be declared failed in that particular semester.

   (a) Thecurriculumforanyprogramofstudyshallbedesignedwith atotalcreditsbetween 200 and 210.

   (b) Atleast five elective courses shall be offered during VI-VIII semesters. For the entire program a student will be permitted to take amaximum of 4 electives from allied and other department elective courses (global electives).

RULES OF PROMOTION

ATTENDANCE: The minimum aggregate attendance percentage for UG course is 75%. On medical grounds 65% attendance with valid medical certificate will be considered. ***A student is allowed to use medical condonation facility only 4 (four) times in the entire period of 8 semesters in the span of 4 years B.E program.***

SEMESTER SYSTEM: Semester system will be followed in B.E course from the first year onwards.

ASSESSMENT AND EVALUATION SYSTEM:
There will be continuous and comprehensive evaluation of students. At least two internal examinations per semester and one semester examination will be conducted in each subject.

Internal exams Marks	Semester Exams Marks
25 Marks (Theory) • 15 Marks each for two internal examinations in a semester and 10 marks for assignments /quizzes etc together. • **Average of two tests** will be considered for calculating internal exams marks to which assignment/quiz marks will be added for obtaining total sessional marks. • Every student should secure a **minimum of 40% aggregate marks in the internal exams.** **20 Marks (Laboratory)** • 10 marks for day-to-day laboratory class work which will be awarded based on the average of all experiments. • 10 marks for the internal examination.	**50 Marks (Theory)** Semester theory examinations will be conducted for 50 marks. A student should secure a minimum of 40% marks in each subject for a pass. **30 Marks (Laboratory)** Semester laboratory examinations will be conducted for 30 marks. A student should secure a minimum of 50% marks for a pass. In addition, a student should secure a minimum of 50% marks in a subject from sessionals and semester examinations put together.

Backlogs: A minimum of 50% credits prescribed for any year (put together I & II semesters) must be earned to become eligible for promotion from one class to next higher class.

Credits and Grades:
Credit system will be implemented in each semester. The credit hours for each theory subject, laboratory sessions, finishing school and project work are clearly mentioned in the scheme of instruction.
A Relative grading system will be implemented for computing semester grade point average (SGPA) and Cumulative grade point average (CGPA). The college will follow relative grading with flexibility given of ranges for grades.

The Semester Grade Point Average (**SGP**A) and Cumulative Grade Point Average (**CGPA**) shall be **computed considering the credits and marks secured by a student in sessional and semester examinations marks put together.** Assessment of a course will be done on the basis of marks.

PROMOTION:

Semester	Conditions to be fulfilled
I-SEM to II-SEM	Regular course of study of I-SEM and 40% aggregate CIE marks in I-SEM
II-SEM to III SEM	a. Regular course of study of II SEM and
	b. 40% aggregate CIE marks in II- SEM
	c. Must have secured at least 50% of total credits prescribed for I and II SEMs together
III-SEM to IV-SEM	a. Regular course of study of III-SEM and
	b. 40% aggregate CIE marks in III- SEM
IV-SEM to V- SEM	a. Regular course of study of IV SEM
	b. 40% aggregate CIE marks in IV- SEM
	c. Passed in all the courses of I and II SEMs
	d. Must have secured at least 50% of total credits prescribed for III and IV SEMs put together
V-SEM to VI-SEM	Regular course of study V-SEM, and 40% aggregate CIE marks in V- SEM
VI-SEM to VII-SEM	a. Regular course of study of VI-SEM
	b. 40% aggregate CIE marks in VI- SEM
	c. Passed in all the courses of III and IV SEMs.
	d. Must have secured at least 50% of total credits prescribed for V and VI SEMs put together
VII-SEM to VIII-SEM	Regular course of study of VII-SEM and 40% aggregate CIE marks in VII-SEM

Grades: Theory and Laboratory subjects

Academic Performance (%)	Letter Grade		Grade Points
90 to 100	A+	Outstanding	10
80 to 89.99	A	Excellent	09
70 to 79.99	B+	Very Good	08
60 to 69.99	B	Good	07
50 to 59.99	C	Average	06
40 to 49.99	D	Pass	05
0.00	Ab	Absent	Ab
Below 40 (Theory).	F	Fail	0
Below 50(Laboratory)	F	Fail	0

The final grades in a semester will be computed based on aggregate marks of sessional and semester examinations in a subject put together. A student who earns a minimum of 5 grade points and above in a course is declared to have successfully completed the course in theory and 6 grade points in lab course.

AWARD OF DEGREE
To obtain degree, the student must pass in all the subjects and secured the number of credits as prescribed in the course structure of department concerned and should obtain a CGPA of at least 4.

CGPA SCORE	DIVISON AWARDED
7.50 and above (10.00-7.50)	First Division with distinction
6.50 and below **7.50**	First Division
5.50 and below **6.50**	Second Division
4.50 and below **5.50**	Pass division
Below **4.50**	Fail

GENERAL RULES OF EXAMINATION

1. All examinations of shall be held at such places as if may be decided and at such other centers of such dates as may be notified.

2. Application for permission to appear at every examination shall be made on the prescribed form accompanied by three passport size full face photographs (not profile) which along with the necessary certificates regarding attendance, practical work, etc., and the prescribed fee, should be sent to the Controller of Examinations on or before the date fixed for this purpose.

3. When a candidate's application is found in order and he/she is eligible to appear at an examination, the Controller of Examinations, shall furnish him with a Hall -Ticket with the photographs attached to it, enabling the candidate to appear in the examination, and this Hall-Ticket shall have to be produced by the candidates before he/she can be admitted to the premises where the examination is being held or to a part of the said premises as well as to the Examination Hall.

4. A candidate who fails to present himself/herself for the examination for any reason whatsoever, excepting shortage of attendance or who fails to pass the examinations, shall not be entitled to claim refund of the whole or any part of the examination fee, nor for the reservation of the examination fee for a subsequent examination or examinations.

5. A candidate after he/she was declared successful in the whole examination shall be given certificate setting forth the year of examination, the subjects in which he/she was examined and, the division in which he/she was placed.

6. No candidate shall be allowed to put in attendance for or appear at examinations for different degrees and different faculties at one and the same time.

7. Students, who have appeared once at any examination of the course, need not put in fresh attendance, if they want to reappear at the corresponding examination, notwithstanding the fact that new subjects may have been introduced by the college. They will however, have to appear at the examinations according to the scheme of examination and syllabus in force.

TRANSITORY REGULATIONS

Whenever, course or scheme of instruction is changed in a particular year, two more examinations immediately following thereafter, shall be conducted according to the old syllabi/regulations. Candidates not appearing at the examinations or failing in them shall take the examination subsequently according to the changed syllabi/regulations.

IMPROVEMENT OF DIVISION

1. A candidate who wishes to improve his/her division may do so within one academic year immediately after having passed all the examinations of BE Degree Program by reappearing at not more than two semesters (All subjects pertaining to the semester taken together) examinations. For the award of the division, he/she will have the benefit of the higher of the two aggregates of marks secured in the corresponding semesters).

2. In case of candidates who have secured less than 40% of total aggregate (of I,II, III and IV-Years) needed for a pass division, the candidate can appear for improvement in individual subjects to become eligible for a PASS Division.

AWARDS AND REWARDS

GOLD MEDALS

Vasavi Academy of Education has instituted Gold Medals to the toppers of each branch based on their cumulative performance in the University Examinations from 1st year to final year. Gold Medals have also been instituted by the industry partners, alumni, parents and individuals.

The members of Vasavi Academy, Alumnus of VCE, and reputed software organizations have instituted sixteen gold medals, in various branches of study for the best out going students (toppers) baseed on their performance in the Osmania university examinations.

1. *Sri.Pendekanti Venkata Subbaiah Memorial Gold Medal* to the best student amongst all the branches of engineering put together.
2. *Sri P. Dharma Reddy Gold Medal*to the best student amongst of all branches.
3. *Dr.K.V.Subba Rao Gold Medal* to the best studentamongst the outgoing students of all branches put together.
4. *Smt.Kanakamma Venkata Subbaiah Gold Medal*to best girl student amongst all branches put together
5. *Prof. G.Lakshmi Narayana Gold Medal* to the student of Civil Engineering branch who secures highest marks in that branch.
6. **M**/*s SatNav Technologies Ltd Gold Medal* to the best student of GIS among the Civil Engineering students
7. *Sri. G.Narayana Chetty, IAS (Retd) Gold Medal* to the student who secures highest marks in Mechanical Engineering branch.
8. *Sri. A. Ravi Kiran Memorial Gold Meda*l to the student who scores highest marks in Mechanical Engineering branch.
9. *Prof. K.Venkataramaiah Memorial Gold Medal* to the topper in Production Engineering*.
10. *Sri.K.R.Krishnaiah Chetty Memorial Gold Medal* to the academically best student in ECE branch.
11. *Sri.K.R.Gupta Gold Medal* to the *student* who secures highest marks in CSE branch.

12. ***Dr.T.B.G.Tilak Memorial Gold Medal*** to the student who gets highest marks in EEE branch.
13. ***Sri.Sikakollu Subba Rao Memorial Gold Medal*** to the student who scores highest marks in Information and Technology (IT) branch.
14. ***Sri. K. Rosaiah Gold Medal*** to the top scorer in MCA.
15. ***Sri A. Venkata Ramana Memorial Gold Medal*** to the best student who secures the highest marks in M.E (ES&VLSID) course.
16. ***Smt. & Sri. Eskala Pedda Ratnaiah Memorial Gold Medal*** to the best student who gets the highest marks in M.E (AD&M) course.
17. ***Dr. D. Changal Raju Memorial Gold Medal*** to the best student with highest marks in B.E, ECE branch.

YOUNG LEADER AWARD
In memory of Mr. Harshavardhan Podipireddy, an ex-student of Mechanical (Production) Engineering, his parents have instituted an 'Award for Young Leader' with a cash prize, to be awarded to one student in each branch of engineering, among the final year students.

The students are given anopportunity to apply for the award with their contribution in 5 major areas viz., academic-marks secured, attendance secured, participation in curricular activities, participation in extracurricular activities, leadership activities.After evaluating the applications received and based on the outstanding contributions made by the applicants, the students areselected for the award.

MERIT AWARDS
To encourage meritorious students and to develop competition among *themselves **Best Academic Performance Awards***are given to top 3 students of each section, for all the courses, based on their performance in the University Examination in the preceding year. Students securing first, second and third positions in their sections are awarded with cash prizes. The amount is tobe given to the parent of the student in the form of a cheque.

BEST PROJECT AWARDS
Innovative, creative and research oriented projects are awarded suitably. These awardsare given to the final year students. To encourage the students to carry out such projects in each branch, the management has decided to give the first and second best project prizes. The best project and second best project receive a cash prize.

BEST ATTENDANCE AWARDS
In order to encourage the regularity among the students, the best Attendance Awards aregivenbased on their percentage of attendance. Students having 100%, 99% and 98% attendance are given cash awards

REWARDS

Cognizant Technology Solutions has instituted anaward for the best outgoing student.

REIMBURSEMENT OF CONFERENCE REGISTRATION FEE

Students are encouraged to participate and present papers in National/International Conferences/ seminars. College reimburses pay back the conference/seminar registration fee to the students who present meritorious papers in the conferences.

MERIT-CUM-MEANS SCHOLARSHIPS

The Management of Vasavi College of Engineering provides Merit-cum-Means Scholarships to the needy students.

FINANCIAL ASSISTANCE

Financial assistance to the economically poor students is available on the basis of merit-cum means. The circulars are issued from time to time inviting the applications in every academic year.

Guidelines for Financial Assistance

1. Students who are economically weak are considered for financial assistance.
2. The financial assistance is be provided to the eligible students with a condition that the assistance received shall be paid back after getting employment in equal installments over a period of two years. The amount received back is credited to a separate fund (financial assistance fund) in the College which is utilized for assistance to subsequent batches of students. This account is operated for any contribution received from the staff and any other philanthropists for this good cause.
3. The needy students are indentified by the "Department Financial Assistance Committee" that comprises the respective HODS, one senior faculty and two students from each branch. The short listed eligible students get the financial assistance.

TRANSPORT FACILITIES- GENERAL MODE

All the students are eligible for the General Bus Pass. The APSRTC buses 120S, 120N, 220J, 220V ply from Mehdipatnam 'X' Roads to the college. For Fresh Bus Passes, students should apply during 21st to 29th of every month and for renewal during 13th to 17th of every month at all APSRTC Bus Pass Centres and e-Seva Centres.

FIRST YEAR STUDENTS - Hired Bus transport

Private buses are under hire exclusively for I year B.E students of the College. More buses can be arranged in other routes, if the strength of the students in that particular route is 60. Presently the buses are operating to the College from

ECIL 'X' Roads	Via Naredmet X Roads, Malkajigiri, Mettuguda, Sangeeth, Patny, Paradise, Tankbund, Secretariat, Lakadikapool Mehdipatnam
Vanasthalipuram	Via L.B. Nagar, Kothapet, Dilsukhnagar, Malakpet, Koti, Abids, Nampally, Public Gardens, Lakadikapool, Mehdipatnam
UPPAL	Via Uppal 'X' Roads, Habsiguda, Tarnaka, OU, Vidyanagar, Shankermutt, Narayanaguda, Himayathnagar, Liberty, Lakadikapool, Mehdipatnam
K.P.H.B. (JNTU)	Via Kukatpally, Balanagar 'X' Roads, Sanathnagar, Erragadda, S.R. Nagar, Punjagutta, Banjara Hills, Masab Tank, Mehdipatnam, Nanalnagar
B.H.E.L.	Via Miyapur, Alwyn 'X' Roads, Kothaguda, Hitec-City, Madhapur, Jubilee Hills Check Post, Gachi Bowli, Outer Ring Road, Narsingi
Chilkalguda (Secunderabad Railway Station)	Via Musheerabad, RTC'X' Roads, VST, Bagh Lingampally, Tourist Hotel, Kachiguda, Ram Koti, Old MLA quarters, Basheerabagh, Lakadikapool, Mehdipatnam
Alwal	Via Tirumalgiri, Lothukunta, Patny, Begumpet, Punjagutta, Erramanjil, Banjara Hills, Masab Tank, NMDC, Mehdipatnam, Langer House

TRANSPORT FACILITY FOR SENIOR STUDENTS

Nine A.P.S.R.T.C exclusive buses are arranged for the senior students in the following routes

RTC 'X' Roads to VCE (Two Buses)	Shanker Mutt, Barkatpura, Narayanaguda, Himayatnagar, Liberty, Lakdi-ka-pool, Mehdipatnam
Secunderabad to VCE (Two Buses)	**First Bus:** Via-Begumpet, Banjara Hills, Masab Tank, Mehdipatnam **Second Bus:** Via-Kingsway, Tankbund, Secretariat, Lakdi-ka-Pool, Mehdipatnam
A.G. Colony to VCE (Two Buses)	ESI, Ameerpet, Khairthabad, Lakdi-ka-pool, Mehdipatnam
Tarnaka to VCE (one Bus)	O.U., Vidyanagar, Shankarmutt, Narayanaguda, Liberty, Lakdi-ka-pool, Mehdipatnam
Dilsukhnagar to VCE (Two Buses)	Malakpet, Koti, Abids, Nampally, Lakdi-ka-pool, Mehdipatnam

RULES OF CONDUCT TO STUDENTS

1. Students are not permitted to resort to strikes and demonstrations within the college. Participation in any such activity shall automatically result in their dismissal from the college.
2. No student unions, except professional associations, are permitted in the college.
3. The college premises and buildings shall be kept clean; writing and sticking posters and notices on the building walls is strictly prohibited
4. Any student responsible for bringing outsiders into the college campus for settling student disputes will be expelled from the college.
5. The students may go on Industrial Tours at their expenses. The college will not defray any expenses of the tour.
6. Smoking, consumption of alcoholic drinks, gambling of any kind is prohibited in the college premises. Any student found in the college premises in an intoxicated condition at any time will be summarily expelled from the college without any enquiry.

7. The students are expected to be regular in their class work and should conduct themselves in a disciplined manner. They should abide by such rules of discipline and conduct as stipulated by the college from time to time.
8. Fees must be paid in one instalment within two weeks of 1st Semester in the College. Fine at Rs.20/- per day will be levied for delayed payment upto 2 weeks, after which name will be deleted from rolls. Later Readmission fee will be Rs.500/- in addition to fine dues. Fee once paid will not be returned under any circumstances. Non payment of fees will result in forfeiture of his/her seat in the college.
9. The principal of the college is the final authority as regards the discipline in the institution and has full powers to suspend, fine, rusticate and take any other action, which is deemed necessary.
10. The conduct of the students should be exemplary, not only within the premises of the college but also outside.
11. The students are informed that they should furnish the latest addresses of their parents/guardians in the Principal's Office. Any change of address of the parents/guardian should also be informed immediately, in the college office.
12. Ragging is prohibited. Any student participating in ragging is liable to be summarily expelled from the college without any enquiry. Ragging on campus and off campus is strictly prohibited and it is a cognizable offence. The college has constituted Anti-Ragging Committee, vigilance teams, anti ragging squads involving the police officers, senior faculty, etc., as per the Act.

DEPARTMENT'S PROFILES

DEPARTMENT OF CIVIL ENGINEERING

The Civil Engineering Department was established in the year of college inception (1981). It offers B.E. civil engineering course with an annual intake of 60 students.

MISSION

To dedicate ourselves to strive and impart in-depth knowledge of Civil Engineering and prepare the students to meet the challengers of growing construction activity with confidence and competence

FACULTY

Dr. B. Sridhar is Professor and Head of the Department. It has 23 faculty members. The Civil Engineering Department is actively engaged in research and consultancy activities in the areas of cement and concrete technology and concrete structures. Research projects on Blended Cements, Concrete Composites like Fibers Reinforced Concrete with various types of fibers like steel, glass, polypropylene etc., GFRP, H.P.C., Light Weight Concrete, Non-Destructive Testing of Structures etc., are in progress and a few have been completed.

To strengthen the knowledge beyond the curricula and to expose the students to the latest trends in the industry Professional Practice School is being implemented.

INFRASTRUCTURE

The Civil Engineering Department is spread in an area of 2,134 Sq. Mtrs. to cater to the needs of classrooms, laboratories and other common facilities. The department possesses 32 computer systems.

The various Civil Engineering Laboratories - the Concrete Lab, Soil Mechanics Lab, Transportation Engineering Lab, G.I.S Lab, Computer Lab, etc., are equipped with modern equipment. It has ideal facilities for research like concrete compression testing machine (Digital) of 300 KN capacity, permeability testing apparatus, non-destructive testing equipment, loading frame of 400 KN capacity, computerized triaxial testing equipment, standard penetration test apparatus, UV-spectro-photometer etc. The Computer centre of the department has all the modern GIS, structural analysis and Design packages.

The Department has a good interaction with outside agencies and is carrying out consultancy activities for various public and private agencies on structural design, proof checking, quality testing of structures, cement concrete roads, B.T roads, laboratory material testing of cement, concrete including mix design, highway materials, steel roads etc., Soil Testing of Field samples, Field Surveying GIS mapping, water analysis etc., are also being regularly carried out.

Many of our students have been placed in software, GIS and construction companies. Some of our students are pursuing higher education abroad and in India.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

The Department of Computer Science & Engineering was started in the year 1994 offering, a 4-year B.E. course and the present annual intake is 120 students and a 2-Year M.Tech course in the year 2011 with an annual intake of 18 students.

MISSION
To enable the students to develop logic and problem solving approach to help build their careers in the field of computing and provide creative solutions for the benefit of the society.

FACULTY
Dr. T. Adilakshmi, Professor and Head of the Department, has 27 years of teaching experience. The department has 27 well-qualified & experienced faculty members. Osmania University has recognized the department as a Research Center and two professors are recognized as Research Supervisors. The faculty members have varied academic interests and some of their specialized fields include Data Mining, Artificial Intelligence, Grid Computing, Image Processing, Cloud Computing etc. The department has been associated with eminent industries to carry-out research/consultancy work.

INFRASTRUCTURE
The department has a carpet area of **1585** sq.mtrs. to accommodate the needs of classrooms, laboratories and other common facilities. The laboratories are well equipped computers with latest configuration. There are four UG, one PG and one research labs consisting a total of 164 systems. The various servers in the server room which includes, Oracle 11g Database Server, Intranet Server (TOMCAT), Oracle 11g Database Automation Server, NPTEL Video/Web Server, Mat Lab Server 2011 R2, Proxy Server, Red Hat Linux 5.0 Server, Library Automation Server, Symantec Protection Enterprise Edition 3.02, Rational Rose Server, Informatica Server all connected to the LAN thereby providing diverse computing platforms to the students across the campus. The college has high speed internet connectivity throughout the campus through a leased line from BSNL with 30Mbps and Beam telecom with 10Mbps. To facilitate research, the department also has

1. Aneka.NET Cloud computing software version 3.0 enterprise edition site user license
2. MATLAB Perpetual concurrent license academic version

INDUSTRY INSTITUTE INTERACTION
The College has signed MoUs with prominent IT-related organizations: Microsoft, EMC Corporation, Computer Associates, Infosys, Progress Software, CSC, Merxius Software, Ubergrad, Navaratan Technologies, Innfidects Software Development & Marketing Pvt Ltd. These partnerships help the students meet the highly competitive standards of the industry by keeping them abreast with the advances in technology through training programmes, student internship and projects, lectures by professionals/experts from the industry. The department in association with Infosys, conducts Infosys Campus Connect foundation programme for students placed in

Infosys from our college. EMC Corporation provides the students to take up certification in the Storage & Cloud domains.

CONTENT BEYOND SYLLABUS

CSE Department also offers content beyond the syllabus in the form of MECR (Massively Empowered Classrooms) in association with Microsoft and QEEE (Quality Enhancement in Engineering Education) under MHRD.

VALUE ADDED COURSES

CISCO Local Academy enables students to meet the contemporary market demands in the area of Computer Networks. The department has a CSI Student chapter to facilitate students for interaction with the industry and academia through seminars/workshops/expert lectures.

DEPARTMENT OF ELECTRONICS &COMMUNICATIONENGINEERING

Established in **1981,** the department offers 4-yearB.E. Degree Programme inElectronics &Communication Engineering, with an annual intake of 120 students. It also offers two M.E. Programmes, Embedded Systems & VLSI Design and Communication Engineering & Signal Processing of two years duration each. There are 167 computers located in various labs of the department.

> ### MISSION
> *To inculcate a spirit of scientific temper & analytical thinking and train the students in contemporary technologies in Electronics& Communication to meet the needs of the industry*

FACULTY

Dr. K Jaya Sankar is Professor and Head of the Department. The Department has 32 experienced faculty members comprisingProfessors, Associate Professors and Assistant Professors and industry professionals. The faculty has teaching expertise in various specializations like Signal Processing, Communications, Digital Systems, VLSI Design, Microwaves etc.

INFRASTRUCTURE

The ECE Department is spread in an area of 2,701 Sq. Mtrs. in a separate block to cater to the needs of classrooms, laboratories and other common facilities. The Department has 13 laboratories as per the curriculum which includes 4 advanced laboratories. The laboratories are as per the curriculum such as Basic Electronics, Analog Electronics Circuits, Digital & Integrated Circuits, Communication, Microwave Engineering, Signal Processing & Microprocessors and Interfacing.

The advanced labs are
- ➢ VLSI Lab with Mentor graphics and Cadence tools.
- ➢ Digital Signal Processing Lab with MATLAB

- ➤ Communication engineering lab with wireless communications trainers.
- ➤ Microprocessor and Microcontroller Lab equipped with X86, ARM & micro controllers like 8051 etc., along with Proteus VSM microcontroller simulation software.

The Department maintains a robust association with the industry for student training, student projects, faculty visits, expert lectures, and for collaboration in research and development in emerging technologies. The department is associated with the major industries like NVIDIA Graphics, Veda IIT, Cypress, AMS, ANURAG, DLRL, etc. The department has research projects funded by DLRL& RCI

The Department has an IEEE student branch, IETE student Forum and IE(I) chapter to facilitate effective interaction with the industry and academia through seminars / symposia / workshops.The ECE students have been consistently securing top university honours among the affiliated colleges of Osmania University. A good number of ECE students have been offered employment both by IT and Core Electronics Engineering Companies in the campus selections.

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

The department of EEE was established in 1999. It offers a 4-year B.E. Degree Programme in Electrical & Electronics Engineering (EEE) with an annual intake of 60 students and one M.E programme in power systems and power electronics.

FACULTY
Sri K.V. Ramamna Murthy is Professor and Head of the Department. The department has 17 qualified and dedicated faculties comprising Professor, Associate Professors and Assistant Professors and also industry professionals. The faculty has teaching expertise in various specializations like Power Electronics & Drives, Power Systems & Electrical Machines, Renewable Energy Sources and Control Systems. The department has 41 computer systems at its disposal.

MISSION
To advance knowledge and educate electrical engineering students so that they have the knowledge and the skills to innovate, excel and lead in their professions. To instill in the students values, attitudes, vision that will prepare them for life times of continued learning and leadership for the benefit of society locally and globally

INFRASTRUCTURE
The EEE Department is spread in an area of 1,967 Sq. Mtrs. to cater to the needs of classrooms, laboratories and other common facilities. The Department is equipped with 8 labs, departmental library, classrooms, tutorial rooms and a seminar hall with modern teaching aids and staff rooms. The laboratories equipped

to suit the modern curriculum requirements. Some of laboratories in the department are Electrical Machinery Labs, Power Systems Lab, Power Electronics Lab and Control Systems Lab, Electrical Circuits & Measurements Lab and Electrical Simulation Lab. The Department has good rapport with the renowned organizations like Bharat Heavy Electricals Limited (BHEL), National Thermal Power Corporation (NTPC), Power Grid Corporation of India Limited, Central Power Research Institute (CPRI), Railway Loco Workshop, Vijay Electricals Limited, Medha Servo Drives, Siemens India Limited, GE Enterprises, etc. These links help the students to better equip with latest trends in electrical and electronic industry.

DEPARTMENT OF INFORMATION TECHNOLOGY

The IT department was established in the year 2000. It offers a 4 year undergraduate programme B.E. in Information Technology with an annual intake of 120 students. The curriculum of I.T. emphasizes the ongoing *Convergence of Computers, Communications and Control Systems*. The programme ensures that the student effectively meets the highest benchmarks

MISSION

To enable the students acquire outstanding competence and skills in latest IT related technologies through practice-oriented teaching and training.

of competence required by the industry. The unique feature of IT curriculum is 4 Mini projects (2nd yr. I & II Sem. & 3rd yr. I & II Sem.) included in the curriculum in addition to the Main Project in Final year. The students of our department have been selected by leading domestic and multinational companies like Microsoft, Teradata, CTS, Accenture, Capital IQ, Oracle, Pega systems, TCS, Infosys to name a few in the campus recruitment programmes.

FACULTY:
Dr. N. Vasantha is Professor and Head of the Department. The Department has 23 qualified and experienced faculty. The faculty have teaching expertise in C and Data Structures, Java, Web Technologies, Networking, Soft Engineering, Artificial Intelligence, Software Testing, Compiler Construction, Data and Mobile Communication, Cloud Computing, Data Mining, Microprocessors, VLSI Design, Embedded Systems and Signal Processing.

INFRASTRUCTURE:
The IT Department is spread in an area of 1,072 Sq. mtrs to cater to the needs of class rooms, laboratories and other common facilities. The department has 3 laboratories consisting of 108 computer systems equipped with C, C++, Java, Oracle9i with D2K, Rational Suite software and MSDN subscription through academic alliance with Microsoft. These computers are networked through central servers with access to internet and various design tools.

With the balanced mix of Electronics, Communication and Computer related subjects, the IT curriculum provides an opportunity for the students to have hands-

on experience on specific tools MATLAB, Vx Works, VLSI Simulation & Synthesis tools from Mentor Graphics, Xilinx Foundation series, Rational Rose, PSPICE, Microwind and Microprocessors and Microcontroller kits (8085, 8086 & 8051), CPLD/FPGA trainer kits. This is in addition to programming labs like C/C++, DBMS, Data Structures, OOSD, JAVA, Operating Systems, Web Technologies, Compiler Construction, Network Programming, Network Simulation using NS2, Middle Ware Technologies. Also, Cisco Lab is included in the curriculum for the students to improve their Networking knowledge.

The department has an exclusive well-stacked library. Apart from having a large number of books encompassing the entire spectrum of information technology, the library subscribes to several journals and periodicals pertaining to the discipline. The department has forged useful alliances with reputed IT–oriented organizations to facilitate student training, projects, internship and in arranging expert lectures.

DEPARTMENT OF MECHANICAL ENGINEERING

Established in the year 1981, the department offers 4-year B.E program in Mechanical Engineering, with an annual intake of 120 students and a 2-year M.E. Program in Advanced Design & Manufacturing.

> **MISSION**
> *To create an environment of research, innovation and knowledge – based society throughlatest teaching learning best practices in mechanical engineering.*

FACULTY
Dr. G.V. Ramana Murty is Professor and Head of the Department. The Department has 27 faculty members.

The Department is one of the well-established Mechanical Engineering Departments in the State. Majority of staff have industrial experience. The Department has made a significant progress in research at the Master's and Doctoral levels. The faculty members of the Department are actively engaged in research publication and dissemination of knowledge through guest lectures at various prestigious institutions.

INFRASTRUCTURE
The Mechanical Engineering Department is spread in an area of 3,465 Sq. meters to cater to the needs of classrooms, laboratories and other common facilities. The department has excellent infrastructural resources. The laboratories in the department are Applied Thermodynamics, Thermal Engineering, CAD/CAM, Metallurgy Lab, FMS, CNC, Automation & Robotics, Welding, Metal Forming Technology, Metal Cutting & Machine Tools engineering, Metal Casting and Metrology & Instrumentation.

A Central Workshop with the facilities of Carpentry, House Wiring, Fitting, Plumbing and Smithy imparts necessary skills to the students.

The CAD/CAM Lab is equipped with advanced CAD and CAE software, viz., Unigraphics, ANSYS, Hyperworks, FLUENT, GIBBS-CAM, MATLAB for different tasks of part Modeling & Assembly, Analysis, and Simulation etc. Sophisticated equipment like Fast Fourier Transforming Analyzer (FFT), Vibrations, Sound level meters are also available.

The department has established linkages with various renowned organizations for student interactions, training, internship, faculty visits and consultancy services. Some of the organizations are Mahindra & Mahindra, Castrol India, Rane Engine Valves, DRDL, Bharat Heavy Electricals Limited (BHEL), Designtech Systems, APSRTC, Central Institute of Tool Design and Midhani.

The students of the Department have consistently bagged Gold Medals and University Ranks among the affiliated colleges and won several prizes in design and other contests at various levels. The Department has excellent track record in placements and higher education.

DEPARTMENT OF COMPUTER APPLICATIONS

Department of Computer Applications was established in 1994. The department offers 3 year MCA program and the students are admitted through ICET. The annual intake is 60 students. The program ensures that the students effectively meet highest benchmark of competence required by the industry.

MISSION

To impart knowledge of Computer Applications to enable the graduates to meet the global needs and challenges

FACULTY

Dr. P. Hemagiri Rao is Professor and Head of the Department. The Department has 12 highly qualified and experienced faculty members. The Department is full-fledged with the faculty consisting of a professor, two associate professors, three senior assistant professors and five assistant professors. The average experience of the faculty in the department is nine years. The faculty has specialization in the areas like of Optimization Techniques, Artificial Intelligence, Pattern Recognition, Clustering, Networking, Databases and Data Mining.

INFRASTRUCTURE

The Department of Computer Applications is spread in an area of 872 Sq. meters to cater to the needs of classrooms, laboratories and other common facilities. 99 computer systems located in MCA labs serves various needs of the students and the faculty

The Department is well equipped with the Laboratories having Latest systems and software like Rational Rose, Oracle with Developer 2000, Java, .NET, Windows XP, Fedora, C, C++ etc.

The department has been consistently securing an average pass percentage of 98. The students of the department are being selected by esteemed companies like Infosys, TCS, WIPRO, ORACLE, Deloitte, to name a few. The department is active in organizing various seminars and workshops.

DEPARTMENT OF MATHEMATICS

FACULTY

The Department of Mathematics was established in year 1981. Mr.T.Sudhakar Rao is the Head of the Department. The Department has 7 faculty members and caters the teaching needs of the students in Mathematics. Two of them are doctorates. The department is actively engaged in the promotions of mathematical applications through **MATHS CLUB**.

MISSION

To impart in-depth knowledge of mathematics and its applications in various fields of engineering so as to enable the students to meet the challenges of the Engineering Problems with courage, confidence, conviction and competence.

DEPARTMENT OF PHYSICS

Department of Physics was established in 1981.

FACULTY

Dr. A.S. Sai Prasad is professor and Head of the Department. All the 6 faculty members are well qualified and experienced. The specializations of the faculty members include electron paramagnetic resonance, materials science, condensed matter physics, luminescence, magnetic fluids, atmospheric sciences etc. The

MISSION

To imbibe the spirit of scientific temper and to instill logic and analytical approaching budding engineers.

members are actively involved in research work. Two sponsored research project funded by the Atomic Energy Research Board and UGC-MRP are in progress.

The faculty members are actively engaged in research work. More than 40 research papers were published by the faculty in International and national journals of high repute.

INFRASTRUCTURE

The Department is spread in an area of 275 Sq. Mtrs to cater to the needs of classrooms, laboratories and other common facilities. It has two laboratories namely Mechanics lab and Optics lab having equipment. The instruments include CROs, Optical fibers, lasers, Hall apparatus etc.

DEPARTMENT OF CHEMISTRY

MISSION

To infuse knowledge of chemical principles of engineering materials to the prospective engineers

The department was established in 1981.

FACULTY

Sri Ch. Gouri Shankar is the Head of the Department. The department has 7 experienced members of faculty. Threeof them are doctorates. One UGC-MRP research project is in progress.

INFRASTRUCTURE

The Department of Chemistry has a comprehensive Chemistry Laboratory in an area of 398 Sq. meters with latest equipments such as spectrophotometer etc.

DEPARTMENT OF HUMANITIES & SOCIAL SCIENCES

The Department, at present, offers courses in English and Economics. It has carved a unique niche by offering various value-added courses.

FACULTY

Dr. (Ms). Jacqueline Amaralis the Head of the Department. The department has eight faculty memberswith strong foundations in communications skills and phonetics.

MISSION

To nurture the budding professionals to face dynamic situations of the business world through training, mentoring, and counseling by creating a 'learning rich' environment."

INFRASTRUCTURE

The Department of English has comprehensive laboratories in an area of 173 Sq. meters.It provides training in communication and interpersonal skills, accent neutralization, soft skills and presentation skills to mention a few. The Department also provides consulting and training services to industry.

The Phonetics & Interactive communication skills laboratories help students develop English skills, enriching their interpersonal skills, enhancing their confidence levels and marginalizing their first language influence.The English Language Lab is upgraded to Multi media Lab with 34 computer systems containing Hi-Class platform from Hi Class Software, Sky pronunciation suite and LETS DO business connected speech from Young India. The total cost of major equipment/instruments in the Department is about Rs.31.00 lakhs.

DEPARTMENT OF PHYSICAL EDUCATION

Department of Physical Education plays a crucial role in encouraging the students to nurture the inherent talents in sports and games. Qualified and experienced faculty serves the needs of the students. The college has good indoor and outdoor sports & games facilities liketable tennis, carom, chess, shuttle badminton, cricket, valley ball, basket ball, etc.The college student teams have been consistently winning various prizes/medals at Inter-Collegiate, Inter-University and also at various National Level Tournaments.

DEPARTMENT OF HUMAN RESOURCES

Human Resources (HR) department provides career guidance and counseling to the outgoing budding engineers. It prepares students to meet the industry's requirements technically and enrich them to suit the corporate world with excellent soft skills. The department of HR organizes personality development programs and looks after campus placements of the students. It takes care of pre-placement training & placements. It explores the various career options in the fields of All India Civil Services, All India Engineering Services, Scientific, Research and Industrial Organizations, Army, Navy and Air force in addition to arranging counseling sessions on higher education avenues in India and abroad. Human Resources wing is headed by Prof. K.Kishore, Director, Training & Placement. Sri. K. Srinivasa Chakravarthy is Assistant Director.

ACADEMIC AND EXAMINATIONS BRANCH

Academic and Examinations Branch takes care of all the academic requirements of students starting from admissions processes, collection of original certificates at the time of admission, issue of I.D cards, syllabus books, photo copies of original certificates deposited in the college, course completion certificates, custodian forms, and return original certificates at the time of leaving and also issue Transfer and Bona-fide certificates, Migration certificate, Provisional Degree certificate, Consolidate marks memos, etc.

DIRECTOR – STUDENT WELFARE

Sri A.Vishweshwara Rao is the Director Student Welfare (DSW). Sri K. Ramakrishna is the Assistant DSW. This wing of the college looks after the student facilities and addresses the issues and problems of students. The DSWtakes care of amenities, proctorial system, transport facilities, financial Assistance, student bus passes, railway concessions, certification of scholarship applications and Student Bonafide certificates.

ACCOUNTS SECTION

The major works of account section are collection of tuition fee, special fee, examination fee, medical condonation fee, process and disbursement of A.P. State Social welfare Scholarships, National Merit Scholarships, AICTE stipends, estimates to obtain Education Loan from Banks, Refund of caution deposits and issue of no due certificates.

STUDENT COUNSELLOR

The student counsellor services are provided to the students to give guidance on personal, social and psychological problems.

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
ALMANAC FOR THE ACADEMIC YEAR 2015-16

¼ B.E –I SEMESTER

Particulars	Date
Commencement of Instruction	01-08-2015
I Class Test	28-09-2015 to 01-10-2015
II Class Test	25-11-2015 to 28-11-2015
Last date of Instruction	28-11-2015
Preparation holidays & Practical Examinations	30-11-2015 to 12-12-2015
Commencement of Theory Examinations	14-12-2015

¼ B.E –II SEMESTER

Particulars	Date
Commencement of Instruction	04-01-2016
I Class Test	22-02-2016 to 24-02-2016
II Class Test	21-04-2016 to 23-04-2016
Last date of instruction	23-04-2016
Preparation holidays and practical Examinations	25-04-2016 to 07-05-2016
Commencement of Theory Examinations	09-05-2016 to 28-05-2016
Summer vacation	01-05-2016 to 30-06-2016
Commencement of B.E 2/4-I Semester for the Academic year 2016-2017	04-07-2016

SCHEME OF INSTRUCTION AND EXAMINATION W.E.F. 2015-16
B.E. I YEAR– I SEMESTER COMMON TO ALL BRANCHES

S. No	Sub reference Code	SUBJECT	Scheme of Instruction Periods per Week (50min each)				Scheme of Examination			
			L	T	D	P	Duration in Hrs	Maximum Marks Sem. Exam	Sessionals	Credits
THEORY										
1	HS1100	English-I	3	-	-	-	3	50	25	2
2	MA1110	Mathematics-I	3	1	-	-	3	50	25	2
3	PH1120	Engineering Physics-I	3	-	-	-	3	50	25	2
4	CH1130	Engineering Chemistry-I	3	-	-	-	3	50	25	2
5	CS1140	Programming in 'C' &Problem solving	3	1	-	-	3	50	25	2
6	CE1150	Engineering Mechanics-I	3	2	-	-	3	50	25	2
7	CE1160	Engineering Graphics-I	-	2	6	-	3	50	25	2
PRACTICALS										
8	HS1111	English Language Lab-I	-	-	-	3	3	30	20	2
9	PH1121	Physics Lab-I	-	-	-	3	3	30	20	2
10	CH1131	Chemistry Lab-I	-	-	-	3	3	30	20	2
11	CS 1141	'C' Programming Lab	-	-	-	3	3	30	20	2
12	ME1161	Workshop Practice-I	-	-	-	3	3	30	20	2
		TOTAL	18	6	6	15		500	275	24
		GRAND TOTAL	45					775		24

B.E. I YEAR– II SEMESTER Common to Civil, Mechanical and EEE Branches

S. No	Sub reference Code	SUBJECT	Scheme of Instruction				Scheme of Examination			
			Periods per Week (50min each)				Duration in Hrs	Maximum Marks		Credits
			L	T	D	P		Sem. Exam	Sessionals	
THEORY										
1	HS1200	English-II	3	-	-	-	3	50	25	2
2	MA1210	Mathematics-II	3	1	-	-	3	50	25	2
3	PH1220	Engineering Physics-II	3	-	-	-	3	50	25	2
4	CH1230	Engineering Chemistry-II	3	-	-	-	3	50	25	2
5	CS1240	Object Oriented Programming using C++	3	1	-	-	3	50	25	2
6	CE1250	Engineering Mechanics-II	3	2	-	-	3	50	25	2
7	CE1260	Engineering Graphics-II	-	2	6	-	3	50	25	2
PRACTICALS										
8	HS1211	English Language Lab-II	-	-	-	3	3	30	20	2
9	PH1221	Physics Lab-II	-	-	-	3	3	30	20	2
10	CH1231	Chemistry Lab-II	-	-	-	3	3	30	20	2
11	CS 1241	C++ Programming Lab	-	-	-	3	3	30	20	2
12	ME1251	Workshop Practice-II	-	-	-	3	3	30	20	2
		TOTAL	18	6	6	15		500	275	24
		GRAND TOTAL	45					775		24

SCHEME OF INSTRUCTION AND EXAMINATION W.E.F. 2015-16
B.E. I YEAR– II SEMESTER common to CSE, ECE and IT Branches

S. No	Sub reference Code	SUBJECT	Scheme of Instruction Periods per Week (50min each)				Duration in Hrs	Scheme of Examination Maximum Marks		Credits
			L	T	D	P		Sem. Exam	Sessional	
THEORY										
1	HS1200	English-II	3	-	-	-	3	50	25	2
2	MA1210	Mathematics-II	3	1	-	-	3	50	25	2
3	PH1270	Engineering Physics-II	3	-	-	-	3	50	25	2
4	CH1280	Engineering Chemistry-II	3	-	-	-	3	50	25	2
5	CS1240	Object Oriented Programming using C++	3	1	-	-	3	50	25	2
6	EE1260	Basic Electrical Engineering	3	2	-	-	3	50	25	2
7	CE1260	Engineering Graphics-II	-	2	6	-	3	50	25	2
PRACTICALS										
8	HS1211	English Language Lab-II	-	-	-	3	3	30	20	2
9	PH1221	Physics Lab-II	-	-	-	3	3	30	20	2
10	CH1231	Chemistry Lab-II	-	-	-	3	3	30	20	2
11	CS 1241	C++ Programming Lab	-	-	-	3	3	30	20	2
12	EC1261	Electronics Workshop (ECE)	-	-	-	3	3	30	20	2
	CS1271	CS Workshop (CSE)								
	IT 1291	IT Workshop (IT)								
		TOTAL	18	6	6	15		500	275	24
		GRAND TOTAL	45					775		24

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)

9-5-81, Ibrahimbagh, Hyderbad-500031, Telangana State

SYLLABI FOR B.E 1/4 - FIRST SEMESTER
(w.e.f the academic year 2015-16)
ENGLISH-I
(Common to all branches of ¼ B.E-I Semester)

UNIT – I : Effective communication; Role and Importance of Communication; Features and functions of language and communication; Process of Communication; Types of communication -verbal and non verbal; Channels of communication; Barriers to effective communication.

UNIT – II: Importance of listening in effective communication; Improving listening ability through activities; note-taking, Speaking strategies; Situational dialogues (Basic level)

UNIT– III : Reading different texts; sub-skills of reading; Understanding function, organization and meaning of various texts to develop reading skills; Written Communication: features of writing; Cohesion and Coherence; Descriptive/ Expository writing - describing events, people, places, objects.

UNIT – IV : Remedial English: Parts of speech; Articles, prepositions; Tense and Aspect; Connectives and Correlative conjuncts; Common errors, Direct and Indirect Speech, Punctuation, Word- Formation, Homonyms, Homophones, Synonyms, Antonyms.

UNIT – V : Reading Texts .
  Short-stories:
  The Road Not Taken - Robert Frost
  The Eyes Are Not Here - Ruskin Bond

Learning Resources:
1. Technical communication - Principles and Practice (2nd Edition 2014) - Meenakshi Raman and Sangeeta Sharma- Oxford University Press.
2. E.Suresh Kumar, P. Sreehari and J. Savithri - Essential English
3. Reading comprehension - Nuttal.J.C - Orient Blackswan
4. Sunitha Mishra,C. Murali Krishna, Communication Skills for Engineers, Pearson, 2004.
5. M. Ashraf Rizvi. Effective Technical Communication. Tata McGraw Hill, 2005.
6. Allen and Waters, How English Works.
7. Willis Jane., English through English.

(w.e.f the academic year 2015-16)

ENGLISH LANGUAGE LAB-I

(Common to all branches of ¼ B.E-I Semester)

PHONETICS LAB:

Introduction to English Phonetics: Introduction to auditory, acoustic and articulatory phonetics. Organs of speech: the respiratory, articulatory and phonatory systems. Classification and Description of English Phonemic sounds; Minimal pairs: The Syllable: Types of syllables; Consonant clusters.

INTERACTIVE COMMUNICATION SKILLS LAB:

Role Play: - Use of structured and semi-structured dialogues in a variety of situations and settings.

Public Speaking: Participate in public speaking, essentials of an effective speech, types of delivery, planning and delivering a speech.

Debate: Understanding the difference between a debate and a group discussion, essentials of debate, concluding a debate. (Basic Level)

Group discussion: Objectives of GD, Types of GDs; Initiating, Continuing, and concluding a GD (Basic Level)

STUDY SKILLS AND READING SKILLS LAB:

Use of Dictionary and Thesaurus: Advantages of using a Dictionary and Thesaurus; Effective use of Dictionary and Thesaurus.
Book reviews and Film reviews - Oral and Written
Vocabulary: - Registers.
Reading: - Reading different types of texts, Reading Newspapers, Magazines, Short–Stories, One-act plays, Content - related texts and making notes.

Learning Resources:
1. Speak Well: Jayshree Mohanraj, Kandula Nirupa Rani and Indira Babbellapati - Orient BlackSwan
2. T.Balasubramanian: A textbook of English phonetics for Indian students, Macmillan, 2008.
3. Priyadarshi Patnaik: Group discussion and interviews, Cambridge University Press India private limited 2011.
4. Daniel Jones: Cambridge English Pronouncing Dictionary - A Definitive guide to contemporary English Pronunciation.
5. Reading Cards (Eng400): Orient Blackswan.

SYLLABI FOR B.E 1/4 - FIRST SEMESTER
(w.e.f the academic year 2015-16)
MATHEMATICS-I
(Common to all branches of ¼ B.E-I Semester)

UNIT – I :   Matrices (12 Periods)
Rank of a Matrix- Consistency of Linear system of equations-Linearly independence and dependence of Vectors – Eigen values and Eigen vectors- Characteristic equation- Cayley - Hamilton Theorem(Without proof)- Diagonalization (using similarity transformation)-Reduction of Quadratic form to canonical form

UNIT – II: Infinite Series(10 Periods)
Sequences- Series – Convergence and Divergence- Series of positive terms- Comparison tests - D'Alembert's Ratio Test – Raabe's Test – Logarithmic series test - Cauchy's root test - Alternating Series – Leibnitz test – Absolute and Conditional convergence

UNIT– III :   Differential Calculus (15 Periods)
Taylor's Series – Expansion of functions on power series-Curvature- Radius of Curvature (Cartesian, Polar and parametric co-ordinates) – Center of Curvature – Envelopes– Evolutes and Involutes.

UNIT – IV :   (15 Periods)
Limits and Continuity of Functions of two Variables - Partial Derivatives– Total Differential - Approximation by total differentials - Derivatives of Composite and implicit functions - Higher Order Partial Derivatives -Taylor's series of functions of two variables –Applications of Taylor's series to linear and quadratic approximations- Maxima and Minima of functions of two variables with constraints - Lagrange's method of multipliers - Jacobian

UNIT – V :   Multiple integrals (12 Periods)
Double and Triple integrals - Change of order of integration-applications to evaluate area and volume

Learning Resources:
1. Advanced Engineering Mathematics, Third Edition, R. K. Jain and S. R. K. Iyengar, Narosa Publishing House.
2. Higher Engineering Mathematics, B. S. Grewal 40th. Edition, Khanna Publishers.
3. Advanced Engineering Mathematics,8th Ed by Erwin Kreyszig, John Wiley & Sons.
4. Differential Calculus by Shanti Narayan S. Chand & Co
5. Matrices, by A R Vasishtha, Krishna Prakashan Media, Meerut
6. Advanced Engineering Mathematics by S.S.Sastry

SYLLABI FOR B.E 1/4 - FIRST SEMESTER
(w.e.f the academic year 2015-16)
ENGINEERING PHYSICS-I
(Common to all branches of ¼ B.E-I Semester)

UNIT– I : <u>OSCILLATIONS</u> **(09 periods)**
1. ***Fundamentals of vibrations***: Equation of motion of a simple harmonic oscillator and its solution, torsion pendulum-expression for time period. Combination of two mutually perpendicular simple harmonic vibrations of same frequency, Lissajous figures.
2. ***Damped and forced oscillations***: Damped harmonic oscillator, equation of motion of damped oscillator under special cases. Differential equation of forced oscillator and its solution, resonance, Quality factor.

UNIT– II: <u>FUNDAMENTALS OF ELECTRICAL AND ELECTROMAGNETIC WAVES</u>**(09 periods)**
1. ***Electromagnetictheory:*** Review on conduction and displacement current, Maxwell's equations in integral and differential forms, electromagnetic wave equations in free space and conducting medium, transverse nature of EM waves and Poynting vector.
2. **A.C. Circuits:** Reactance, impedance-RC, LC and LR circuits, Series and parallel LCR resonance circuits, band width, sharpness, and electromechanical analogy.

UNIT–III: <u>PHYSICAL OPTICS</u> **(08 periods)**
1. ***Interference:*** Review on conditions for Interference, coherence, Interference in thin films (reflected light), Newton's rings experiment and measurement of wavelength and refractive index.
2. ***Diffraction:*** Distinction between Fresnel and Fraunhofer diffraction, diffraction at a single slit, double slit diffraction, diffraction grating (N-slits)-Measurement of wavelength
3. ***Polarization:*** Malus law- Double refraction, Nicol's prism, wave plates, optical activity,Laurent's half shade polarimeter, determination specific rotation.

UNIT–IV : <u>LASERS AND FIBER OPTICS</u>**(8 periods)**
1. ***Lasers:*** Characteristics of Lasers- induced absorption, spontaneous and stimulated emission of radiation - Population inversion – Ruby laser- Helium-Neon Laser - Applications of lasers.
2. ***Holography:*** Basic principles of holography– Construction and reconstruction of image on hologram – advantages of holography-Applications of holography
3. ***Fibre Optics:*** Introduction– Parts of an optical fibre-propagation of light through an optical fibre- Critical angle, Acceptance angle, Numerical aperture, Types of optical fibres-step index and Grin fibres, SMF and MMF fibres- brief introduction to loses in optical fibres-Application of optical fibres.

UNIT–V :   __MATERIAL SCIENCE__ (**8 periods**)

1. **_Magnetic Materials:_** Ferro, anti ferro and ferrimagnetism – Weiss molecular field theory of ferromagnetism- magnetic domains- hysteresis curve-Soft and hard magnetic materials—Ferrites and their application.
2. **_Dielectric materials:_**Dielectric polarization- Electronic and ionic orientation and space-charge polarizations–Expression for electronic and ionic polarizbilities-Frequency and temperature dependence of dielectric polarizations-Ferro electric materials and their characteristics.

Learning Resources:

1. Introduction to Mechanics- Mahendra Kumar Varma, University Press, 2013
2. Optics, Ajay Ghatak, TMH
3. Introduction to Solid State Physics, Kittel C, Wiley Eastern
4. Engineering Technology, B.L.Teraja
5. Textbook of Engineering Physics, Avdhanulu and Kshira Sagar, -S.Chand.
6. Applied Physics for Engineers, Neeraj Mehta, PHI
7. http://ocw.mit.edu/courses/physics
8. http://oyc.yale.edu/physics
9. www.nptel.ac.in

PHYSICS LABORATORY-I
(Common to all branches of ¼ B.E- I Semester)
w.e.f the academic year 2015-16

1. Estimation of Errors in time period and determination of 'g' by simple pendulum
2. Determination of rigidity modulus of a given wire using Torsional pendulum
3. Determination of wavelength of spectral lines of mercury lamp by diffraction grating under normal incidence
4. Determination of Wavelength of a Laser light.
5. Determination of Radius of Curvature of a Plano-convex lens by forming Newton's Rings
6. Determination of Moment of Inertia of a FlyWheel
7. Determination of hysteresis loss, coercivity and retentivity of a ferromagnetic (iron) materials by B-H Curve
8. Verification of Malus Law of polarization of light
9. Verification of laws of vibration of a stretched string and determination of linear density of given material of a given wire by sonometer
10. LCR series and parallel resonant circuits.

* At least Eight experiments should be done by the student in each semester.

SYLLABI FOR B.E 1/4 - FIRST SEMESTER
(w.e.f the academic year 2015-16)
ENGINEERING CHEMISTRY-I
(Common to all branches of ¼ B.E-I Semester)

UNIT–I: **Water Chemistry** (8)
Hardness of water- Types and its units (PPM, Clarks & French). Degree of hardness-numericals. Determination of hardness of water by EDTA method -numericals. Alkalinity of water and its determination-numericals. Effects of hardness in boilers- scales, sludge, causes and their prevention by Calgon & blow down processes. Softening of water by Reverse Osmosis. Characteristics of potable water, sterilization –Break point chlorination.

UNIT–II: **Polymers** (8)
Definition, Homo and Co-polymers, Homo chain and Hetero chain polymers. Addition and Condensation polymerization (no mechanisms). Plastics, Elastomers, fibers, Thermoplastics & Thermosets.
Preparation, Properties and Uses of A) Aramid, B) Bakelite, C) PVC (Plasticized & Unplasticized).Natural rubber- structure - Vulcanization. Preparation, Properties and uses of Buna-S, Butyl and Silicone rubbers,Concept of Biodegradable polymers-poly lactic acid.

UNIT–III: **Chemistry of Engineering Materials** (6)
a) Conducting polymers: Definition, Classification into extrinsic and intrinsic polymers. Mechanism of conduction in doped and undoped polyacetylene & Polyaniline - Applications.
b) Composite materials: Introduction, characteristics and constituents of composites. Classifications of composites (both matrix and dispersed medium). Reinforced composites-A)Glass B) Carbon & C) Aramid Fibre Reinforced composites- Applications of Reinforced composites.

UNIT–IV: **Thermodynamics** (10)
Introduction –Thermodynamic processes, Reversible & irreversible processes. First Law of thermodynamics -statements and its Limitations, spontaneous and non spontaneous processes. Heat engine & its efficiency. Carnot cycle - efficiency derivation, Carnot theorem. Concept of entropy, physical significance, Entropy changes in reversible & irreversible processes, criteria for spontaneity in terms of entropy. Statements of 2nd Law of thermodynamics. Concept of free energy - criteria for spontaneity in terms of free energy, Variation of free energy with temperature and pressure. Gibbs – Helmholtz equation and its applications - Numericals.

UNIT–V : **Chemical Fuels** (10)

Introduction, Classification, requisites of a good fuel. Calorific value (CV)-HCV, LCV(Definition and relationship), Dulongs formula-Numericals.

Solid Fuels: Coal- Significance of Proximate & Ultimate analysis.

Liquid Fuels: composition and CV of Gasoline, Fixed bed catalytic cracking method, Knocking and its significance-, Octane number, Enhancement of quality of gasoline (removal of S, anti knocking agents-leaded & unleaded petrol). Catalytic converters and their role in reducing the toxicity of exhaust emissions. Diesel-composition, CV, Cetane number.

Gas Fuels: Composition and applications of CNG, LPG.

Bio-diesel: Source andTransesterification.

Learning Resources:
1. Elements of Physical Chemistry by S. Glasstone and D Lewis
2. Textbook of Polymer Science by Fred W. Billmeyer Jr.
3. Principles of physical chemistry by Puri, Sharma and Pathania.
4. Text book of physical chemistry by PLSoni &OP Dharmarha, S.Chand, New Delhi.
5. Engineering chemistry by PC Jain, M Jain Dhanpat Rai &sons,15thEd, New Delhi
6. Engineering chemistry by Sashi Chawla, Dhanpat Rai &sons, New Delhi.
7. Engineering chemistry by O.G. PALANNA, tmh, and Newdelhi
8. Chemistry in engineering and technology by JC Kuriacose &J Rajaram TMH, New Delhi
9. Engineering chemistry by SS Dara, S Chand &Sons, New Delhi.
10. Wikipedia

CHEMISTRY LABORATORY-I
(Common to all branches of ¼ B.E- I Semester)
w.e.f the academic year 2015-16

1   Introduction – weighing demo
2   Preparation of standard solution
3   Estimation of Ferrous by permanganometry
4   Estimation of total hardness by EDTA
5   Estimation of Carbonate and bi carbonate
6   Determination of Parameters of Water
    Conductometry
7   Strong acid vs strong base
8   weak acid vs strong base
9   Mixture of acids vs strong base
    Colorimetry
10   Verification of Beer-Lamberts law & Determination of concentration of $K_2Cr_2O_7$
11   Verification of Beer-Lamberts law & Determination of concentration of $KMnO_4$
12   Preparation of Poly Pyrrole /Urea formaldehyde & Nylon 6.6   (Demo)
    A Student should perform atleast 8 experiments

SYLLABI FOR B.E 1/4 - FIRST SEMESTER
(w.e.f the academic year 2015-16)
PROGRAMMING IN 'C' &PROBLEM SOLVING
(Common to all branches of ¼ B.E-I Semester)

UNIT – I : **Introduction to computers:** Computer Systems, Computing Environments, Computer Languages, Creating and Running Programs, Software Development, Flowcharts.
Number Systems (Binary, Octal, Decimal and Hexadecimal), Representation of numbers (fixed and floating point).
Introduction to C Language- Background, C Programs, Identifiers, Types, Variables, Constants, Input / Output, Expressions, Precedence and Associativity, Side Effects, Evaluating Expressions, Type Conversion, Statements, Bitwise Operators.

UNIT – II: **UNIT-II**
Selection: Logical Data and Operators**,** if… else, switch statements, Standard Functions.
Repetition: Loops**,** while, for, do-while statements, Loop examples, break, continue, goto.
Functions: Designing Structured programs, Functions Basics, User Defined Functions, Inter Function Communication, Standard Functions, Scope, Storage Classes-Auto, Register, Static, Extern, Scope Rules and Type Qualifiers.

UNIT– III : **Recursion**-Recursive Functions, Preprocessor Commands.
Arrays: Concepts, Using Arrays in C, Inter-Function Communication, Array Applications, Two -Dimensional arrays, Multidimensional Arrays, Linear search and Binary Search, Selection Sort and Bubble Sort.

UNIT – IV : **Pointers:** Introduction, Pointers for Inter-Function Communication,Pointers to Pointers, Compatibility, LValue and RValue, Arrays and Pointers, Pointer Arithmetic and Arrays, Passing on Array to a Function, Memory Allocation Functions, Array of Pointers, Programming Applications, Pointers to void, Pointers to Functions, Command line arguments.
Strings – Concepts, C Strings, String Input / Output, Functions, Arrays of strings, String Manipulation Functions.

UNIT – V : The Type Definition (typedef), Enumerated Types.
Structure: Definition and Initialization of Structures, Accessing Structures, Nested Structures, Arrays of Structures,Structures and Functions, Pointers to Structures, Self referential Structures, Unions
Input and Output: Files, Streams, Standard Library Input Output Functions, Character Input Output Functions.

Learning Resources:
1. B.A.Forouzan & Richard F.Gilberg, A Structured Programming Approach using C, 3rd Edition, Cengage Learning, 2013
2. Brian W. Kernighan and Dennis M. Ritchie, The C Programming Language,2nd Edition, Prentice-Hall, 2006
3. Steve Oualline ,Practical C Programming, 3rd Edition, O'reilly Press.
4. Jeri R. Hanly, Elliot B. Koffman, Problem Solving and Program Design in C, Pearson Education,2007
5. E.Balagurusamy, Programming in ANSI C, TMG
6. Gottfried, Programming with c, Third Edition,TMH.
7. R G Dromey, How to solve it by Computer, Pearson Education, 1st Edition, 2006
8. Jon Bentley, Programming Pearls, 2nd Ed, Addison-Wesley, Inc., 2000.

C PROGRAMMING LAB-I
(Common to all branches of ¼ B.E-I Semester)
w.e.f the academic year 2015-16

1. Finding maximum and minimum of given set of numbers, Finding roots of quadratic equation
2. Sin x and Cos x values using series expansion.
3. Conversion of binary to decimal, octal, hexadecimal and vice versa
4. Generating Pascal Triangle
5. Recursion: Factorial, Fibonacci, GCD
6. Matrix addition and multiplication using arrays, Linear search and Binary Search.
7. Bubble sort, Selection sort
8. Programs on Pointers: pointer to arrays, pointer to functions
9. Functions for string manipulations
10. Programs on Structures and Unions
11. Finding the no: of characters, words and lines of given text file
12. File handling programs

Learning resources:
1. B.A.Forouzan & Richard F.Gilberg, A Structured Programming Approach using C 3rd Edition, Cengage Learning, 2013
2. Brian W. Kernighan and Dennis M. Ritchie, The C Programming Language 2nd Edition, Prentice-Hall, 2006
3. E.Balagurusamy, Programming in ANSI C, TMG,4th edition , 2008

ENGINEERINGMECHANICS-I
(Common to all branches of ¼ B.E-I Semester)

UNIT – I : **Force Systems:(10periods)**
Resultant of coplanar concurrent forces, Components of force in space, Moment of force and its applications, Couples and resultant of force systems.

UNIT – II: **Equilibrium of Force Systems:(12periods)**
Free body diagram, Equations of equilibrium, Equilibrium of planar and spatial system.

UNIT– III : **Analysis of Structures: (10periods)**
Analysis of trusses by method of joints and method of sections

UNIT – IV : **Friction:(12periods)**
Laws of friction. Application to simple systems. Connected systems and belt friction. Wedge friction.

UNIT – V : **Centroid and Moment of Intertia:(16periods)**
Centroids of lines, areas and composite areas, Moment of inertia of areas, Composite areas, Polar moment of inertia, Radius of gyration.

Learning Resources:

1. F.L.Singer,"EngineeringMechanics",Harpper&Collins,Singapore1975.
2. S.P.Timoshenko and D.H.Young, "Engineering Mechanics", McGraw Hill International Edition, 1983
3. Andrew Pytel., Jaan Kiusalaas., "Engineering Mechanics", Cengage Learning.
4. F.P.Beer & E.R.Johnston, "Jr. Vector Mechanics for Engineers", TMH, 2004.
5. R.C.Hibbeler & Ashok Gupta, "Engineering Mechanics", Pearson Education, 2010.
6. K.L.Kumar, "Engineering Mechanics", Tata McGraw Hill, 1994
7. Tayal A.K., "Engineering Mechanics – Statics & Dynamics", Umesh Publications, 2011.
8. A.R.Basu., "Textbook of Engineering Mechanics", Dhanpat Rai & Co, 2014.
9. Basudeb Bhattacharyya., "Engineering Mechanics", Oxford University Press, 2008.
10. Meriam. J. L., "Engineering Mechanics", Volume 1: Statics, John Wiley & Sons, 2008.

SYLLABI FOR B.E 1/4 - FIRST SEMESTER
(w.e.f the academic year 2015-16)
ENGINEERINGGRAPHICS-I
(Common to all branches of ¼ B.E-I Semester)

UNIT – I :   **(24Periods)**
Introduction: Instruments andtheiruses, lettering, types oflines and dimensioning methods.
Scales: Reduced andEnlargedscales,Representativefraction, Scales: plain, diagonaland vernier

UNIT – II: **(24periods)**
Simple Geometric Construction: Regular polygons inscribed in a circle given the side of the polygon.
Engineering curves: Ellipse, Parabola, Hyperbola, Cycloid, Epicycloid, Hypocycloid and Involute.

UNIT– III :   **(24periods)**
Projections of points and straightlines: Orthographic projection, Projection of points placed in different quadrants. Projection of straightlines inclined to one and two reference planes: Traces.

UNIT – IV :   **(16Periods)**
Projections of planes: Projections of perpendicular planes, Oblique planes, Traces ofplanes, use of Auxiliary planes method.

UNIT – V :   **(22Periods)**
Projection of solids: Polyhedra, Solids of revolution, Projections of solids in simple position (prisms, pyramids, cylinders and cone), axis inclined to one plane, Axis inclined to both the reference planes, Projections of solids using auxiliary planes.

Learning Resources:

1. N.D. Bhatt,"Elementary Engineering Drawing",CharotarPublishers,2014.
2. Thomas EFrench,CharlesJ Vierck, RobertJ. Foster "Engineering Drawing andGraphic Technology",Mc GrawHill Education, 1993.
3. P.S.Gill"EngineeringDrawing: GeometricalDrawing",S K Kataria&sons,2012.
4. K.Venugopal,"EngineeringDrawingandGraphics+Autocad",NewAgeInternational(P)Ltd., NewDelhi,1998.
5. A.N.Siddiqueeetal,"EngineeringDrawingwithaPrimeronAutocad",PrenticehallofInd iaLtd., NewDelhi,2004.
4. BasanthAgrawal,CMAgrawal,"Engineering Graphics"FirstEdition,TataMcGraw Hill,2012
6. BVR Gupta, MRajaRoy, "Engineering DrawingwithAutoCad",IKIntPvtLtd, 2009

SYLLABI FOR B.E 1/4 - FIRST SEMESTER
(w.e.f the academic year 2015-16)
WORKSHOP PRACTICE-I
(Common to all branches of 1⁄4 B.E- I Semester)

FITTING:
1. Template fitting (square fit)
2. V- groove fit
3. Drilling and Tapping
4. Making a perfect fit (demo)

HOUSEWIRING:
1. Two lamps in (a)series (b) parallel with single switch
2. Staircase wiring
3. Tube light wiring
4. LT distribution panel with loads (demo)

CARPENTRY:
1. Half-lap joint
2. Dove-tail joint
3. Briddle joint
4. Wood turning operation (demo)

SHEETMETAL:
1. Rectangular box
2. Rectangular scoop
3. Making a Funnel
4. Making a T-Joint(demo)

Learning Resources:

1. P. Kannaiah & K. L. Narayana "Workshop manual" Scitech publications (I) Pvt. Ltd., Lingampally, Kachiguda, Hyderabad-500027, 2nd edition
2. K. Venugopal, Dr. V. Prabhu Raja, G. Sreekanjana "Workshop Manual" Anuradha Publications 1st Ed. 2012Karuppur, Kumbakonam – RMS, PIN-612605
3. www.technologystudent.com
4. www.mewelding.com

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)

9-5-81, Ibrahimbagh, Hyderbad-500031, Telangana State

SYLLABI OF B.E 1/4 –SECOND SEMESTER
(w.e.f the academic year 2015-16)

ENGLISH -II
(Common to all branches of ¼ B.E-II Semester)

UNIT – I :   Interpersonal Communication—Johari Window; Styles of Communication; Persuasion techniques; Team building skills and team work.

UNIT – II: Oral communication; Importance of oral communication; Informal talks and situational dialogues; telephone etiquette, Speaking strategies-introducing a person and speaking about his achievements, team-presentations (Advanced level).

UNIT– III :   Communication through letters: Structure of business letters: letters of complaint, letters of enquiry and responses; application letters and resume writing for jobs, circulars, notices, net- etiquette, short-reports on events.

UNIT – IV :   Advanced Remedial English: Active and Passive Voice; Concord; Relative clauses; Vocabulary: Polysemes, Hyponyms, One- word Substitutes; Phrasal verbs, Collocations, multi-word expressions, Idiomatic usage.

UNIT – V :   Reading Texts
Short-stories:
Goodbye Party for Miss Pushpa T.S Nissim Ezekiel.
The Romance of a Busy Broker- O. Henry

Learning Resources:
1. Technical communication - Principles and Practice (2nd Edition 2014) - Meenakshi Raman and Sangeeta Sharma- Oxford University Press.
2. Essential English - E.Suresh Kumar, P. Sreehari, J. Savithri - Orient Blackswan 2011.
3. A.K Ramchandran et al., Business communication, Macmillan - 2009.
4. Sunitha Mishra., C. Murali Krishna., Communication Skills for Engineers, Pearson, 2004.
5. Monipally Mathew., Craft of Business Writing, Tata McGraw Hill.
6. Allen and Waters. How English Works?
7. Grillet. F., Developing Reading Comprehension

(w.e.f the academic year 2015-16)
ENGLISH LANGUAGE LABORATORY-II
(Common to all branches of ¼ B.E-II Semester)

Interactive Communication Skills Lab(Advanced Level):

Debate: Essentials of debate, conducting oneself in a debate, moderating a debate, concluding   a debate.
Group discussion: Discussions of cases.
Presentation Skills: Making Effective Presentations, Expressions which can be used in Presentations, Use of Non-Verbal Communication, Handling Question and Answer Session; Use of Audio-Visual Aids, Team PowerPoint Presentations.
Audio and Videos, News Clippings and Live Matches: - To Develop LS, Commentaries, and Dialogue Delivery.

Reading Skills Lab:

Use of Dictionary and Thesaurus: Advantages of using a Dictionary and Thesaurus; Effective use of Dictionary and Thesaurus.
Book reviews and Film Reviews - Oral and Written reviews, note-making from different texts.
Reading: - Reading different types of texts and analyzing the different registers, technical journals, Magazines, Short–Stories.

Learning Resources:

1.   Speak Well: Jayshree Mohanraj, Kandula Nirupa Rani and Indira Babbellapati - Orient BlackSwan.

2.   T.Balasubramanian: A textbook of English Phonetics for Indian students, Macmillan, 2008.
3.   Priyadarshi Patnaik : Group discussion and Interviews, Cambridge University Press India Private Limited 2011.
4.   Daniel Jones: Cambridge English Pronouncing Dictionary - A definitive guide to contemporary English Pronunciation
5.   Authentic texts like magazines, journals and short-stories

(w.e.f the academic year 2015-16)
MATHEMATICS-II
(Common to all branches of ¼ B.E-II Semester)

UNIT – I :   **Vector Calculus (16 Periods)**
Scalars and Vector fields-Vector Differentiation-Gradient of a Scalar field and Directional Derivative – Divergence and Curl of a Vector field – Line Integrals- Green's Theorem –surface integrals - Stokes's Theorem- Volume integral- Divergence theorem of Gauss and their applications (all theorems without proof).

UNIT – II: **Ordinary Differential Equations of first order (15 Periods)**
Exact first order differential equations - Integrating factors- Linear first order equations – Bernoulli's equation - Riccati's Equation- Clairaut's Equation- Orthogonal trajectories of a given family of curves - Applications of First Order Differential Equations- Newton's law of cooling, Law of Natural growth and decay.

UNIT– III :   **Linear Differential equations (15 Periods)**
Solutions of Homogeneous and Non Homogeneous equations with constants coefficients-   Method of reduction of order for homogenous second order differential equations with variable coefficients - Method of Variation of Parameters – Solution of Euler-Cauchy Equation – Legendre's equation – Applications of linear differential equations to LC and LCR circuits .

UNIT – IV :   **Series Solution of differential equations (16 Periods)**
Ordinary and Singular points of an equation-Power series solution-Legendre's differential equation and Legendre's polynomials-Rodrigue's formula – Generating function for Legendre's polynomials $P_n(x)$ - Recurrence relations for Legendre's polynomials $P_n(x)$ – Orthogonal property of Legendre's polynomials $P_n(x)$.

UNIT – V :   **Bessel's differential equations (13 Periods)**
Beta, Gamma function and their properties.
Bessel's differential equation and Bessel functions – Derivatives and Integrals of Bessel functions-Recurrence Relations for $J_n(x)$-Generating function for $J_n(x)$.

Learning Resources:
1. Advanced Engineering Mathematics, Third Edition, R. K. Jain and S. R. K. Iyengar, Narosa Publishing House.
2. Higher Engineering Mathematics, B. S. Grewal 40[th.] Ed, Khanna Publishers.
3. Advanced Engineering Mathematics by Wylie & Barrett, Tata Mc Graw Hill, New Delhi.
4. Advanced Engineering Mathematics, 8th Ed by Erwin Kreyszig, John Wiley & Sons.
5. Ordinary and Partial Differential equations, by M.D.Raisinghania, S.Chand & Company Ltd.,1997.
6. Advanced Engineering Mathematics by N. Bali, M. Goyal, C. Watkins, Firewall,New
7. Engineering Mathematics by Srimanta Pal, Oxford University Press.

SYLLABI OF B.E 1/4 –SECOND SEMESTER

(w.e.f the academic year 2015-16)

ENGINEERING PHYSICS-II

(Common to Civil, Mechanical and EEE Branches of ¼ B.E-II Semester only)

UNIT–I: **WAVE MECHANICS &CRYSTALLOGRAPHY (10 periods)**

1. ***Wave mechanics***: Wave function-Schrödinger time dependent and time independent wave equations- Applications: particle in an Infinite Square well (particle in a box) potential.

2. ***Crystal Systems***: Introduction-Space lattice, Basis, Unit cell, Bravais lattices and crystal systems, Miller Indices, X-ray diffraction: Bragg's law, Experimental determination of lattice constant by powder diffraction method, defects in crystals-point defects (Schottky and Frankel), line defects (screw and edge dislocations), Burger Vector.

UNIT–II: **STATISTICAL MECHANICS (06 PERIODS)**

1. ***Classical Statistics:***Concept of phase space-types of ensembles-micro canonical-cannonical and grand canonical ensembles-Maxwell-Boltzmann Statistics

2. ***QuantumStatistics***: Bose-Einstein Statistics, Photon gas, Fermi-Dirac Statistics, electron gas.

UNIT–III: **SEMICONDUCTORS AND SUPERCONDUCTORS** (**9 periods)**

1. ***Band Theory of Solids:*** Success and failures of classical free electron theory, Kronig-Penney model (qualitative treatment). Classification of solids based on band theory.

2. ***Semiconductors***: Fermi energy level in semiconductors-carrier concentration in intrinsic semiconductors–concept of effective mass, Hall Effect.

3. ***Superconductivity:*** Superconductivity -General properties of super conductors – Meissner effect. Type I and Type II superconductors - BCS Theory (in brief)–Cooper pairs- high T_c superconductors (1-2-3 type)- Applications of superconductors (Josephson's junction and SQUIDS), magnetic levitation.

UNIT–IV : **ACOUSTICS**   **(8 periods)**

1. ***Ultrasonics:*** Ultrasonic waves and their properties, Production of ultrasonic's by Piezo-electric and magnetostriction methods-Detection of ultrasonics-Engineering applications of ultrasonics-SONAR-Non-destructive testing.

2. ***Acoustics***: Intensity of sound-intensity level-reverberation-reverberation time-Sabine's formula-Remedies to reverberation-sound absorbent materials-Conditions for good acoustics of a building.

UNIT–V : **NANOMATERIALS (08 periods)**

1. ***Nanomaterials***: Distinction between bulk, thin and nano materials-surface to volume ratio, quantum confinement-Reduction of dimensionality, Quantum dots (zero dimensional), Quantum wires (one dimensional), Quantum wells (two

dimensional) and their density of states. Electrical, electronic, chemical, mechanical and optical properties of nanomaterials.

2. ***Nano materials Preparation Techniques***: Top-down and bottom-up approaches. Bottom-up methods: sol-gel and chemical vapour deposition (CVD). Top-down method: ball milling. Elementary ideas on Carbon nanotubes– Applications of nanomaterials.Working principle and characterization of nanomaterials by TEM.

Learning Resources :
1. Introduction to Solid State Physics, Kittel C, Wiley Eastern
2. Solid State Physics, S.O. Pillai, S.Chand.
3. Applied Physics for Engineers, Neeraj Mehta, PHI
4. N Chattopadhyay, K. K.Banerjee- Introduction to Nanoscience and Nanotechnology, PHI
5. http://ocw.mit.edu/courses/physics
6. http://oyc.yale.edu/physics
7. www.nptel.ac.in

ENGINEERING PHYSICS-II
(Common to CSE, ECE and IT Branches of ¼ B.E-II Semester)

UNIT–I : **WAVE MECHANICS &CRYSTALLOGRAPHY (10 periods)**
1. ***Wave mechanics***: Wave function-Schrödinger time dependent and time independent wave equations- Applications: particle in an Infinite Square well (particle in a box) potential.
2. ***Crystal Systems***: Introduction-Space lattice, Basis, Unit cell, Bravais lattices and crystal systems, Miller Indices, X-ray diffraction: Bragg's law, Experimental determination of lattice constant by powder diffraction method, defects in crystals-point defects (Schottky and Frankel), line defects (screw and edge dislocations), Burger Vector.

UNIT–II: **SEMICONDUCTORS AND SUPERCONDUCTORS** (**9 periods)**
1. ***Band Theory of Solids:*** Success and failures of classical free electron theory, Kronig-Penney model (qualitative treatment). Classification of solids based on band theory.
2. ***Semiconductors***: Fermi energy level in semiconductors-carrier concentration in intrinsic semiconductors–concept of effective mass, Hall Effect.
3. ***Superconductivity:*** Superconductivity -General properties of super conductors – Meissner effect. Type I and Type II superconductors - BCS Theory (in brief)–Cooper pairs- high T_c superconductors (1-2-3 type)- Applications of superconductors (Josephson's junction and SQUIDS), magnetic levitation.

UNIT–III: **SEMICONDUCTING DEVICES (8 periods)**
1. **Conduction in semiconductors**: diffusion current, Drift current, mobility, equation of continuity, expression for conductivity in intrinsic and extrinsic semiconductors.

2. **Semiconductor devices**: Solar cell:construction, working, efficiency and fill factor, Light Emitting diode(LED), photo diode, Laser diode, quantum efficiency, Thermister

UNIT–IV : SPECIAL THEORY OF RELATIVITY (8 periods)

1. Frames of references-inertial and non-inertial frame, postulates of special theory of relativity, Galilean and Lorentz transformations, length contraction, time dilation
2. Relativistic velocity addition, relativistic mass, mass-energy equivalence.

UNIT–V : NANOMATERIALS (08 periods)

1. *Nanomaterials*: Distinction between bulk, thin and nano materials-surface to volume ratio, quantum confinement-Reduction of dimensionality, Quantum dots (zero dimensional), Quantum wires (one dimensional), Quantum wells (two dimensional) and their density of states. Electrical, electronic, chemical, mechanical and optical properties of nanomaterials.
2. *Nano materials Preparation Techniques*: Top-down and bottom-up approaches. Bottom-up methods: sol-gel and chemical vapour deposition (CVD). Top-down method: ball milling. Elementary ideas on Carbon nanotubes– Applications of nanomaterials.Working principle and characterization of nanomaterials by TEM.

Learning Resources :

1. Introduction to Solid State Physics, Kittel C, Wiley Eastern
2. Solid State Physics, S.O. Pillai, S.Chand.
3. Applied Physics for Engineers, Neeraj Mehta, PHI
4. N Chattopadhyay, K. K.Banerjee- Introduction to Nanoscience and Nanotechnology, PHI
5. http://ocw.mit.edu/courses/physics
6. http://oyc.yale.edu/physics
7. www.nptel.ac.in

PHYSICS LABORATORY-II
(Common to all branches of¼ B.E-II Semester)
w.e.f the academic year 2015-16

1. I-V Characteristics of a Solar Cell- Estimation of efficiency and fill factor
2. V-I characteristics of P-N Junction Diode
3. Determination of specific rotation of sugar solution using Polari meter
4. Calculation of NA, Acceptance angle and power loss of a given Optical Fibre
5. Determination of Seebeck coefficient –Thermocouple
6. Study of Thermistor characteristics
7. Determination of Planck's constant using photocell Photo Cell
8. Determination of Energy Gap of a Semiconductor
9. Measurement of voltage, time period and frequency by CRO
10. Determination of Hall coefficient

*** At least Eight experiments should be done by the student in each semester**.

(w.e.f the academic year 2015-16)

ENGINEERING CHEMISTRY-II

(Common to Civil, Mechanical and EEE Branches of ¼ B.E-II Semester)

UNIT – I :   **Electro Chemistry**   (09)
Types of conductors, Types of Conductance (Specific conductance, Equivalent conductance & Molar conductance) and their relationship. Electrolytic and Galvanic cells. Electrode potential, IUPAC convention of Cell notation, Cell reaction, EMF, Electro chemical series – applications, Nernst equation, Numericals. Reversible & Irreversible cells. Types of electrodes, Calomel Electrode (CE), Quinhydrone and Glass Electrode (GE). Determination of P^H using Quinhydrone and Glass Electrodes.

UNIT–II: **Battery Technology**   (8)
Definition, Types, Primary cell- Zn-C cell and Zn-alkaline cell, Secondary cells: –Ni-Cd battery, Lead-acid battery, Li – ion battery-charging & discharging reactions - applications. Fuel cells: phosphoric acid fuel cell - applications.

UNIT–III: **Corrosion & Its Control** (8)
Concept, Gravity of corrosion-Types of corrosion (Dry & Wet), Mechanism of wet corrosion. Formation of anodic and cathodic areas-Differential aeration corrosion. and Galvanic corrosion- Factors influencing corrosion, Galvanic series.
Nature of metal: Relative areas of anode & cathode, Nature of corrosion product, Relative position of metal in galvanic series.
Nature of environment: Temperature, P^H, Humidity.
Corrosion control methods: Cathodic protection, Sacrificial Anodic Protection (SAP), Impressed Current Cathodic Protection (ICCP)-principle of electro plating & electro less plating and their differences (no plating process), Paint-its constituents and their Applications.

UNIT–IV: **Phase rule** (8)
Terms, Statement of phase rule, one component system-water system- Condensed phase rule, two component system-Lead- Silver (Pb-Ag) system, Pattinson's process, Copper -Nickel (Cu-Ni) system, Safety fuses and solders.

UNIT–V: **Chemistry of Engineering Materials** (9)
    a) Lubricants: Definition, Mechanism of lubrication: Hydro dynamic-Boundary-Extreme pressure lubrication, Classification: solid,semi solid and liquid lubricants, Properties of lubricants:(Viscosity, viscosity index, Saponification number and iodine number).
    b) Refractories: Definition, Classification and Properties- Refractoriness, RUL, Thermal spalling and Porosity.
    c) Membrane technology: Introduction, Synthesis of two membranes. Applications.

Learning resources:

1. Elements of Physical Chemistry by S. Glasstone and D Lewis
2. Principles of physical chemistry by Puri, Sharma and Pathania.
3. Text book of physical chemistry by PLSoni &OP.Dharmarha, S.Chand, New Delhi.
4. Engineering chemistry by PC Jain, M Jain Dhanpat Rai &sons (15thEd), New Delhi
5. Engineering chemistry by Sashi Chawla, Dhanpat Rai &sons, New Delhi.
6. Engineering chemistry by O.G. PALANNA, TMH, Newdelhi
7. Chemistry in engineering and technology by JC Kuriacose and J Rajaram TMH, New Delhi
8. Engineering chemistry by SS Dara, S Chand &sons, New Delhi.
9. Wikipedia

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SYLLABI OF B.E 1/4 –SECOND SEMESTER
(w.e.f the academic year 2015-16)
ENGINEERING CHEMISTRY-II
(Common to CSE, ECE and IT Branches of ¼ B.E-II Semester)

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UNIT–I: Electro Chemistry(09)

Types of conductors, Types of Conductance (Specific conductance, Equivalent conductance & Molar conductance) and their relationship. Electrolytic and Galvanic cells. Electrode potential, IUPAC convention of Cell notation, Cell reaction, EMF, Electro chemical series – applications, Nernst equation, Numericals. Reversible & Irreversible cells. Types of electrodes, Calomel Electrode (CE), Quinhydrone and Glass Electrode (GE). Determination of P^H using Quinhydrone and Glass Electrodes.

UNIT–II: Battery Technology (8)

Definition, Types, Primary cell: Zn-C cell and Zn-alkaline cellSecondary cells: –Ni-Cd battery, Lead-acid battery, Li – ion battery- charging & discharging reactions - applications. Fuel cells: phosphoric acid fuel cell - applications.

UNIT–III: Corrosion & Its Control(8)

Concept, Gravity of corrosion-Types of corrosion (Dry & Wet), Mechanism of wet corrosion. Formation of anodic and cathodic areas-Differential aeration corrosion. and Galvanic corrosion- Factors influencing corrosion, Galvanic series.

Nature of metal: Relative areas of anode & cathode, Nature of corrosion product, Relative position of metal in galvanic series.

Nature of environment: Temperature, P^H, Humidity.

Corrosion control methods: Cathodic protection, Sacrificial Anodic Protection (SAP), Impressed Current Cathodic Protection (ICCP)-principle of electro plating & electro less plating and their differences (no plating process), Paint-its constituents and their Applications.

UNIT–IV : Phase rule (8)

Terms, Statement of phase rule, one component system-water system- Condensed phase rule, two component system-Lead- Silver (Pb-Ag) system, Pattinson's process, Copper -Nickel (Cu-Ni) system, Safety fuses and solders.

UNIT–V : Chemistry of Engineering Materials(9)

    a) **Liquid Crystals:** Introduction, Classification of liquid crystals- Thermotropic and Lyotropic - Chemical constitution & liquid crystalline behavior. Molecular ordering in liquid crystals- Nematic, Smetic and Cholostric - Applications.

    b) **Nano Materials:** Introduction, preparation methods-(Vapor deposition & Sol-gel) - Applications.

    c) **Membrane technology:** Introduction, Synthesis of two membranes. Applications.

Learning resources:

1. Elements of Physical Chemistry by S. Glasstone and D Lewis
2. Principles of physical chemistry by Puri, Sharma and Pathania.
3. Text book of physical chemistry by PLSoni and OP Dharmarha, S Chand & Sons, New Delhi.
4. Engineering chemistry by PC Jain, M Jain Dhanpat Rai &sons (15th edition), New Delhi
5. Engineering chemistry by Sashi Chawla, Dhanpat Rai &sons, New Delhi.
6. Engineering chemistry by O.G. PALANNA,TMH, New Delhi
7. Chemistry in engineering and technology by JC Kuriacose and J Rajaram TMH, New Delhi
8. Engineering chemistry by SS Dara, S Chand &sons, New Delhi.
9. Wikipedia

CHEMISTRY LABORATORY-II
(Common to all branches of ¼ B.E- II Semester)
w.e.f the academic year 2015-16

1   Estimation of Iron by dichrometry
2   Estimation of Copper by Iodometry
3   Estimation of Dichromate by Iodometry
4   Estimation of Calcium in milk or lime by EDTA
5   Determination of saponification value of an oil / Acid value of an oil
6   Estimation of Phosphoric acid in soft drinks
    Potentiometry
7   Strong acid vs Strong base
8   Weak acid vs Strong base
9   Redox titration
    p^H metry
10   Strong acid vs Strong base (Determination of p^{ka})
11   Weak acid vs Strong base (Determination of p^{ka})
12   **Colorimetry :** Verification of Beer- Lamberts law - Determination of Iron

A Student should perform atleast 8 experiments

SYLLABI OF B.E 1/4 –SECOND SEMESTER
(w.e.f the academic year 2015-16)
OBJECT ORIENTED PROGRAMMING USING C++
(Common to all Branches of ¼ B.E-II Semesters)

UNIT – I :   Introduction to C++: Programming paradigms, Object oriented programming concepts, Advantages and Applications of OOPs. Variables and Assignments, Input and Output, Data Types, Expressions, Simple Flow control and Control structures.

UNIT – II: Functions: Call by value, Call by reference, Parameters using procedural abstraction, Testing and Debugging functions.
I/O streams as an introduction to classes and objects.
Arrays: Introduction to Arrays, Arrays in functions, Programming with arrays and multidimensional arrays,
Defining classes: Structures, Classes, Abstract data types

UNIT– III :   Strings, Pointers and Dynamic Arrays, Recursion, Constructors, Destructors, Copy Constructors.
Static Polymorphism: Function and Operator overloading, Friend functions.

UNIT – IV :   **Inheritance:** The notion ofInheritance, Derived classes, overriding, Virtual base class
Runtime polymorphism, virtual functions, Function templates, Class templates

UNIT – V :   **Exception handling:** Exception-handling basics, Programming techniques for exception-handling

Pointers and Linked lists: Nodes and Linked lists, Implementation of stacks and queues using arrays and linked lists, operations on linked lists, inserting a node, deleting a node, searching for a node.

Learning resources:
1. Walter Savitch, "Problem solving with C++", Sixth Edition, Pearson Education Publishing, 2009.
2. Behrouz A.Forouzan, Richard F. Gilberg, " Computer Science, A Structured approach using C++", 2 edition, Cengage Learning, 2010
3. E Balagurusamy, "Object-Oriented Programming with C++", second edition, Tata Mc-GrawHill
4. S.B.Lippman ., J Lajoie ,"C++ Primer" 3rd Edition, AW Publishing Company, 2007
5. Bjarne Stroustrup, "The C++ Programming Language" Third Edition, Pearson Education.

(w.e.f the academic year 2015-16)
C++ PROGRAMMING LAB
(Common to all Branches of ¼ B.E-II Semester)

1. Implementation of matrix and complex numbers using classes.
2. Programs using constructors, destructors and copy constructors.
3. Programs on dynamic memory allocation for arrays.
4. Programs on static data members, string manipulations.
5. Programs on friend class.
6. Programs on inheritance.
7. Programs on function overloading, operator overloading.
8. Programs on virtual functions, dynamic polymorphism.
9. Programs on templates, exception handling.
10. Programs on bubble sort, selection sort and insertion sort.
11. Program on operations in a singly linked list.
12. Program on implementation of stacks and queues using arrays and linked list.

SYLLABI OF B.E 1/4 –SECOND SEMESTER
(w.e.f the academic year 2015-16)
ENGINEERING GRAPHICS-II
(Common to all Branches of ¼ B.E-II Semester only)

Unit-I :   **(24 Periods)**
            Sections of Solids: True shape of sections, sections of prisms, pyramids, cylinders and cones.

Unit-II :   **(22 Periods)**
            Development of Surfaces: Basic concepts of development of surfaces. Methods of development – Parallel line development and radial line development. Development of prisms, pyramids, Cylinders and cones.

Unit-III :   **(24 Periods)**
            Intersection of Surfaces: Intersection of cylinder and cylinder, cylinder and cone.

Unit-IV :   **(22 Periods)**
            Isometric Projections: Isometric scale, Isometric projections of prisms, pyramids, cylinders, cones and spheres, and combinations of two or three solids.

Unit-V :   **(18 Periods)**
            Conversion of Isometric Views to Ortho-graphic views: Drawing orthographic views from Isometric views for simple objects.

Leaning resources:
1. N.D. Bhatt, "Elementary Engineering Drawing", Charotar Publishers, 2014.
2. Thomas E French, Charles J Vierck, Robert J. Foster "Engineering Drawing and Graphic Technology", McGraw Hill Education, 1993.
3. P.S. Gill "Engineering Drawing: Geometrical Drawing", SK Kataria & sons,2012.
4. K. Venugopal, "Engineering Drawing and Graphics + Autocad", New Age International (P) Ltd., New Delhi, 1998.
5. A.N. Siddiquee et al, "Engineering Drawing with a Primer on Autocad", Prentice hall of India Ltd., New Delhi, 2004.
6. Basanth Agrawal, CM Agrawal, "Engineering Graphics" First Edition, Tata McGraw Hill, 2012
7. BVR Gupta, M Raja Roy, "Engineering Drawing with AutoCad", IK Int Pvt Ltd, 2009

(w.e.f the academic year 2015-16)

BASIC ELECTRICAL ENGINEERING
(Common TO ¼ B.E CSE, ECE & IT Branches)

UNIT– I :   **DC Circuits:** Network elements, Ohm's Law, Kirchoff's Voltage and current Law, Power in DC circuits, Series and parallel circuits.
Network Theorems: Super position Theorem, Thevinin's Theorem, Norton's Theorem- applications

UNIT– II: **AC Circuits:** Sinusoidal sources, Phasor representation of sinusoidal quantities, Average and RMS values, Form factor, Analysis of RLC Circuits to sinusoidal inputs, Power factor, Active & reactive powers, energy stored in inductance and capacitance. Balanced star and delta connections for 3-ϕ voltage.

UNIT-III: **DC Generators:** Construction and working principle, types of excitation, types of generators, Production of emf in Generator, Applications.
DC Motors: Working principle, types of DC motors, Torque in a DC motor, Characteristic of Series, Shunt and Compound motors, Speed control of DC motors, Applications.

UNIT–IV: **Single Phase Transformers:** Principle of operation, Transformer on No-load and Load, Equivalent circuit, Efficiency & regulation, O.C and S.C tests, Principle of Autotransformer - Applications.
Three Phase Induction Motors: Construction and principle of operation of induction motors, Applications.
Three Phase Alternators: Construction and principle of operation, production of EMF, Applications.

UNIT– V :   **Power Generation:** Basic ideas of thermal, hydro, nuclear power generation - layouts, Solar and wind power.
Single Phase Motors: Basic theory, Capacitor Start and Capacitor Run motor, principal of operation of Stepper motor, Applications.

Leaning resources:
1.   T.K. Nagsarkar and M.S. Sukhija - Oxford Higher Education, 2013.
2.   M.S. Naidu and Kamakshaiah – Introduction to Electrical Engineering, Tata McGraw Hill, 2005.
3.   V.K. Mehta – Principles of Electrical Engineering and Electronics, S. Chand & Co, Dec 2006.
4.   Cotton H., Electrical Technology, BI Publications, Feb 2004.
5.   www.electrical4u.com
6.   www.faadooengineers.com
7.   www.nptel.ac.in
8.   www.oupinheonline.com
9.   www.cosmolearning.com

(w.e.f the academic year 2015-16)

CS WORKSHOP

(Only for ¼ B.E CSE Branch-II Semester)

PC Hardware

1. System Assembly (identify and describe the relationships and role of the components of the logical diagram of computer. RAM, ROM, BIOS, input, output, storage)
2. Relate the logical diagram of a computer system to the physical system identifying physical components of a computer and describing their purpose (eg. The processor, memory chips, motherboard, disk drives, and controller card such as AGP board, network cards, sound card, as well as parallel and serial ports etc)

System Software

3. Load the OS with partitions for latest Windows and Linux, Configure for Network connection (TCP/IP), Install an anti –virus software, Configurewindows update on the computer
4. Basic Commands in Linux and DOS

Productivity Tools

5**. Presentation:** Create presentations with preset animations using different layouts, backgrounds, slide master, insert pictures/objects, drawings, hyperlinks, header/ footer , tables
6**. Spread Sheet:** Creating worksheets with various kinds of data, making charts, conditional formatting, awareness of the various functions- statistical, date/time, math/trig etc, ability to explore (help) and use these functions if need be, demonstration through some common functions like sum, average, standard deviation
7**. HTML 5 & CSS:** Web-Page Creation (title, text, frames, and hyperlinks to some sites, pictures, lists, tables, fonts, and colours),CSS Fonts, Box Model, Margin, Padding, Text Formatting, Pseudo Classes, Selectors- without using any web authoring tools

Modern tools- Matlab

8. Introduction to Vectors, Introduction to Matrices, Vector functions, Operators, Loops, Plotting, Executable files, Subroutines, The If statement, Data files, Strings, Functions, Arrays

PHP

9. An Introduction to PHP, Getting Started With Variables, Conditional Logic, Working with HTML Forms

Learning Resources :

1. Introduction to Information Technology, ITL Education Solutions limited, Pearson Education, 2005
2. Govindarajulu, IBM PC And Clones: Hardware, Trouble shooting And Maintenance, Tata McGraw-Hill, 2008
3. Peter Norton , Introduction To Computers, Tata McGraw-Hill,6th edition,2004
4. Kate J. Chase , PC Hardware and A+ Hand book, Microsoft Press, 2004
5. Singh Y. Kirani, Chaudhuri B., Matlab Programming, Phi Learning Pvt. Ltd., 2007
6. Ed Lecky-Thompson, Steven D. Nowicki, and Thomas Myer , Professional PHP6 , Professional PHP6

(w.e.f the academic year 2015-16)

IT WORKSHOP
(only for B.E. 1/4 IT branch- II-Semester)

PC Hardware
1. **System Assembly** (identify and describe the relationships and role of the components of the logical diagram of computer. RAM, ROM, BIOS , input, output, storage).

Relate the logical diagram of a computer system to the physical system identifying physical components of a computer and describing their purpose (eg. The processor, memory chips, motherboard, disk drives, and controller card such as AGP board, network cards, sound card, as well as parallel and serial ports etc)

System Software
2. Load the OS with partitions for latest Windows and Linux, Configure for Network connection (TCP/IP).
Be able to use basic Commands in Linux and DOS

Productivity Tools
3. **Libre Office Writer:** Create documents with standard formatting commands, single/ multi column, inert pictures/ objects, drawing, hyperlinks, header/footer, tables No. macros
4. **Libre Office Impress:** Create presentations with preset animations using different layouts, backgrounds, slide master, insert pictures/objects, drawings, hyperlinks, header/ footer , tables
5. **Libre Office Calc:** Creating worksheets with various kinds of data, making charts, conditional formatting, awareness of the various functions-statistical, date/time, math/trig etc, ability to explore (help) and use these functions if need be, demonstration through some common functions like sum, average, standard deviation
6. **Libre Office Base:** Create a new database, Create a Table in the Database, Entering data into the Table, Sort the table, Move & Deletion of Rows and Columns, Query the table ,Create a Form and Report on the Table
7. **HyperText Markup Language (HTML) & Cascading Style Sheet (CSS):** Should be able to create their web-page (title, text, frames, and hyperlinks to some sites, pictures, lists, tables, fonts, and colours) without using any web authoring tools
8. **Photoshop:** The use of Toolbar, Colour correction, Touch ups and enhancements, Basic drawing with Pen tool

Search Engines and Cyber Hygiene
9. Know what search engines are and how to use the search engines
Install an anti -virus software, configure personal firewall and windows update on the computer

Electronics Lab Fundamentals

10. Study of measuring and diagnostic instruments like multi-meter, function generator, oscilloscope, power supplies etc.,
    Activities
    - Study the function of each instrument and their applications.
    - Demonstration of the usage of the instruments by conducting simple experiments.

11. Study of different electronic components R, L, C, Transistors, ICs (Linear & Non-Linear ICs), using their Data Sheets, Colour Code Charts, PCBs etc.
    - Determining the resistance value using colour code
    - Identifying the terminals of transistors, diode and testing them using multimeter
    - Demonstration of the usage of the components (R, L, C, diode, transistors and ICs) by conducting simple experiments

Learning Resources:
1. Introduction to Information Technology, ITL Education Solutions limited, Pearson Education, 2005
2. Ibm PC And Clones: Hardware, Trouble shooting And Maintenance By Govindarajulu, Tata McGraw-Hill, 2008
3. Introduction To Computers By Peter Norton , Tata McGraw-Hill ,6th edition
4. PC Hardware and A+ Hand book By J. Chase PHI (Microsoft)
5. Data Sheets and Manuals of the Electronic Components and Instruments respectively.

Note: Depending on the amount of work done in each activity and submission of the record, marks / grade will be awarded.

SYLLABI OF B.E 1/4 –SECOND SEMESTER
(w.e.f the academic year 2015-16)
ELECTRONICS WORKSHOP
(only for B.E. 1/4 ECE branch- II-Semester)

1. Study of (with reference to typical electromechanical specifications, circuit representation): Electronic components (all types of discrete active & passive devices, display devices, integrated components/circuits with their packaging etc.,), electro mechanical components (switches, sockets, connectors etc.,) electromagnetic components (coils-different types of magnetic and ferrite cored, potted components, relays etc.,)
2. Study and use of different meters (moving coil, moving iron, volt/ammeter, AVO/Multi meter) for the measurement of electrical parameters.
3. Measurement of R, L, C components using LCR Meter
4. Study and use of bread board to connect circuits and measure basics parameters.
5. Study of CRO & Measurement of voltage, frequency and Phase Angle.
6. Design and fabrication (winding) of an iron cored inductance coil for a given value of L, current and core specifications.
7. Design of AC mains operated step down transformer for a given turns ratio, current ratings and core specifications. Measurements of their functional electrical parameters
8. PCB design of a small circuit with its layout using tapes & etching.
9. Soldering & de-soldering exercises using discrete components & ICs for a specific circuit requirement.
10. Fault diagnosis
11. Mini Project

Learning Resources:
1. Paul Zbar, Albert Malvino, Michael Miller, Basic Electronics: A Text-Lab Manual, McGraw Hill Education (India) Private Limited; 7/e , 2001.
2. Paul B. Zbar, Industrial Electronics, A Text – Lab Manual, 3rd Edition, TMH, 1983

WORKSHOP PRACTICE-II

(Common to Civil, Mechanical and EEE only of 1⁄4 B.E- II Semester)

BLACK SMITHY:
1. Flattening (round to square cross section)
2. Bending Operation (U-shape)
3. S-shape hook
4. Fullering Operation (demo)

WELDING:
1. Bead formation
2. Butt joint
3. Lap joint
4. Gas welding/Spot welding (demo)

PLUMBING:
1. Pipe thread cutting and making single joint withcoupling
2. Tap connection
3. Water shower connection
4. Geyser connection(demo)

MACHINING:
1. Plain turning and step turning
2. Taper turning
3. Thread Cutting
4. Milling operation (demo)

Learning Resources:
1. P. Kannaiah & K. L. Narayana "Workshop manual" Scitech publications (I) Pvt. Ltd., Lingampally, Kachiguda, Hyderabad-500027, 2nd edition
2. K. Venugopal, Dr. V. Prabhu Raja, G. Sreekanjana "Workshop Manual" Anuradha Publications 1st Ed. 2012Karuppur, Kumbakonam – RMS, PIN-612605
3. S.K. Hajra Choudhury, A.K. Hajra Choudhury, Nirjar Roy "Workshop Technology-I&II" Media Promoters &Publishers Pvt. Limited, Mumbai-400007.
4. www.technologystudent.com
5. www.mewelding.com

FACULTY

DEPARTMENT OF CIVIL ENGINEERING

Department Phone: 040-23146010 and 6011

1	Dr. B.Sridhar	Prof. & HOD	9949887009
2	Dr. B.L.P. Swami	Prof.	9848032940
3	Dr. M.V.Rama Rao	Prof.	9440257251
4	Mr. M.Bhasker	Assoc.Prof.	9440747409
5	Mr. G.Shravan Kumar	Assoc.Prof.	8019455346
6	Dr. M.Srinivas	Assoc.Prof.	9440132963
7	Mr. C.Mohanlal	Assoc.Prof.	9989673220
8	Mr. M.V.S.S.Sastry	Assoc.Prof.	9848129659
9	Dr. Tallanki Srinivas	Assoc.Prof.	9440330458
10	Mr. S.Vijay Kumar	Assoc.Prof.	9440483326
11	Dr. K. Jayasree	Assoc.Prof.	9866423811
12	Mr. Sidharth Banjarjee	Asst.Prof.	9885242413
13	Ms. Kumari Koustuvee	Asst.Prof.	9441600204
14	Ms. Dhatri.P	Asst.Prof.	9866886438
15	Ms. Aswari Sultana	Asst.Prof.	9866725836
16	Ms. Prakruthi Gowd B	Asst. Prof.	9985665539
17	Dr. B. Narender	Asst. Prof.	9949245024
18	Ms. P. Archana	Asst. Prof.	9000939485
19	Mr. B. Naveen	Asst. Prof.	7799140130
20	Ms. P. Ramya Sree	Asst. Prof.	9676112659
21	Ms. B. Divya Vani	Asst. Prof.	9966348004
22	Ms. B. Soujanya	Asst. Prof.	9704276824
23	Mr. B. Hari Kiran	Asst. Prof.	

DEPARTMENT OF CSE

Department Phone: 040-23146020 and 6021

1	Dr. T.Adi Lakshmi	Prof. & HOD	9908911700
2	Dr. Nagaratna P. Hegde	Prof.	9440236781
3	Dr. K. Ram Mohan Rao	Assoc. Prof.	9866670213
4	Ms. M. Sunitha Reddy	Asst. Prof.	9849212814
5	Mr. R. Sateesh Kumar	Asst. Prof.	9849194447
6	Mr. K. Jairam Naik	Asst. Prof.	9959971548
7	Ms. B. Syamala	Asst. Prof.	8143006669
8	Mr. P. Narsaiah	Asst. Prof.	8885274002
9	Mr. M.S.V. Sashi Kumar	Asst. Prof.	9885127504
10	Mr. V. Punna Rao	Asst. Prof.	8801706641
11	Mr. C. Gireesh	Asst. Prof.	9948021558
12	Mr. T. Balaji	Asst. Prof.	9966895191
13	Ms. S. Suba	Asst. Prof.	7799175117
14	Mr. I. Navakanth	Asst. Prof.	9550578779
15	Ms. P.N. Ramya	Asst. Prof.	8008398024
16	Smt. T. Jalaja	Asst. Prof.	9949065580
17	Ms. V.K. Aravinda	Asst. Prof.	9177751863
18	Mr. G. Prabhakar	Asst. Prof.	900230450
19	Ms. C. Divya	Asst. Prof.	9642991668
20	Ms. T. Nishitha	Asst. Prof.	9618771043
21	Mr. T. Saikanth	Asst. Prof.	9866178143
22	Ms. M. Akhila	Asst. Prof.	8885774756
23	Ms. M. Shailaja	Asst. Prof.	9290103419
24	Mr. K. Vikas	Asst. Prof.	9959264681
25	Mr. S. JoshuaJohnson	Asst. Prof.	9573382650
26	Mr. S. Vinay Kumar	Asst. Prof.	9866171252
27	Ms. V. Sireesha	Asst. Prof.	9440649015

DEPARTMENT OF ECE

Department Phone: 040-23146040 and 6041

01	Dr. K.Jaya Sankar	Prof. & HOD	9440162196
02	Dr. E. Sreenivasa Rao	Prof.	9490217960
03	Dr. P.A. Govindacharyulu	Prof.	9849992067
04	Dr. M. Satyam	Prof.	9885595490
05	Mr. R.B.Rajendra Prasad	Prof.	9490791871
06	Dr. N. Suryanarayanamurti	Prof.	
07	Mr. P. Venkata Ramana	Prof.	9666697441
08	Dr. N.Siva Sankar Reddy	Assoc. Prof.	9440741623
09	Ms. G.R.Padmini	Assoc.Prof.	9440521840
10	Mr. G.Venkateswarlu	Assoc.Prof.	9440424932
11	Ms. A. Sri Lakshmi	Assoc.Prof.	9290878533
12	Mr. S.Sambaiah	Asst. Prof.	9849020415
13	Mr. M. Prasanth	Asst. Prof.	9948362013
14	Ms. V. Aruna	Asst. Prof.	9701797479
15	Ms. S. Aruna Deepthi	Asst. Prof.	9440882372
16	Ms. Shaik Afroz Begum	Asst. Prof.	9292102100
17	Mr. V. Krishna Mohan	Asst. Prof.	9494412612
18	Ms. Ch. Neethu	Asst. Prof.	8184923187
19	Ms. K. Deepthi	Asst. Prof.	9000240306
20	Mr. N. Abid Ali Khan	Asst. Prof.	8897727547
21	Ms. Jayotsna Sharma	Asst.Prof.	9985497282
22	Ms. K.R. Deepthi	Asst. Prof.	9493550926
23	K. Rama Krishna Reddy	Asst. Prof.	8886939560
24	Mr. M. Ramanjaneyulu	Asst. Prof.	9985378253
25	D. Naga Devi	Asst. Prof.	9704111749
26	Mr. O. Rajesh	Asst. Prof.	9951868527
27	Mr. Md. Ayub	Asst. Prof.	9966021508
28	Mr. V. Prabhakar	Asst. Prof.	9494541883
29	Mr. R. Goutham	Asst. Prof.	9908433101
30	Mr. B. Uma Mahesh Babu	Asst. Prof.	9912616809
31	Ms. R. Leelavathi	Asst. Prof.	8143672172
32	Ms. Vibha D. Kulkarni	Asst. Prof.	9966208656

DEPARTMENT OF EEE

Department Phone: 040-23146030 and 6031

1	Mr. K.V. Ramana Murthy	Prof. & HOD	9440225981
2	Dr. Sukh Dev Sao	Prof.	7795562757
3	Dr. M. Chakravarthy	Professor	9849979156
4	Mr. K. Ravi Kumar	Associate Prof.	9885859159
5	Ms. Ch. V.S.S. Sailaja	Assoc. Prof.	9949119301
6	Mr. M. Srinivasulu	Asst. Prof. (SS)	9908610440
7	Ms. G. Sandhya Rani	Asst. Prof. (SS)	9494771587
8	Mr. G. Mahesh	Asst. Prof.	9848629590
9	Ms. Pranava Gopu	Asst. Prof.	9966744474
10	Ms. K.V. Divya Sree	Asst. Prof.	9177213312
11	Mr. N. Uday Kumar	Asst.Prof.	8341560704
12	Mr. D. Harish Kumar	Asst.Prof.	9441677937
13	Ms. R. Sudha	Asst.Prof.	9502416753
14	Mr. P. Ravi	Asst.Prof.	9989600881
15	Mr. P. RajasekharaReddy	Asst.Prof.	9177207976
16	Mr. Asif Iqbal	Asst.Prof.	7702399682
17	Mr. U. Elisha	Asst.Prof.	9949632656

DEPARTMENT OF IT

Department Phone: 040-23146050 and 6051

1	Dr. N.Vasantha	Prof. & HOD	9849590500
2	Ms. S. Aruna	Assoc. Prof.	9866288965
3	Ms. S. Rajyalakshmi	Asst. Prof.	9059842554
4	Ms. Ch. Pavani	Asst. Prof.	9959730049
5	Ms. D. Kavitha	Asst. Prof.	9886922662
6	Mr. N. David Raju	Asst. Prof.	9948673250
7	Mr. G. Rajashekhar	Asst. Prof.	9849871143
8	Mr. K. Shyam Sunder Reddy	Asst. Prof.	9866595900
9	Mr. M. Vishnu Chaitanya	Asst. Prof.	8686709187
10	Dr. R. Bhawana	Asst. Prof.	9502742465
11	Ms. DRL Prasanna	Asst. Prof.	8008527776
12	Ms. L. Divya	Asst. Prof.	9866704851
13	Mr. A. Shivaramakrishna	Asst.Prof.	9052622020
14	Ms. C. Swetha	Asst.Prof.	9160400975
15	Ms. K. Madhuri	Asst.Prof.	9908180408
16	Ms. B. Pavani Kumari	Asst.Prof.	9490147291
17	Mr. G. Srinivas Rao	Asst.Prof.	9966461156
18	Mr. A. Ashok Kumar	Asst.Prof.	8125339547
19	Ms. B. Niharika	Asst.Prof.	8099510822
20	Mrs. Kratika Sharma	Asst.Prof.	8989541773
21	Mrs. Ambati Sruthi	Asst.Prof.	9603758538
22	Ms. Ch. Swapna	Asst.Prof.	9177586877
23	Mr. C. Vasista Reddy	Asst.Prof.	

DEPARTMENT OF MECHANICAL ENGINEERING

Department Phone: 040-23146060 and 6061

01	Dr. G.V. Ramana Murthy	Prof. & HOD	9985306522
02	Dr. K.Kishore	Prof. & Director (T&P)	9440868055
03	Dr. A.Srinivas	Prof.	9490935865
04	Dr. T.Ramamohan Rao	Prof.	9440886144
05	Mr. A.Vishveswara Rao	Assoc.Prof.	9959614801
06	Mr. K.Srinivasa Rao	Assoc.Prof.	9908212224
07	Mr. S.Venkataiah	Assoc.Prof.	9985087394
08	Mr. P.Venkateshwara Rao	Assoc.Prof.	9247851119
09	Mr. K.Veladri	Assoc.Prof.	9490684448
10	Dr. P.V.Gopala Krishna	Assoc.Prof.	9985356822
11	Mr. VBS Rajendra Prasad	Assoc. Prof.	9866351886
12	Mr. B.Radha Krishna	Asst.Prof. (SG)	7702234605
13	Mr. J. Anjaneyulu	Asst. Prof. (SS)	9490925436
14	Mr. S. Sreekrishna	Asst. Prof.	9494872379
15	Mr. M. Sudhakar	Asst. Prof.	9290094197
16	Mr. K. Spurgeon	Asst. Prof.	9704822207
17	Mr. D. Govinda Rao	Asst. Prof.	97041667494
18	Mr. B. Naga Manohar	Asst. Prof.	9441368945
19	Mr. B. Sandeep	Asst. Prof.	9492427678
20	Mr. N. B. Samba Murthy	Asst. Prof.	9492036139
21	Mr. Suda Venkateswarulu	Asst. Prof.	8985639463
22	Mr. M. Harish	Asst. Prof.	8985802807
23	Mr. Venu Gopal Reddy	Asst. Prof.	9948129687
24	Mr. R. Praveen Kumar	Asst. Prof.	9985309617
25	Mr. U. Venkateshu	Asst. Prof.	7382026383
26	Mr. K. Santosh Kumar	Asst. Prof.	9963903196
27	Ms. P.V.S. Subhashini	Asst. Prof.	9866802894

DEPARTMENT OF COMPUTER APPLICATIONS

Department Phone: 040-23146070 and 6071

1	Dr. P. Hemagiri Rao	Prof. & HOD	9885017940
2	Ms. R. Sudha	Assoc. Prof.	9491881658
3	Ms. G. Ruth Rajitha Rani	Asst. Prof.(Sr.Scale)	9908241073
4	Mr. K. RamaKrishna	Asst. Prof.(Sr.Scale)	9440504846
5	Ms. S. SriLakshmi	Asst. Prof.(Sr.Scale)	9440747363
6	Ms. Gayatri. M	Asst. Prof.	9963145534
7	Ms. K. Bindu Madhavi	Asst. Prof.	9866372751
8	Mr.K.Srinivas Chakravarthy	Asst. Prof	9849557830
9	Mr. M. Jitender Reddy	Asst. Prof.	9966232282
10	Mr. M. Praveen Kumar	Asst. Prof.	9989306166
11	Mr. G. Ramesh Kumar	Asst. Prof.	9492021768
12	Mr. A.V.Ravinder Kumar	Asst. Prof.	8125877481

DEPARTMENT OF H & SS

Department Phone: 040-23146094

1	Ms. G.Meena	Asst. Prof. (Sr. Scale)	9866557628
2	Ms. K. Jhansi Rani	Asst. Prof. (Sr. Scale)	9866331812
3	Ms. Jacqueline Amaral	Asst. Prof.(Sr. Scale)	9493983343
4	Ms. M.Jyothi	Asst. Prof. (Sr.Scale)	9247780569
5	Ms. B.Sheela Rani Simon	Asst. Prof.	9849721097
6	Mr. T.Sunand Emmanuel	Asst. Prof.	9849027278
7	Mr. K. Ramana Prasad	Asst. Prof.	8332921359

LIBRARY AND SPORTS

Department Phone: 040-23146095 and 6096

1	Mr. N.Karunakara Reddy	Librarian	9491315999
2	Mr.G.VijayaAdityaReddy	Asst. Physical Director	9966057678

DEPARTMENT OF MATHEMATICS

Department Phone: 040-23146091

01	Mr. T.Sudhakara Rao	Associate Prof.& HoD	9441901731
02	Dr. G.Omprakasham	Associate Prof.	9849726189
03	Dr. N.Vasudha	Assoc. Prof.	9441779840
04	Mr. R. Hari Kishore	Asst. Prof.	9247553181
05	Ms. C. Naga Anuradha	Asst. Prof.	9949592116
06	Mr. M. Venkateshwar Rao	Asst. Prof.	9959924151
07	Ms. V. Sri Ramani	Asst. Prof.	9390991496

DEPARTMENT OF PHYSICS

Department Phone: 040-23146092

01	Dr. A.S.Sai Prasad	Prof. & HoD	9959418896
02	Dr. M.Ramalingeswara Rao	Assoc. Prof.	9848516603
03	Dr. P.Venkateswara Rao	Assoc. Prof.	9885345663
04	Dr. V.Ravi Kumar	Assoc. Prof.	9866979357
05	Dr. G. Ramadevudu	Asst. Prof. (Sr. Scale)	9247802706
06	Mr. T. Satish Kumar	Asst. Prof.	9848285492

DEPARTMENT OF CHEMISTRY

Department Phone: 040-23146093

01	Mr. Ch.Gouri Shankar	Assoc. Prof & HOD	8143033665
02	Ms. B.K.Rama Devi	Assoc. Prof	9948090017
03	Dr. P.Venu Gopal	Assoc. Prof.	9866723518
04	Ms. P. Sukanya	Asst. Prof.	9948158437
05	Dr. K. Rajani Kumar	Asst. Prof.	9885584411
06	Ms. Velpula Angelina	Asst. Prof.	8977178719

CAMPUS PLACEMENTS

BE STUDENTS' PLACEMENT DETAILS - 2015 BATCH

Branch	CSE	ECE	EEE	IT	MECH.	CIVIL
Branchwise Intake	144	144	72	72	144	72
No. of Students registered with 60% and above Marks	108	95	43	53	85	48
Gross Selections	282	219	102	97	157	49
Net Selections	121	115	60	50	84	34
% of Selelctions	90.98	87.12	90.91	80.65	64.12	55.74

S.No.	Details	Total
1	No of students with 1 Offer(s)	263
2	No of students with 2 Offer(s)	121
3	No of students with 3 Offer(s)	77
4	No of students with 4 Offer(s)	46
5	No of students with 5 Offer(s)	08
5	No of students with 6 Offer(s)	01
Net Selections		**516**

STUDENTS PLACEMENT INFORMATION OF 2015 Batch

S.No.	Organization	Package (Rs Lakhs p.a.)	Total
1	MAQ Software Internship	20	6
2	Accolite Software India Pvt Ltd	10.5	1
3	Microsoft	10.36	3
4	AT&T Global Business Services India Pvt Ltd Internship	10	1
5	SAP Labs India Private Limited	8.25	1
6	Oracle India Private Ltd., (Vertical Utilities Global Business Unit)	7.5	4
7	Oracle India Private Ltd. Applications Development Group	7.5	2
8	Kony Labs Internship & Employment	7.4	2
9	Oracle India Private Ltd., (Vertical Primavera Global Business Unit) Internship & Employment	7	2
10	Cybermotion Technologies Pvt. Ltd Internship	7	7
11	Oracle India Private Ltd., (PGBU)	7	3
12	Host Analytics Software Pvt Ltd.	7	2
13	AMD R&D Centre India Pvt Ltd - Internship & Employment	6	2
14	TEKsystems Global Service	6	2
15	Pega Systems	6	15
16	Visa Inc.,	6	4
17	S & P Capital IQ	5.95 - 5.50	3
18	S & P Capital IQ	5.84 - 6.57	1
19	FMC Technologies India Pvt Ltd	5.5	3
20	Tibco Software India Private Limited	5.5	8
21	Deloitte Consulting (India) Private Limited	5.35	26
22	TakeZero Internship	5	3
23	FactSet	4.85	2
24	Verizon Data Services	4.55	5
25	NetCracker	4.5	8
26	Tekzenit Software Technologies Private Limited	4.5	1
27	MAQ Software India Private Limited	4.5	1
28	NetCracker	4.5	1
29	AIR WorldWide India	4.18	2

30	Hexagon Capability Center India Pvt., Ltd.	4.05	4
31	Alliance Global Services	4	17
32	ADP India	4	5
33	Beam Telecom Private Limited	3.75	1
34	Franklin Templeton Asset Management India Pvt. Ltd.	3.7	5
35	GGK Technologies	3.5	19
36	Computer Sciences Corporation	3.5	40
37	Rane Group	3.5	8
38	HSBC Software Development	3.3	6
39	Infosys	3.25	189
40	DEFTeam Solutions Pvt. Ltd. Internship & Employment	3.25	1
41	iGATE Global Services Private Limted	3.15	17
42	Capgemini	3.05	19
43	L&T Infotech Limited	3.05	1
44	Cognizant	3.01	205
45	Unistring Tech Solutions Pvt Ltd Internship (5K) & Employment	3	1
46	Magnitude Software Internship & Employment	3	1
47	Bonaven Software Pvt. Ltd.,	3	3
48	ATC Telecom Tower Corporation Pvt. Ltd.,	3	3
49	Accenture	2.8	252
50	Cybage Software India Private Limited	2.8	10
51	IBM India Pvt. Ltd. (Global Process Services)	2.8	4
52	Cyient (Earlier Infotech) through Internship	2.75	2
53	Amazon	2.7	3
54	HPTechnical Support	2.4	1
55	Toshiba Transmission & Distribution Systems (India) Private Limited	2.2	1
56	Media Mint	2	11
57	KTree Computer Solutions India (P) Ltd.	2	6
58	Mold-Tek	2	1
59	Dharti Dredging & Infrastructure Limited (DDIL)	2	5
60	ValueLabs	1.8	4
61	CADeploy	1.8	1
	Gross Selections	-	**967**
	Net Selections	-	**516**

PERSONAL NOTES

Telephone Numbers

Name & Address	E-Mail	Office	Residence

Traditional Day

Students performance at College Anual Day

CAMPUS PLACEMENT DETAILS -B.E 2015 BATCH

Students Performance at College Anual Day

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