# I Semester

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# II Semester

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OBJECTIVES:
The Course prepares second semester engineering and technology students to:
• Develop strategies and skills to enhance their ability to read and comprehend engineering and technology texts.
• Foster their ability to write convincing job applications and effective reports.
• Develop their speaking skills to make technical presentations, participate in group discussions.
• Strengthen their listening skill which will help them comprehend lectures and talks in their areas of specialisation.

UNIT I  INTRODUCTION TECHNICAL ENGLISH  12

UNIT II  READING AND STUDY SKILLS  12
Listening: Listening to longer technical talks and completing exercises based on them-Speaking – describing a process-Reading – reading longer technical texts- identifying the various transitions in a text- paragraphing- Writing- interpreting graphs, graphs- Vocabulary Development-vocabulary used in formal letters/emails and reports Language Development- impersonal passive voice, numerical adjectives.

UNIT III  TECHNICAL WRITING AND GRAMMAR  12
Listening: Listening to classroom lectures/ talks on engineering/technology -Speaking – introduction to technical presentations- Reading – longer texts both general and technical, practice in speed reading; Writing- Describing a process, use of sequence words- Vocabulary Development- sequence words- Misspelled words. Language Development- embedded sentences
UNIT IV  REPORT WRITING


UNIT V  GROUP DISCUSSION AND JOB APPLICATIONS

Listening- TED/Ink talks; Speaking –participating in a group discussion -Reading– reading and understanding technical articles Writing– Writing reports- minutes of a meeting- accident and survey-Vocabulary Development- verbal analogies Language Development- reported speech .

OUTCOMES: At the end of the course learners will be able to:

- Read technical texts and write area- specific texts effortlessly.
- Listen and comprehend lectures and talks in their area of specialisation successfully.
- Speak appropriately and effectively in varied formal and informal contexts.
- Write reports and winning job applications.

TEXT BOOKS:

REFERENCES
2. Grussendorf, Marion, English for Presentations, Oxford University Press, Oxford: 2007

Students can be asked to read Tagore, Chetan Bhagat and for suplementary reading.

MA8251  ENGINEERING MATHEMATICS – II

OBJECTIVES :
- This course is designed to cover topics such as Matrix Algebra, Vector Calculus, Complex Analysis and Laplace Transform. Matrix Algebra is one of the powerful tools to handle practical problems arising in the field of engineering. Vector calculus can be widely used for modelling the various laws of physics. The various methods of complex analysis and
Laplace transforms can be used for efficiently solving the problems that occur in various branches of engineering disciplines.

UNIT I MATRICES

UNIT II VECTOR CALCULUS
Gradient and directional derivative – Divergence and curl - Vector identities – Irrotational and Solenoidal vector fields – Line integral over a plane curve – Surface integral - Area of a curved surface - Volume integral - Green’s, Gauss divergence and Stoke’s theorems – Verification and application in evaluating line, surface and volume integrals.

UNIT III ANALYTIC FUNCTIONS
Analytic functions – Necessary and sufficient conditions for analyticity in Cartesian and polar coordinates - Properties – Harmonic conjugates – Construction of analytic function - Conformal mapping – Mapping by functions $w = z + c$, $cz$, $\frac{1}{z}$- Bilinear transformation.

UNIT IV COMPLEX INTEGRATION

UNIT V LAPLACE TRANSFORMS

TOTAL: 60 PERIODS

OUTCOMES:

After successfully completing the course, the student will have a good understanding of the following topics and their applications:

- Eigenvalues and eigenvectors, diagonalization of a matrix, Symmetric matrices, Positive definite matrices and similar matrices.
- Gradient, divergence and curl of a vector point function and related identities.
- Evaluation of line, surface and volume integrals using Gauss, Stokes and Green’s theorems and their verification.
- Analytic functions, conformal mapping and complex integration.
- Laplace transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients.
TEXT BOOKS:

REFERENCES:

CY8292 CHEMISTRY FOR TECHNOLOGISTS L T P C
3 0 0 3

UNIT I UNIT PROCESSES
Nitration, Sulphonation, Halogenation, Esterification, Amination, Saponification and Hydrogenation – Role of the above unit processes in such industries as petroleum, drugs, pharmaceuticals and organic synthesis.

UNIT II REACTION MECHANISMS
Free radical, substitutions, electrophilic, addition, aromatic electrophilic substitutions, nucleophilic additions, condensation reactions, nucleophilic substitutions in aliphatic and aromatic compounds, cyclo-additions, rearrangements-Beckmann and Fries rearrangement reactions.

UNIT III OILS, FATS, SOAPS & LUBRICANTS
Chemical constitution, Chemical analysis of oils and fats – acid, saponification and iodine values, Definitions, determinations and significance. Definition, mechanism of lubrication, preparation of petrolubes, desirable characteristics – viscosity, viscosity index, carbon residue, oxidation stability, flash and fire points, cloud and pour points, aniline point. Semisolid lubricant – greases, preparation of sodium, lithium, calcium and axle greases and uses, consistency test and drop point test. Solid lubricants – graphite and molybdenum disulphide.
UNIT IV  CHEMICALS AND AUXILIARIES  9
Preparation, properties and uses of bleaching powder, sodium hypochlorite, hydrogen peroxide, chlorine dioxide. Estimation of available chlorine in hypochlorite bleach liquor. Determination of strength of hydrogen peroxide.

UNIT V  COLORANTS  9
Theory of color and constitution: chromophore and auxochrome, classification of dyes based on application. Chemistry and synthesis of azo dye (Methyl red, Methyl orange and Congo red)

TOTAL: 45 PERIODS

TEXTBOOKS:

REFERENCES:

BE8251  BASIC ELECTRICAL AND ELECTRONICS ENGINEERING  L T P C  3 0 0 3

OBJECTIVES:
- To explain the basic theorems used in Electrical circuits and the different components and function of electrical machines.
- To explain the fundamentals of semiconductor and applications.
- To explain the principles of digital electronics
- To impart knowledge of communication.

UNIT I  ELECTRICAL CIRCUITS & MEASURMENTS  9
UNIT II  ELECTRICAL MACHINES  

UNIT III  SEMICONDUCTOR DEVICES AND APPLICATIONS 

UNIT IV  DIGITAL ELECTRONICS 

UNIT V  FUNDAMENTALS OF COMMUNICATION ENGINEERING 

TOTAL: 45 PERIODS

OUTCOMES:
• ability to identify the electrical components and explain the characteristics of electrical machines.
• ability to identify electronics components and understand the characteristics

TEXT BOOKS:

REFERENCES:
OBJECTIVES
- To enable the students to learn about the basics of fibre forming, yarn production, fabric formation, coloration of fabrics and garment manufacturing

Unit I  BASICS OF FIBRE SCIENCE AND SPINNING  13
Definition of fibre, classification of textile fibers; polymer and polymerization; fibre production principles – wet spinning, dry spinning, melt spinning, gel spinning, dope spinning; characteristics of cotton, viscose, wool, silk, polyester, nylon, polypropylene; sequence of machineries in short staple yarn spinning from ginning to cone winding and their objectives.

Unit II  BASICS OF FABRIC PRODUCTION  13
Woven fabric – warp, weft, weaving, path of warp; looms – classification, handloom and its parts, powerloom, automatic looms, shuttleless looms, special type of looms; preparatory machines for weaving process and their objectives; basic weaving mechanism - primary, secondary and auxiliary mechanisms; knitting – classification, principle, types of fabrics; nonwoven process –classification, principle, types of fabrics.

Unit III  BASICS OF CHEMICAL PROCESSING  9
Objectives of the processes - singeing, desizing, scouring, bleaching, mercerization; dyeing-classification of dyes, types of dyeing techniques; printing –types and styles of printing; finishing treatments – chemical and mechanical finishing.

Unit IV  BASICS OF GARMENT MANUFACTURING  5
Anthropometry, basic principles of pattern making and grading, marker planning, spreading, cutting, sorting, sewing, finishing and packing.

Unit V  BASIC FIBRE, YARN AND FABRIC PROPERTIES  5
Essential fibre properties- cotton and polyester; yarn numbering systems; essential yarn properties; fabric specifications and essential fabric properties

TOTAL – 45 PERIODS

OUTCOMES:
- The students will have the knowledge on the basics of fibre forming polymers, weaving the yarns into fabric, coloration of the fabrics and manufacturing of garments.

TEXT BOOKS

REFERENCE BOOKS

FT8201 CONCEPTS OF FASHION AND DESIGN L T P C
2 0 0 2

OBJECTIVES:

• To introduce briefly the basic concepts of fashion and design to the students

UNIT I
Design types- natural, stylized, geometric, historic and abstract; garment design- structural, decorative and functional.

UNIT II
Elements of Design – line, shape, form, size, colour, texture and pattern; principles of design – Harmony, Balance, Rhythm, Emphasis and Proportion; introducing elements and principles of design in apparels.

UNIT III
Colour – definition; dimensions of colour-hue, value and intensity; colour categories and psychology - warm and cool colours; advancing and receding colours; colour theories – Prang colour system and Munsell colour system; colour harmonies.

UNIT IV
Fashion – definition, tangibles and intangibles of fashion; fashion life cycle; fashion adoption theories; fashion terminology - street fashion, recurring fashion, mass fashion, fashion trend, fashion shows, style, chic, boutique, Haute Couture; role of a fashion designer.

TOTAL: 30 PERIODS

OUTCOME

• Upon the completion of this course, the students shall understand the basic concepts of fashion and design, colour basics, dimensions, categories and their characteristics.
TEXT BOOKS


REFERENCES


GE8261 ENGINEERING PRACTICES LABORATORY L T P C
0 0 4 2

OBJECTIVES:

To provide exposure to the students with hands on experience on various basic engineering practices in Civil, Mechanical, Electrical and Electronics Engineering.

GROUP A (CIVIL & MECHANICAL)

I CIVIL ENGINEERING PRACTICE 13

Buildings:

(a) Study of plumbing and carpentry components of residential and industrial buildings. Safety aspects.

Plumbing Works:

(a) Study of pipeline joints, its location and functions: valves, taps, couplings, unions, reducers, elbows in household fittings.

(b) Study of pipe connections requirements for pumps and turbines.

(c) Preparation of plumbing line sketches for water supply and sewage works.

(d) Hands-on-exercise:

Basic pipe connections – Mixed pipe material connection – Pipe connections with different joining components.

(e) Demonstration of plumbing requirements of high-rise buildings.
Carpentry using Power Tools only:
   (a) Study of the joints in roofs, doors, windows and furniture.
   (b) Hands-on-exercise:
       Wood work, joints by sawing, planing and cutting.

II  MECHANICAL ENGINEERING PRACTICE  18
Welding:
   (a) Preparation of butt joints, lap joints and T- joints by Shielded metal arc welding.
   (b) Gas welding practice
Basic Machining:
   (a) Simple Turning and Taper turning
   (b) Drilling Practice
Sheet Metal Work:
   (a) Forming & Bending:
   (b) Model making – Trays and funnels.
   (c) Different type of joints.
Machine assembly practice:
   (a) Study of centrifugal pump
   (b) Study of air conditioner
Demonstration on:
   (a) Smithy operations, upsetting, swaging, setting down and bending. Example –
       Exercise – Production of hexagonal headed bolt.
   (b) Foundry operations like mould preparation for gear and step cone pulley.
   (c) Fitting – Exercises – Preparation of square fitting and V – fitting models.

GROUP B (ELECTRICAL & ELECTRONICS)

III  ELECTRICAL ENGINEERING PRACTICE  13
1. Residential house wiring using switches, fuse, indicator, lamp and energy meter.
2. Fluorescent lamp wiring.
3. Stair case wiring
5. Measurement of energy using single phase energy meter.

IV  ELECTRONICS ENGINEERING PRACTICE  16
1. Study of Electronic components and equipments – Resistor, colour coding measurement of AC signal parameter (peak-peak, rms period, frequency) using CR.
2. Study of logic gates AND, OR, EX-OR and NOT.
4. Soldering practice – Components Devices and Circuits – Using general purpose PCB.
5. Measurement of ripple factor of HWR and FWR.

TOTAL: 60 PERIODS
OUTCOMES:
On successful completion of this course, the student will be able to
- fabricate carpentry components and pipe connections including plumbing works.
- use welding equipments to join the structures.
- Carry out the basic machining operations
- Make the models using sheet metal works
- Illustrate on centrifugal pump, Air conditioner, operations of smithy, foundary and fittings
- Carry out basic home electrical works and appliances
- Measure the electrical quantities
- Elaborate on the components, gates, soldering practices.

LIST OF EQUIPMENT FOR A BATCH OF 30 STUDENTS:

CIVIL
1. Assorted components for plumbing consisting of metallic pipes, plastic pipes, flexible pipes, couplings, unions, elbows, plugs and other fittings. 15 Sets.
2. Carpentry vice (fitted to work bench) 15 Nos.
4. Models of industrial trusses, door joints, furniture joints 5 each
5. Power Tools: (a) Rotary Hammer 2 Nos
   (b) Demolition Hammer 2 Nos
   (c) Circular Saw 2 Nos
   (d) Planer 2 Nos
   (e) Hand Drilling Machine 2 Nos
   (f) Jigsaw 2 Nos

MECHANICAL
1. Arc welding transformer with cables and holders 5 Nos.
2. Welding booth with exhaust facility 5 Nos.
3. Welding accessories like welding shield, chipping hammer, wire brush, etc. 5 Sets.
4. Oxygen and acetylene gas cylinders, blow pipe and other welding outfit. 2 Nos.
5. Centre lathe 2 Nos.
6. Hearth furnace, anvil and smithy tools 2 Sets.
7. Moulding table, foundry tools 2 Sets.
8. Power Tool: Angle Grinder 2 Nos
9. Study-purpose items: centrifugal pump, air-conditioner One each.

ELECTRICAL
1. Assorted electrical components for house wiring 15 Sets
2. Electrical measuring instruments 10 Sets
3. Study purpose items: Iron box, fan and regulator, emergency lamp 1 each
4. Megger (250V/500V) 1 No.
5. Power Tools: (a) Range Finder 2 Nos
   (b) Digital Live-wire detector 2 Nos
ELECTRONICS

1. Soldering guns 10 Nos.
2. Assorted electronic components for making circuits 50 Nos.
3. Small PCBs 10 Nos.
5. Study purpose items: Telephone, FM radio, low-voltage power supply

CY8261 APPLIED CHEMISTRY LABORATORY L T P C
0 0 4 2

OBJECTIVE

- To make the student acquire practical skills in the wet chemical and instrumental methods for quantitative estimation of nitrite in water, cement, oil, coal, Phenol

LIST OF EXPERIMENTS (Any ten experiments)

1. Determination of Redwood / Saybolt numbers, kinematic viscosity and viscosity index of lubricating oils
2. Determination of flash point, fire point, cloud and pour point of oils
3. Determination of acid value, iodine value of oils and saponification value.
4. Determination of COD of water samples
5. Determination of total, temporary & permanent hardness of water by EDTA method.
6. Estimation of HCl using Na₂CO₃ as primary standard and determination of alkalinity in water sample.
7. Determination of purity of washing soda and strength of a commercial acid
8. Estimation of available chlorine in hypochlorite solution
9. Estimation of strength of hydrogen peroxide
11. Determination of Calorific value using Bomb calorimeter

TOTAL: 60 PERIODS

OUTCOME

- Familiarization with equipment like viscometers, flash and fire point apparatus etc
- Familiarization of methods for determining COD
- Familiarization of a few simple synthetic techniques for soap

TEXT BOOKS

Choice based credit system. Curriculum and detailed syllabi. For B.E DEGREE (Computer Science and Engineering) PROGRAMME. For the students admitted from the academic year 2015 onwards. Choice based credit system. Degree: B.E. Programme: CSE. B.E DEGREE (Computer Science and Engineering) PROGRAMME THIRD SEMESTER. For the students admitted in the academic year 2015-16 onwards. Thiagarajar college of engineering. (A Government Aided ISO 9001:2008 certified Autonomous Institution affiliated to Anna University). Madurai 625 015, tamilnadu. Phone: 0452 2482240, 41 Fax: 0452 2483427 Web: www.tce.edu. REGULATIONS 2017 (Flexible Curriculum). (Updated on March 2019, including amendments). National institute of technology tiruchirappalli - 620 015. Page iii. Passing minimum marks for Reassessment shall be based on par with the immediate regular assessment conducted previously (B.6.(i) B. Tech. 12 | P a g e. Regulations 2013) [3]. If the student successfully completes the Reassessment, he or she shall be awarded ‘E’ grade. iv. b) Students who complete the programme within eight consecutive semesters getting a CGPA of 8.5 and above, passing all the courses in the first appearance will be declared to have passed in first class with distinction. For this purpose, an authorized break of study (B.15) shall not be counted. The choice based credit system provides an opportunity for the students to choose courses from the prescribed courses. Sequencing Plan for the MBA Degree Curriculum Semester I & II III & IV Course Coverage Core Courses Core Courses & Specialization 1. Admission 1.1 Admission to MBA/ MBA (TM) first year in Ist semester will be made as per the guidelines prescribed by the AICTE / Academic Council of the Dr. A. P. J. Abdul Kalam Technical University (APJAKTU) Lucknow/ according to latest notification of. REGULATIONS GOVERNING THE CREDIT BASED SEMESTER SCHEME FOR BACHELOR DEGREE PROGRAMME IN HOTEL MANAGEMENT (B.H.M.) (Framed under Section 44 (1) (c) of the KSU Act 2000) Preamble: The University Grants Commission Many major IT institutions provide programs based on these model curricula with some arrangement to meet needs of industries. Examples of such industrial needs are internet of things, game development, software as a service (SaaS), cloud based computing, and embedded system development. The task of designing an information technology curriculum is a difficult one in part because so much depends on the characteristics of the individual institution. Even if every institution could agree on a common set of knowledge and skills for undergraduate education, there would nonetheless be many additional factors that would influence curriculum design.