

**ANNA UNIVERSITY, CHENNAI**  
**AFFILIATED INSTITUTIONS**  
**REGULATIONS 2017**  
**B. TECH. FASHION TECHNOLOGY**  
**CHOICE BASED CREDIT SYSTEM**  
**I & II SEMESTERS CURRICULA AND SYLLABI**



**I SEMESTER**

S. No	COURSE CODE	COURSE TITLE	CATE GORY	CONTACT PERIODS	L	T	P	C
<b>THEORY</b>								
1	HS8151	Communicative English	HS	4	4	0	0	4
2	MA8151	Engineering Mathematics - I	BS	4	4	0	0	4
3	PH8151	Engineering Physics	BS	3	3	0	0	3
4	CY8151	Engineering Chemistry	BS	3	3	0	0	3
5	GE8151	Problem Solving and Python Programming	ES	3	3	0	0	3
6	GE8152	Engineering Graphics	ES	6	2	0	4	4
<b>PRACTICALS</b>								
7	GE8161	Problem Solving and Python Programming Laboratory	ES	4	0	0	4	2
8	BS8161	Physics and Chemistry Laboratory	BS	4	0	0	4	2
<b>TOTAL</b>				<b>31</b>	<b>19</b>	<b>0</b>	<b>12</b>	<b>25</b>

**II SEMESTER**

S. No	COURSE CODE	COURSE TITLE	CATE GORY	CONTACT PERIODS	L	T	P	C
<b>THEORY</b>								
1	HS8251	Technical English	HS	4	4	0	0	4
2	MA8251	Engineering Mathematics - II	BS	4	4	0	0	4
3	CY8292	Chemistry for Technologists	BS	3	3	0	0	3
4	BE8251	Basic Electrical and Electronics Engineering	ES	3	3	0	0	3
5	TT8251	Basics of Textile Technology	PC	3	3	0	0	3
6	FT8201	Concepts of Fashion and Design	PC	2	2	0	0	2
<b>PRACTICALS</b>								
7	GE8261	Engineering Practices Laboratory	ES	4	0	0	4	2
8	CY8261	Applied Chemistry Laboratory	BS	4	0	0	4	2
<b>TOTAL</b>				<b>27</b>	<b>19</b>	<b>0</b>	<b>8</b>	<b>23</b>



HS8251

TECHNICAL ENGLISH

L T P C

4 0 0 4

**OBJECTIVES:**

**The Course prepares second semester engineering and Tecgnology 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**

**Listening-** Listening to talks mostly of a scientific/technical nature and completing information-gap exercises- **Speaking** –Asking for and giving directions- **Reading** – reading short technical texts from journals- newspapers- **Writing-** purpose statements – extended definitions – issue-writing instructions – checklists-recommendations-**Vocabulary Development-** technical vocabulary **Language Development** –subject verb agreement - compound words.

**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 cgarts, graphs- **Vocabulary Development-**vocabularyused 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 12**

**Listening-** Listening to documentaries and making notes. **Speaking** – mechanics of presentations- **Reading** – reading for detailed comprehension- **Writing-** email etiquette- job application – cover letter –Résumé preparation( via email and hard copy)- analytical essays and issue based essays--**Vocabulary Development-** finding suitable synonyms-paraphrasing-. **Language Development-** clauses- if conditionals.

**UNIT V GROUP DISCUSSION AND JOB APPLICATIONS 12**

**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 .

**TOTAL :60 PERIODS**

**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:**

1. Board of editors. **Fluency in English A Course book for Engineering and Technology.** Orient Blackswan, Hyderabad: 2016.
2. Sudharshana.N.P and Saveetha. C. **English for Technical Communication.** Cambridge University Press: New Delhi, 2016.

**REFERENCES**

1. Booth-L. Diana, **Project Work**, Oxford University Press, Oxford: 2014.
2. Grussendorf, Marion, **English for Presentations**, Oxford University Press, Oxford: 2007
3. Kumar, Suresh. E. **Engineering English.** Orient Blackswan: Hyderabad,2015.
4. Means, L. Thomas and Elaine Langlois, **English & Communication For Colleges.** Cengage Learning, USA: 2007
5. Raman, Meenakshi and Sharma, Sangeetha- **Technical Communication Principles and Practice.**Oxford University Press: New Delhi,2014.

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

**MA8251**

**ENGINEERING MATHEMATICS – II**

**L T P C**

**4 0 0 4**

**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 12**

Eigenvalues and Eigenvectors of a real matrix – Characteristic equation – Properties of Eigenvalues and Eigenvectors – Cayley-Hamilton theorem – Diagonalization of matrices – Reduction of a quadratic form to canonical form by orthogonal transformation – Nature of quadratic forms.

**UNIT II VECTOR CALCULUS 12**

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 12**

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  $w = z + c, cz, \frac{1}{z}, z^2$  - Bilinear transformation.

**UNIT IV COMPLEX INTEGRATION 12**

Line integral - Cauchy's integral theorem – Cauchy's integral formula – Taylor's and Laurent's series – Singularities – Residues – Residue theorem – Application of residue theorem for evaluation of real integrals – Use of circular contour and semicircular contour.

**UNIT V LAPLACE TRANSFORMS 12**

Existence conditions – Transforms of elementary functions – Transform of unit step function and unit impulse function – Basic properties – Shifting theorems -Transforms of derivatives and integrals – Initial and final value theorems – Inverse transforms – Convolution theorem – Transform of periodic functions – Application to solution of linear second order ordinary differential equations with constant coefficients.

**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 :**

1. Grewal B.S., "Higher Engineering Mathematics", Khanna Publishers, New Delhi, 43<sup>rd</sup> Edition, 2014.
2. Kreyszig Erwin, "Advanced Engineering Mathematics ", John Wiley and Sons, 10<sup>th</sup> Edition, New Delhi, 2016.

**REFERENCES :**

1. Bali N., Goyal M. and Watkins C., "Advanced Engineering Mathematics", Firewall Media (An imprint of Lakshmi Publications Pvt., Ltd.), New Delhi, 7<sup>th</sup> Edition, 2009.
2. Jain R.K. and Iyengar S.R.K., " Advanced Engineering Mathematics ", Narosa Publications, New Delhi , 3<sup>rd</sup> Edition, 2007.
3. O'Neil, P.V. "Advanced Engineering Mathematics", Cengage Learning India Pvt., Ltd, New Delhi, 2007.
4. Sastry, S.S, "Engineering Mathematics", Vol. I & II, PHI Learning Pvt. Ltd, 4<sup>th</sup> Edition, New Delhi, 2014.
5. Wylie, R.C. and Barrett, L.C., "Advanced Engineering Mathematics "Tata McGraw Hill Education Pvt. Ltd, 6th Edition, New Delhi, 2012.

<b>CY8292</b>	<b>CHEMISTRY FOR TECHNOLOGISTS</b>	<b>L T P C</b>
		<b>3 0 0 3</b>
<b>UNIT I</b>	<b>UNIT PROCESSES</b>	<b>9</b>
Nitration, Sulphonation, Halogenation, Esterification, Amination, Saponification and Hydrogenation – Role of the above unit processes in such industries as petroleum, drugs, pharmaceuticals and organic synthesis.		
<b>UNIT II</b>	<b>REACTION MECHANISMS</b>	<b>9</b>
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.		
<b>UNIT III</b>	<b>OILS, FATS, SOAPS &amp; LUBRICANTS</b>	<b>9</b>
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:**

1. Dhara S. S., "A Text Book of Engineering Chemistry", 12<sup>th</sup> Ed., S. Chand & Co. Ltd., New Delhi, 2016.
2. Jain. P.C. and Monica Jain, "Engineering Chemistry", Dhanpet Rai & Sons, New Delhi, 2012.
3. Shikha Agarwal, "Engineering Chemistry-Fundamentals and Applications", Cambridge University Press, Delhi, 2015.

**REFERENCES:**

1. W.L. McCabe, J.C. Smith and P. Harriot, Unit Operations of Chemical Engineering, 7<sup>th</sup> Edition, McGraw Hill Education, 2005.
2. B.K. Sharma, "Industrial chemistry", Krishna Prakashan Media (P) Ltd, Meerut, 2011.
3. Shore J., "Colourants and Auxiliaries: Volume II Auxiliaries", Wood head Publishing Ltd., 2002.
4. Shenai V. A., "Chemistry of Dyes and Principles of Dyeing", Sevak Publications, Mumbai, 1995.
5. Trotman E. R., "Dyeing and Chemical Technology of Textile Fibres", B.I Publishing Pvt. Ltd., New Delhi, 1994.

**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 & MEASUREMENTS****9**

Fundamental laws of electric circuits– Steady State Solution of DC Circuits – Introduction to AC Circuits –Sinusoidal steady state analysis– Power and Power factor – Single Phase and Three Phase Balanced Circuits. Classification of instruments – Operating Principles of indicating Instruments

<b>UNIT II</b>	<b>ELECTRICAL MACHINES</b>	<b>9</b>
	Construction, Principle of Operation, Basic Equations and Applications of DC Generators, DC Motors, Single Phase Transformer, single phase induction Motor.	
<b>UNIT III</b>	<b>SEMICONDUCTOR DEVICES AND APPLICATIONS</b>	<b>9</b>
	Introduction - Characteristics of PN Junction Diode – Zener Effect – Zener Diode and its Characteristics – Half wave and Full wave Rectifiers – Voltage Regulation. Bipolar Junction Transistor – CB, CE, CC Configurations and Characteristics – Elementary Treatment of Small Signal Amplifier.	
<b>UNIT IV</b>	<b>DIGITAL ELECTRONICS</b>	<b>9</b>
	Binary Number System – Boolean Algebra theorems– Digital circuits - Introduction to sequential Circuits– Flip-Flops – Registers and Counters – A/D and D/A Conversion –digital processing architecture.	
<b>UNIT V</b>	<b>FUNDAMENTALS OF COMMUNICATION ENGINEERING</b>	<b>9</b>
	Introduction – Elements of Communication Systems– Modulation and Demodulation: Principles of Amplitude and Frequency Modulations. Digital Communication - Communication Systems: Radio, Antenna, TV, Fax, ISDN, Microwave, Satellite and Optical Fibre (Block Diagram Approach only).	
		<b>TOTAL: 45 PERIODS</b>

**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:**

1. D P Kothari and I.J Nagarath, "Electrical Machines "Basic Electrical and Electronics Engineering", McGraw Hill Education(India) Private Limited, Third Reprint ,2016
2. S.K.Bhattacharya "Basic Electrical and Electronics Engineering", Pearson India, 2011
3. Sedha R.S., "Applied Electronics", S. Chand & Co., 2006

**REFERENCES:**

1. Leonard S Bobrow, " Foundations of Electrical Engineering", Oxford University Press, 2013
2. A.E.Fitzgerald, David E Higginbotham and Arvin Gabel, "Basic Electrical Engineering", McGraw Hill Education(India) Private Limited, 2009
3. Del Toro, "Electrical Engineering Fundamentals", Pearson Education, New Delhi, 2007
4. Mahmood Nahvi and Joseph A. Edminister, "Electric Circuits", Schaum' Outline Series, McGraw Hill, 2002.
5. Mehta V K, "Principles of Electronics", S.Chand & Company Ltd, 1994.
6. Nagsarkar T K and Sukhija M S, "Basics of Electrical Engineering", Oxford press 2005.

**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**

- Hornberer M., Eberle H., Kilgus R., Ring W. and Hermeling H., “Clothing Technology: From Fibre to Fabric”, Europa Lehrmittel Verlag, 2008, ISBN: 3808562250 / ISBN: 978-3808562253.
- Wynne A., “Motivate Series-Textiles”, Maxmillan Publications, London, 1997.
- Carr H. and Latham B., “The Technology of Clothing Manufacture” Backwell Science, U.K., 1994, ISBN: 0632037482 / ISBN:13: 9780632037483 □

**REFERENCE BOOKS**

- Banerjee N. N., “Weaving Mechanism”, Textile Book House, ISBN: B001A1S41A, 1986.



2. Booth J. E., "Textile Mathematics Volume 3", The Textile Institute, Manchester, 1977, ISBN: 090073924X.
3. Marks R. and Robinson T. C., "Principles of Weaving", The Textile Institute, Manchester, 1989, ISBN: 0900739258.
4. Mishra G. S., "Introductory Polymer Chemistry", John Wiley & Sons, Dhanpat Rai & Co. Pvt. Ltd., 2003, ISBN: 8122404715 / ISBN: 9788122404715.
5. Oxtoby E., "Spun Yarn Technology ", Butterworth, London, 1987, ISBN: 1483129381 / ISBN: 9781483129389.
6. Trotman E. R., "Dyeing and Chemical Technology of Textile Fibres", B.I Publishing Pvt. Ltd., New Delhi, 1994, ISBN: 0471809101 / ISBN: 9780471809104.

**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**

**6**

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

**UNIT II**

**6**

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**

**6**

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**

**12**

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

1. Suzanne G. Marshall and Hazel O. Jackson, "Individuality in Clothing and Personal Appearance", Prentice Hall, New Jersey, 2000, ISBN: 0023622008 / ISBN: 978-0023622007.
2. Kathryn McKelvey and Janine Munslow, "Fashion Design: Process, Innovation and Practice", Blackwell Publishing, USA, 2005, ISBN: 978-0-470-65577-1.
3. Angel Fernandez and Gabriel Martin Roig, "Drawing for fashion designers", Anova books company ltd., UK, 2007, ISBN: 0713490756 / ISBN: 978-0713490756.

## REFERENCES

1. Diane T. and Cassidy T., "Colour forecasting", Blackwell Publishing, 2005, ISBN: 1405121203 / ISBN: 978-1405121200.
2. Elaine Stone and Jean A. Samples, "Fashion Merchandising", McGraw-Hill Book Company, 1985, ISBN: 0070617422.
3. Elizabeth Rouse, "Understanding Fashion", Blackwell Scientific Publication, Oxford, 1989, ISBN: 0632018917 / ISBN: 9780632018918.
4. Harold Carr, "Fashion Design and Product Development", John Wiley and Sons Inc., NewYork,1992, ISBN: 978-0-632-02893.
5. Marian L. Davis, "Visual Design and Dress", Prentice Hall, New Jersey, 1996, ISBN: 0131121294 / ISBN: 978-0131121294.

**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
4. Measurement of electrical quantities – voltage, current, power & power factor in RLC circuit.
5. Measurement of energy using single phase energy meter.
6. Measurement of resistance to earth of an electrical equipment.

## **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.
3. Generation of Clock Signal.
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, foundry 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.  |
| 3. Standard woodworking tools   | 15 Sets. |
| 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. |
| 4. Multimeters  | 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)

- Determination of Redwood / Saybolt numbers, kinematic viscosity and viscosity index of lubricating oils
- Determination of flash point, fire point, cloud and pour point of oils
- Determination of acid value, iodine value of oils and saponification value.
- Determination of COD of water samples
- Determination of total, temporary & permanent hardness of water by EDTA method.
- Estimation of HCl using  $\text{Na}_2\text{CO}_3$  as primary standard and determination of alkalinity in water sample.
- Determination of purity of washing soda and strength of a commercial acid
- Estimation of available chlorine in hypochlorite solution
- Estimation of strength of hydrogen peroxide
- Estimation of Phenol.
- 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

- Daniel R. Palleros, "Experimental organic chemistry" John Wiley & Sons, Inc., New York, 2001.
- Furniss B.S. Hannaford A.J, Smith P.W.G and Tatchel A.R., Vogel's Textbook of practical organic chemistry, LBS Singapore, 2010.

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. 1|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 | Page. Regulations 2013) [3]. If the student successfully completes the Reassessment, he or she shall be awarded  $\hat{\sim}$  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 & Specialization 1. Admission 1.1 Admission to MBA/ MBA (TM) first year in 1st 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.