Sri Venkateswara University, Andhra Pradesh B.E./B.Tech MECH Sem 2 syllabus

English

ENT01 English

Credits: 3

Unit-I Effective Communication: Role and Importance of Communication, Features of Human Communication, Process of Communication, Interpersonal Communication, Barriers, Types- Verbal, Non-Verbal.

Unit-II Grammar: Articles, prepositions, tenses, reported speech, idioms and phrases

Unit-III Listening Skills: Process of Listening, Tips for Effective Listening,
Speaking Skills: Basics of Spoken English, English Sounds, Rhythm and Intonation Telephonic Skills, Group Communication
Reading Skills: Developing Reading Skills, Reading Strategies, Reading Comprehension,
Writing Skills: Paragraph Writing, Essay Writing, E-writing, Job applications, Reports. Resume and Letter Writing.

Unit-IV
Soft Skills: Tem Work Skills, Interview Skills, Problem- Solving Skills Adoptability Skills, Presentation Skills and Group Discussions.

Unit- V Stories from Delight and Wisdom (An Anthology of Short Stories)
1. The Gift of Magi By O. Henry

2. The Diamond Necklace by Guy De Maupassant
3. My Brother, My Brother by Norah Burke
4. The Open Window by Saki

5. The Child by Premchand

Text Books:
1. Oxford guide to Effective writing and Speaking by John Seely, Oxford University Press, 2013, ISBN- 978-0-19-871393-7
2. Delight and Wisdom published by Orient Blackswan, 2009, ISBN: 978-81-250-3716-3

Reference Books:
1. David Green, Structure and Composition in English, Macmillan Publishers India Limted.
2. Communicative English by E. Suresh Kumar, P. Sreehari, Orient BalckSwan, 2009. ISBN: 13:9788125032502
3. English and Soft Skills by S P Dhanavel published by Orient Blackswan, 2013. ISBN 9788125039808
4. Personality Development and Soft Skills by Barun K. Mitra published by Oxford University Press. 2012. ISBN : 13:97280198066217

Basic Electrical Engineering

EET01 Basic Electrical Engineering

Credits: 3

UNIT-I
Basic Circuit Concepts: Basic circuit elements R, L and C—Classification of circuit elements, voltage and current sources—Kirchoff's laws—Star-delta and Delta to Star transformations, Network reduction techniques, Simple problems

UNIT-II
DC Circuits: DC Circuit analysis by mesh current method and Nodal voltage method, Superposition theorem, Thevenin's theorem and maximum power transfer theorem –Application to simple DC circuits

UNIT-III
AC Circuits: Average value—RMS value—form factor, crest factor---j-notation, Phasor diagrams, reactance, impedance and admittance, active power, reactive power, apparent power , power triangle.—Expression for real power in ac circuit—Analysis of simple---series and parallel circuits

UNIT-IV

DC Machines: Principle of operation of dc generator, emf equation, types of generators, principle of operation of dc motor, Back EMF, torque equation of dc motor, Illustrative examples, applications dc motors

UNIT-V

Transformers: Single phase transformer –principle of operation—types of transformers—emf equation, transformer on load

Induction Motors: principle of operation of 3-phase induction motor, types of 3-phase induction motors Principle of single phase induction motor, types , applications of 3-phase and single phase induction motors

Illuminations: Introduction, Laws of Illumination, Lighting calculations, Design of lighting schemes

Text Books:

1. Network analysis by A Sudhakar, ShyamMohan (Tata McGrawHill)
2. Basic Electrical Engineering by DP Kothari, IH Nagrath (Tata McGrawHill)

References:

1. Electrical Technology – E. Hughes (University Press)
2. Electrical Circuits – Joseph Edminister (TMH Series)

Engineering Mathematics – II

Unit – 1

Matrices: rank of a matrix-solution of system of linear equations-eigen values,vectors-cayley-
hamilton theorem-quadratic forms-diagonalization.

Unit – 2

Vector Calculus: Gradient, Divergence, Curl of a vector and related properties - line, surface,
volume integrals - Green’s, Stokes’s and Gauss Divergence theorems and its applications.

Unit – 3

Fourier Series: Fourier series-even and odd functions, periodic functions-half range sine and
cosine series-harmonic analysis.

Unit – 4

Special Functions I: Gamma and Beta functions-series solutions of differential equations-
ordinary points.

Unit – 5

Special Functions II: Bessel function - recurrence formulae - generating function for Jn(X)-
Lengender polynomials - recurrence formulae - generating function for Pn(X) - Rodrigue's
formula - orthogonality of Lengender polynomials.

Text Books:

1. B S Grewal, Higher Engineering Mathematics, 40th Edition, Khanna Publications, 2007.
2. M K Venkataraman, Engineering Mathematics, National Publishing Company, Chennai.
3. B V Ramana, Higher Engineering Mathematics, 6th Reprint, Tata McGraw-Hill, 2008.
4. Bali and Iyengar, Engineering Mathematics, 6th Edition, Laxmi Publications, 2006.