List of Courses in the Curriculum which address the Gender, Environment and Sustainability, Human Values and Professional Ethics:

1. English Language & Technical Communication – HU101
2. Language Laboratory – HU181/191
3. Extra Curricular Activities (NSS/NCC/NSO, etc) – XC181
4. Values and Ethics in Profession – HU301/401
5. Basic Environmental Engineering and Elementary Biology – CH301/401
6. Group Discussion – HU781/791

Description of Courses in the Curriculum which address the Gender, Environment and Sustainability, Human Values and Professional Ethics:

English
PAPER CODE: HU 101
CONTACT: 2L
CREDIT: 2
PAPER NAME: ENGLISH LANGUAGE & TECHNICAL COMMUNICATION

Guidelines for Course Execution:
Objectives of the Course: This Course has been designed

1. To impart advanced skills of Technical Communication in English through Language Lab. Practice sessions to 1st Semester UG students of Engineering & Technology.
2. To enable them to communicate confidently and competently in English Language in all spheres.

Desired Entry Behaviour:
- The students must have basic command of English to talk about day-to-day events and experiences of life.
- Comprehend Lectures delivered in English.
- Read and understand relevant materials written in English.
- Write grammatically correct English.

Strategies for Course Execution:
1. It is a Course that aims to develop Technical Communication Skills. It is, therefore, Lab-based and practical in orientation. Students should be involved in Practice Sessions.
2. The content topics should be conveyed through real-life situations. Lecture classes should be conducted as Lecture cum Tutorial classes.
3. Keeping in view the requirements of students, the teachers may have to prepare some learning aids task materials.
4. Some time should be spent in teaching stress and intonation.
5. In teaching ‘Speaking skill,’ emphasis should be on clarity, intelligibility, fluency, (as well as acceptable pronunciation).
6. Micro Presentation and Group Discussion Sessions should be used for developing Communicative Competence
7. The Language Lab, device should be used for giving audio-visual inputs to elicit students’ responses by way of Micro-Presentation, Pair Conversation, Group Talk and Class Discussion.
8. The teacher must function as a creative monitor in the Language Lab for the following:

A. Developing Listening Comprehension Skill:
1. Developing Listening Comprehension through Language Lab Device
2. Developing sub skills of the Listening Skill by Conversational Practice Sessions
3. Focusing on intelligent and advanced Listening Sessions e.g. Seminars, Paper Presentation, Mock Interviews etc.
4. Conducting Conversational Practice: Face to Face & Via Media (Telephone, Audio, Video +
B. Developing Speaking Competence:

a) Helping students in achieving clarity and fluency; manipulating paralinguistic features of speaking (voice modulation, pitch, tone stress, effective pauses)
Conducting Task oriented interpersonal, informal and semiformal Speaking / Classroom Presentation

b) Teaching strategies for Group Discussion
Teaching Cohesion and Coherence
Teaching effective communication & strategies for handling criticism and adverse remarks
Teaching strategies of Turn-taking, effective intervention, kinesics (use of body language) and courtesies and all componentss of softskills.

C. Developing Reading Comprehension Skill:

a) Developing Reading Skill through Non Technical (Literary) Texts
(See Recommended Book 5)
1. The Thief by Ruskin Bond
2. The Open Window by Saki
3. Marriage is a private Affair by Chinua Achebe
4. The Moon in the Earthen Pot by Gopini Karunakar

b) Developing Reading Skill through Radio Commentary, Technical Texts and Case Studies (Refer to Recommended Book 1.)
   * Freedom by G. B. Shaw (Radio Commentary)
   a) Guiding students for Intensive & Extensive Reading (See Recommended Book 1)

D. Developing Writing Competence:

a) Teaching all varieties of Technical Report, Business Letters and Job Application (Expressing Ideas within restricted word limit through paragraph division, Listing Reference Materials through Charts, Graphs, Tables and Diagrams);

b) Teaching correct Punctuation & Spelling, Semantics of Connectives, Modifiers and Modals, variety of sentences and paragraphs

c) Teaching Organizational Communication: Memo, Notice, Circular, Agenda / Minutes etc.

SYLLABUS -- DETAILED OUTLINES

A. ENGLISH LANGUAGE GRAMMAR: 5L
Correction of Errors in Sentences
Building Vocabulary
Word formation
Single Word for a group of Words
Fill in the blanks using correct Words
Sentence Structures and Transformation
Active & Passive Voice
Direct & Indirect Narration
(MCQ Practice during classes)

B. READING COMPREHENSION: 1L
Strategies for Reading Comprehension
Practicing Technical & Non Technical Texts for Global/Local/Inferential/Referential comprehension; Précis Writing

C. TECHNICAL COMMUNICATION
The Theory of Communication – Definition & Scope
Barriers of Communication
Different Communication Models
Effective Communication (Verbal / Non verbal)
HU 181/191(Practical)
LANGUAGE LABORATORY CONTACTS: 2P
CREDIT: 1
LANGUAGE LABORATORY PRACTICE

a) Honing ‘Listening Skill’ and its sub skills through Language Lab Audio device; 3P
b) Honing ‘Speaking Skill’ and its sub skills; 2P
c) Helping them master Linguistic/Paralinguistic features (Pronunciation/Phonetics/Voice modulation/Stress/ Intonation/Pitch &Accent) of connected speech; 2P
   j) Honing ‘Conversation Skill’ using Language Lab Audio –Visual input; Conversational Practice
      Sessions (Face to Face / via Telephone , Mobile phone & Role Play Mode); 2P
k) Introducing ‘Group Discussion’ through audio –Visual input and acquainting them with key
   strategies for success; 2P
f) G D Practice Sessions for helping them internalize basic Principles (turn- taking, creative
   intervention, by using correct body language, courtesies & other soft skills) of GD; 4P
g) Honing ‘Reading Skills’ and its sub skills using Visual / Display/Technical/Non Technical Passages;
   Graphics/Diagrams/Chart Learning Global / Contextual / Inferential Comprehension; 2P
h) Honing ‘Writing Skill’ and its sub skills by using Language Lab Audio –Visual input; Practice
   Sessions 2P

Total Practical Classes 17

Books Recommended:
Dr. D. Sudharan: Manual for English Language Laboratory
Pearson Education (WB edition),2010
Board of Editors: Contemporary Communicative English
for Technical Communication
Pearson Longman, 2010

Extra Curricular Activities(NSS/NCC/NSO etc)
Code: XC181
Code Credits: 1

a) Creating awareness in social issues
b) Participating in mass education programmes
b) Proposal for local slum area development d)
Waste disposal
e) Environmental awareness
f) Production Oriented Programmes
g) Relief & Rehabilitation work during Natural calamities

Creatingawarenessinsocialissues:
1. Women’s development – includes health, income-generation, rights awareness.
2. Hospital activities – Eg. writing letters for patients, guiding visitors
3. Old age home – visiting the aging in-mates, arranging for their entertainment.
4. Children’s Homes - visiting the young in-mates, arranging for their entertainment
5. Linking with NGOs to work on other social issues. (Eg. Children of sex-workers)
6. Gender issues- Developing an awareness, to link it with Women’s Cell of college

Participatinginmasseducationprogrammes
1. Adult education
2. Children’s education

Proposal for local slum area development
One or two slums to be identified and according to the needs, activities to be developed and proposals and reports are to be submitted.

Environmental awareness
- Resource conservation – Awareness to be developed on water, energy, soil.
- Preservation of heritage monuments – Marches, poster campaigns
- Alternative energy consciousness amongst younger school-children.
- Plantation and beautification – Plantation of trees, their preservation and upkeep, developing NSS parks.
- Waste disposal – Proper methods of domestic waste disposal.

Production Oriented Programmes
5. Working with people and explaining and teaching improved agricultural practices
6. Rodent control land pest control practices;
7. Soil-testing, soil health care and soil conservation;
8. Assistance in repair of agriculture machinery;
9. Work for the promotion and strengthening of cooperative societies in villages;
10. Assistance and guidance in poultry farming, animal husbandry, care of animal health etc.;
11. Popularization of small savings and
12. Assistance in procuring bank loans

Relief & Rehabilitation work during Natural calamities

- g) Assisting the authorities in distribution of rations, medicine, clothes etc.;
- h) Assisting the health authorities in inoculation and immunization, supply of medicine etc.;
- i) Working with the local people in reconstruction of their huts, cleaning of wells, building roads etc.;
- j) Assisting and working with local authorities in relief and rescue operation;

Collection of clothes and other materials, and sending the same to the affected areas;

D. MASTERING TECHNICAL COMMUNICATION

Technical Report (formal drafting) 3L
Business Letter (formal drafting) 4L
Job Application (formal drafting) 3L
Organizational Communication (see page 3) 3L
Group Discussion – Principle & Practice 3L

Total Lectures 30

MARKS SCHEME (Written Examination) Total Marks 70

1. 10 Multiple Choice Questions (Communication & Eng. Language – Vocabulary & Syntax) Marks 10
2. Short Questions & Précis writing on unseen passages Marks (10+5)
3. 3 Essay type Questions on Technical Communication (Technical Report / Business Letter / Job Application / Organizational Communication etc.) Marks 45-15*3

MARKS SCHEME (Internal Examination) Total Marks 30

1. Attendance Marks 5
2. Testing Speaking Ability Marks 5
3. Testing Listening Ability Marks 5
4. 2 Unit Tests  

BOOKS -- RECOMMENDED:
1. Board of Editors: Contemporary Communicative English for Technical Communication  
   Pearson Longman, 2010
2. Dr. D. Sudharani: Manual for English Language Laboratory  
   Pearson Education (W.B. edition), 2010
3. Technical Communication Principles and Practice by Meenakshi Raman, Sangeeta Sharma (Oxford Higher Education)
5. V. Sashikumar (ed.): Fantasy: A Collection of Short Stories  
   Orient Black swan (Reprint 2006)

References:
2. Longman Dictionary of Contemporary English  
   (New Edition) for Advanced Learners
3. Internet

VALUES & ETHICS IN PROFESSION
Code: HU 301/401  Contacts: 3L  Credits: 3

Science, Technology and Engineering as knowledge and as Social and Professional Activities

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<td>2</td>
<td>Ethics of Profession: Engineering profession: Ethical issues in Engineering practice, Conflicts between business demands and professional ideals. Social and ethical responsibilities of Technologists. Codes of professional ethics. Whistle blowing and beyond, Case studies</td>
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<td>Profession and Human Values: Values Crisis in contemporary society. Nature of values: Value Spectrum of a good life. Psychological values: Integrated personality; mental health. Societal values: The modern search for a good society, justice, democracy, secularism, rule of law, values in Indian Constitution. Aesthetic values: Perception and enjoyment of beauty, simplicity, clarity Moral and ethical values: Nature of moral judgements; canons of ethics; ethics of virtue; ethics of duty; ethics of responsibility.</td>
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Books:

BASIC ENVIRONMENTAL ENGINEERING & ELEMENTARY BIOLOGY
Code: CH 301/401  Contacts: 3L  Credits: 3

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<tr>
<td>1</td>
<td>General: Basic ideas of environment, basic concepts, man, society &amp; environment, their interrelationship. Mathematics of population growth and associated problems. Importance of population study in environmental engineering, definition of resource, types of resource, renewable, non-renewable,</td>
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<td>2</td>
<td>Ecology</td>
<td>Elements of ecology: System, open system, closed system, definition of ecology, species, population, community, definition of ecosystem- components types and function. Structure and function of the following ecosystem: Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems, Mangrove ecosystem (special reference to Sundar ban); Food chain [definition and one example of each food chain], Food web. Biogeochemical Cycle- definition, significance, flow chart of different cycles with only elementary reaction [Oxygen, carbon, Nitrogen, Phosphate, Sulphur]. Biodiversity- types, importance, Endemic species, Biodiversity Hot-spot, Threats to biodiversity, Conservation of biodiversity.</td>
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<td>4</td>
<td>Water Pollution and Control</td>
<td>Hydrosphere, Hydrological cycle and Natural water. Pollutants of water, their origin and effects: Oxygen demanding wastes, pathogens, nutrients, Salts, thermal application, heavy metals, pesticides, volatile organic compounds. River/Lake/ground water pollution: River: DO, 5 day BOD test, Seeded BOD test, BOD reaction rate constants, Effect of oxygen demanding wastes on river[deoxygenation, reaeration], COD, Oil, Greases, pH. Lake: Eutrophication [Definition, source and effect]. Ground water: Aquifers, hydraulic gradient, ground water flow (Definition only) Standard and control: Waste water standard [BOD, COD, Oil, Grease], Water Treatment system [coagulation and flocculation, sedimentation and filtration, disinfection, hardness and alkalinity, softening] Waste water treatment system, primary and secondary treatments [Trickling filters, rotating biological contractor, Activated sludge, sludge treatment, oxidation ponds] tertiary treatment definition. Water pollution due to the toxic elements and their biochemical effects: Lead, Mercury, Cadmium, and Arsenic</td>
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Reference Books:

Group Discussion & Seminar
Code: HU 791/891
Contacts: 3P Credits: 2