

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD.

B. TECH. CIVIL ENGINEERING

I YEAR

Code	Subject	L	T/P/D	C
A10001	English	2	-	4
A10002	Mathematics - I	3	1	6
A10302	Engineering Mechanics	3	-	6
A10004	Engineering Physics	3	-	6
A10005	Engineering Chemistry	3	-	6
A10501	Computer Programming	3	-	6
A10301	Engineering Drawing	2	3	6
A10581	Computer Programming Lab.	-	3	4
A10081	Engineering Physics & Engineering Chemistry Lab.	-	3	4
A10083	English Language Communication Skills Lab.	-	3	4
A10082	IT Workshop / Engineering Workshop	-	3	4
	Total	19	16	56

II YEAR I SEMESTER

Code	Subject	L	T/P/D	C
A30006	Mathematics - II	4	-	4
A30203	Electrical & Electronics Engineering	4	-	4
A30107	Strength of Materials - I	4	-	4
A30108	Surveying	4	-	4
A30101	Fluid Mechanics	4	-	4
A30010	Managerial Economics and Financial Analysis	4	-	4
A30185	Surveying Lab- I	-	3	2
A30183	Strength of Materials Lab	-	3	2
	Total	24	6	28

II YEAR II SEMESTER

Code	Subject	L	T/P/D	C
A40008	Probability & Statistics	4	-	4
A40114	Strength of Materials - II	4	-	4
A40111	Hydraulics & Hydraulic Machinery	4	-	4
A40009	Environmental Studies	4	-	4
A40115	Structural Analysis - I	4	-	4
A40109	Building Materials, Construction & Planning	4	-	4
A40186	Computer Aided Drafting of Buildings	-	3	2
A40190	Surveying Lab- II	-	3	2
	Total	24	6	28

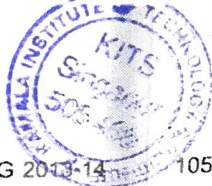
III YEAR I SEMESTER

Code	Subject	L	T/P/D	C
A50116	Concrete Technology	4	-	4
A50121	Reinforced Concrete Structures Design and Drawing	4	-	4
A50118	Engineering Geology	4	-	4
A50120	Geotechnical Engineering	4	-	4
A50122	Water Resources Engineering-I	4	-	4
	Open Elective	4	-	4
A50117	Disaster Management			
A50017	Intellectual Property Rights			
A50018	Human Values and Professional Ethics			
A50181	Fluid Mechanics & Hydraulic Machinery Lab	-	3	2
A50191	Engineering Geology Lab	-	3	2
	Total	24	6	28

III YEAR II SEMESTER

Code	Subject	L	T/P/D	C
A60130	Steel Structures Design and Drawing	3	2	4
A60119	Environmental Engineering	4	-	4
A60132	Transportation Engineering - I	4	-	4
A60126	Foundation Engineering	4	-	4
A60131	Structural Analysis - II	4	-	4
	Elective - I	4	-	4
A60123	Elements of Earthquake Engineering			
A60127	Ground Improvement Techniques			
A60128	Ground Water Hydrology			
A60124	Environmental Impact Assessment			
A60129	Principles of Entrepreneurship			
A60194	Geotechnical Engineering Lab	-	3	2
A60086	Advanced Communication Skills Lab	-	3	2
	Total	23	8	28

Signature
 899 505 488
 KITS INSTITUTE OF TECHNOLOGY SINGAPORE
 PRINCIPAL



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

III Year B.Tech. CE-I Sem

L	T/P/D	C
4	-/-	4

(A50018) HUMAN VALUES AND PROFESSIONAL ETHICS

(Open Elective)

Objectives : This introductory course input is intended

- a. To help the students appreciate the essential complementarity between 'VALUES' and 'SKILLS' to ensure sustained happiness and prosperity which are the core aspirations of all human beings.
- b. To facilitate the development of a Holistic perspective among students towards life, profession and happiness, based on a correct understanding of the Human reality and the rest of Existence. Such a holistic perspective forms the basis of Value based living in a natural way.
- c. To highlight plausible implications of such a Holistic understanding in terms of ethical human conduct, trustful and mutually satisfying human behavior and mutually enriching interaction with Nature.

Unit I:

Course Introduction - Need, Basic Guidelines, Content and Process for Value Education: Understanding the need, basic guidelines, content and process for Value Education. Self Exploration-what is it? - its content and process; 'Natural Acceptance' and Experiential Validation- as the mechanism for self exploration. Continuous Happiness and Prosperity- A look at basic Human Aspirations. Right understanding, Relationship and Physical Facilities- the basic requirements for fulfillment of aspirations of every human being with their correct priority. Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario. Method to fulfill the above human aspirations: understanding and living in harmony at various levels.

Unit II:

Understanding Harmony in the Human Being - Harmony in Myself! : Understanding human being as a co-existence of the sentient 'I' and the material 'Body'. Understanding the needs of Self ('I') and 'Body' - Sukh and Savidha. Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer). Understanding the characteristics and activities of 'I' and harmony in 'I'. Understanding the harmony of I with the Body: Sanyam and Swasthya; correct appraisal of Physical needs, meaning of Prosperity in detail. Programs to ensure Sanyam and Swasthya.

Unit III:

Understanding Harmony in the Family and Society- Harmony in Human -

Human Relationship : Understanding harmony in the Family- the basic unit of human interaction. Understanding values in human-human relationship; meaning of Nyaya and program for its fulfillment to ensure Ubhay-tripti; **Trust (Vishwas) and Respect (Samman) as the foundational values of relationship.** Understanding the meaning of Vishwas; Difference between intention and competence. Understanding the meaning of Samman, Difference between respect and differentiation; the other salient values in relationship. Understanding the harmony in the society (society being an extension of family): Samadhan, Samridhi, Abhay, Sah-astitva as comprehensive Human Goals. Visualizing a universal harmonious order in society- Undivided Society (Akhand Samaj), Universal Order (Sarvabhaum Vyawastha)- from family to world family!

Unit IV:

Understanding Harmony in the Nature and Existence - Whole existence as Co-existence : Understanding the harmony in the Nature. Interconnectedness and mutual fulfillment among the four orders of nature- recyclability and self-regulation in nature. Understanding Existence as Co-existence (Sah-astitva) of mutually interacting units in all-pervasive space. Holistic perception of harmony at all levels of existence.

Unit V:

Implications of the above Holistic Understanding of Harmony on Professional Ethics : Natural acceptance of human values. Definitiveness of Ethical Human Conduct. Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order. Competence in professional ethics:

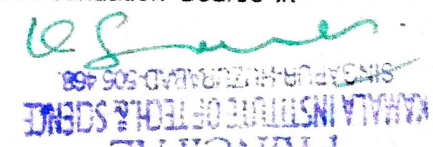
- a) Ability to utilize the professional competence for augmenting universal human order,
- b) Ability to identify the scope and characteristics of people-friendly and eco-friendly production systems,
- c) Ability to identify and develop appropriate technologies and management patterns for above production systems.

Case studies of typical holistic technologies, management models and production systems. Strategy for transition from the present state to Universal Human Order:

- a) At the level of individual: as socially and ecologically responsible engineers, technologists and managers
- b) At the level of society: as mutually enriching institutions and organizations

TEXT BOOKS:

- 1. R R Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in Human Values and Professional Ethics.





2. Prof. KV Subba Raju, 2013, Success Secrets for Engineering Students, Smart Student Publications, 3rd Edition.

REFERENCE BOOKS

- Ivan Illich, 1974, Energy & Equity, The Trinity Press, Worcester, and HarperCollins, USA.
- E.F. Schumacher, 1973, Small is Beautiful: a study of economics as if people mattered, Blond & Briggs, Britain.
- A Nagraj, 1998, Jeevan Vidya ek Parichay, Divya Path Sansthan, Amarkantak.
- Sussan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986, 1991.
- PL Dhar, RR Gaur, 1990, Science and Humanism, Commonwealth Publishers.
- A.N. Tripathy, 2003, Human Values, New Age International Publishers.
- Subhas Palekar, 2000, How to practice Natural Farming, Pracheen(Vaidik) Krishi Tantra Shodh, Amravati.
- Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, Limits to Growth – Club of Rome's report, Universe Books.
- E G Seebauer & Robert L. Berry, 2000, Fundamentals of Ethics for Scientists & Engineers, Oxford University Press.
- M Govindrajan, S Natrajan & V.S. Senthil Kumar, Engineering Ethichs (including Human Values), Eastern Economy Edition, Prentice Hall of India Ltd.

Relevant CDs, Movies, Documentaries & Other Literature:

- Value Education website, <http://www.uptu.ac.in>
- Story of Stuff, <http://www.storyofstuff.com>
- Al Gore, An Inconvenient Truth, Paramount Classics, USA
- Charlie Chaplin, Modern Times, United Artists, USA
- IIT Delhi, Modern Technology – the Untold Story

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(A50181) FLUID MECHANICS & HYDRAULIC MACHINERY LAB

- Calibration of Venturimeter & Orifice meter
- Determination of Coefficient of discharge for a small orifice / mouthpiece by constant head method.
- Calibration of contracted Rectangular Notch and / Triangular Notch
- Determination of friction factor of a pipe.
- Determination of Coefficient for minor losses.
- Verification of Bernoulli's equation.
- Impact of jet on vanes
- Study of Hydraulic jump.
- Performance test on Pelton wheel turbine
- Performance test on Francis turbine.
- Performance characteristics of a single stage/ multi-stage centrifugal pump.
- Performance characteristics of a reciprocating pump.

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