

CIVIL 2ND SEM TEACHING SCHEME

GUJARAT TECHNOLOGICAL UNIVERSITY

BRANCH CODE:06 DIPLOMA PROGRAMME IN CIVIL ENGINEERING										
SEMESTER - II										
COURSE CODE	COURSE TITLE	TEACHING			CREDITS (L+T+P)	EXAMINATION SCHEME				GRAND TOTAL
		L	T	P		THEORY		PRACTICAL		
						ESE	PA	ESE	PA	
1990001	CONTRIBUTOR PERSONALITY DEVELOPMENT	4	0	0	4	70	30	20	30	150
3320003	ADVANCED MATHEMATICS(GROUP-2)	2	2	0	4	70	30	0	0	100
3300008	APPLIED MECHANICS	3	0	2	5	70	30	20	30	150
3300009	APPLIED CHEMISTRY (GROUP-1)	3	0	2	5	70	30	20	30	150
3320601	BUILDING DRAWING	2	0	4	6	70	30	40	60	200
3320602	BASIC MECHANICAL ENGINEERING	0	1	2	3	0	0	20	30	50
3320603	CIVIL ENGINEERING WORKSHOP PRACTICE	0	0	4	4	0	0	40	60	100
		14	3	14						
TOTAL					31	350	150	160	240	900

ESE : END SEMESTER EXAM
PA: PROGRESSIVE ASSESSMENT
L: LECTURE
T: TUTORIAL
P: PRACTICAL

ESE for Practical includes Viva/Practical exam/Performance etc.
PA for Practicals includes TW/Report writing/Seminar etc. related to practices
PA for Theory includes Written Exam /Assignment/Quiz/Presentation or Combination of all with prior intimation to the students at beginning of term

Title: Advance Mathematics (Group-2) (Code: 3320003)

Teaching Scheme (InHours)			Total Credits (L+T+P)			Examination Scheme		
Theory Marks			Practical Marks			TotalMarks		
L	T	P	C	ESE	PA	ESE	PA	100
2	2	0	4	70	30	00	0	

Unit – I Co-ordinate Geometry

Point: Distance Formula, Mid-point, Locus of a point, **Straight Line:** Forms of Equation of St Lines: Slope Point Form, Two Point Form, Intercept Form Parallel and Perpendicular lines

Circle: Equation of Circle, Centre and radius form, Tangent and Normal and related problems.

Unit– II Function & Limit

Function Concept and Examples **Limit** Concept of Limit, Standard Formulae and related Examples.

Unit– III Differentiation & it's Applications

Differentiation: Definition, Rules of, Sum, Product, Quotient of Functions, Chain Rule, Derivative of Implicit functions and parametric functions, Logarithmic Differentiation. Successive Differentiation up to second order **Application:** Velocity, Acceleration, Maxima & Minima.

Unit– IV Integration & its application

Integration: Concept, Integral of Standard Functions, Working Rules of Integration, Integration by Parts, Integration by Substitution Method, Definite Integral and its properties.

Application: Area and Volume.

Unit-V Statistics

Measures of Central Tendency for Ungrouped and Grouped Data : Mean, Median and Mode **Measure of Dispersion** for Grouped and Ungrouped data : Standard deviation

REFERENCE BOOKS:

1. Pandya N R Advanced Mathematics for Polytechnic Pearson Education,2012 Macmillan Publishers India Ltd.,

Course Title: Applied Mechanics (Code: 3300008)

Teaching Scheme			Evaluation Scheme			
Theory	Tutorial	Practical	Mid	Internal	University	Credits
3	0	2	30	50	70	5

Unit – I Introduction

Define scope of Engineering Mechanics, Classify Scalar & Vector quantity, Differentiate the systems of Units

Unit– II Coplanar Concurrent Forces

Understand Co – planer Concurrent Force system, Compute resultant & Equilibrium forces for given coplanar concurrent force system

Unit– III Coplanar Non Concurrent Forces

Differentiate Co-planar, parallel and non – concurrent forces, Compute resultant & Equilibrium forces for given coplanar concurrent force system, Calculate Support reactions of the given simply supported beam

Unit – IV Centroid & Centre of Gravity

Distinguish between Centroid and Centre of Gravity, Compute Centroid & centre of gravity in different shape and lamina

Unit – V Friction

Appreciate Friction and its Engineering applications, Calculate coefficient of friction for different surfaces

Unit – VI Work, Power & Energy

Establish relation between Work, Power Energy, Calculate IHP and BHP in different conditions

Unit – VII Simple Machines

Apply the principle & application of Simple Machines, Compare reversible & irreversible Machines, evaluate the efficiencies of various simple machines

LIST OF PRACTICALS

1. Verify and calculate resultant force through Law of Parallelogram, Polygon Law of Forces ,

Lami's Theorem

2. Verify reactions in beam through Graphical & analytical method

3. Calculate Centroid of lamina and Centroid of different sections

4. Calculate Co efficient of Sliding Friction for different surfaces – Wood, Glass

5. Work-out M.A & Efficiency of Simple purchase crab, simple wheel and axle , simple screw jack

REFERENCE BOOKS

1. Engineering Mechanics R S Khurmi S. Chand , New Delhi

2. Engineering Mechanics D S Kumar S. K. Kataria & Sons,

Course Title: Applied Chemistry (Group-1)
(Code: 330009)

Teaching Scheme			Evaluation Scheme			
Theory	Tutorial	Practical	Mid	Internal	University	Credits
3	0	2	30	50	70	5

Unit – I Chemical Bonding and Catalysis

Theory of Valence, Types of chemical bonds- Electrovalent bond, & its characteristics, Covalent bond & its characteristic, Co-ordinate bond & its characteristic, Hydrogen bond, its types and Significance, Metallic bond, Explanation of Metallic properties., Intermolecular force of attraction

Molecular arrangement in solid, liquid and Gases, Structure of solids., Metallic solids- Unit cell- bcc, fcc and hcp packing of metals –examples and properties Reflected by the packing of atoms, Catalysis.-Types of catalysis, Theory of Catalysis., Types of Catalyst,- Positive Catalyst, Negative Catalyst, Auto-catalyst, Catalytic Promoter and Catalytic inhibitor, Industrial Application of Catalyst

Unit– II Ionization and pH

Introduction, Arrhenius theory of ionization., Ionic Equilibrium of water, Degree of ionization-Factors affecting the degree of ionization., Definition of pH-pH of acid, base and neutral solution,

pH calculations of acid, base and salt solution at different concentration, Importance of pH in various fields.

Unit– III Metal corrosion and its control

Explanation of corrosion, Types of corrosion-Dry corrosion: Oxidation corrosion mechanism corrosion-mechanism, Nature of oxide, Wet corrosion-mechanism, Concentration cell corrosion, Pitting corrosion, Waterline corrosion, Crevice corrosion, Factors affecting the rate of corrosion,

Corrosion Control Modification of environment, Modification of the properties of metal, Use of protective Coatings. Anodic and Cathodic protection, Modification in design and choice of material

Unit– IV Water Treatment

Hard water and soft water, Types of hardness of water-Salts producing hardness of water, Method to express the hardness of water, Estimation of total hardness by EDTA Method- Examples to calculate the hardness, Effect of hard water in Boiler operation-Scale and sludge formation and its Prevention, Priming and foaming and its prevention., Caustic embrittlement and its prevention,

Corrosion and its prevention. Softening of Water -Soda-Lime process, Permutit process, Ion Exchange process, Reverse Osmosis process. Treatment of Drinking water- Sedimentation, Coagulation, Filtration, Sterilization of water by chlorination, Break-point chlorination, Treatment of waste water

Unit– V Cements, Glasses & Refractories

Cement, Constituting compound in cement, Composition of Portland cement, Manufacture of Portland cement, Setting and Hardening of cement, Glass and its general properties

Manufacture of glass, Variety of Glasses and their application, Definition & application of refractories., Characteristics of refractories, Classification of refractories like- Acid refractories,

Basic refractories, Neutral refractories

Unit– VI Paints, Varnishes & Insulators.

Definition of paints and Varnishes, Purpose of oil paint, Characteristics of oil paints, Ingredients of paints, Function and Examples of each ingredient, Varnish and its types, Difference between paints and varnishes, Definition Of Insulators, Characteristics of Insulators, Classification of insulators,

Properties and Application of Glass wool and Thermocole.

Unit– VII Polymer, Adhesives Elastomers

Introduction and Definition of Polymer and Monomer, Classification of Polymer on basis of Molecular structure as Linear, Branch and Cross-linked polymers, Classification on basis of monomers (homopolymer and copolymer), Classification of Polymers on basis of Thermal behavior(Thermoplastics& Thermosetting),Types polymerization Reaction- Addition Polymerization,

Condensation Polymerization,Synthesis, properties and application of-Polyethylene, Polypropylene, Polyvinyl chloride, Teflo, Polystyrene, Phenol formaldehyde, Acrylonitrile, Epoxy Resin, Define the term elastomers , Natural rubber and its properties, vulcanization of rubber, Synthetic rubber,Synthesis,properties and uses-Buna-S Rubbe, Buna-N Rubber, Neoprene Rubber, Definition of adhesives and Examples, Characteristics of adhesives, Classification of adhesives and their uses.

LIST OF PRACTICALS

1. Determine the strength of acidic solution by using standard solution of Base.
2. Standardize KMnO solution by preparing standard oxalic acid and to estimate ferrous ions.
3. Standardize Na solution by preparing standard potassium dichromate and to estimate percentage of copper from Brass.
4. Determine PH-Values of given samples of Solution by using Universal Indicator and PH-meter
5. Determine the total hardness of water by EDTA method
6. Determine molecular weight of a polymer using Ostwald viscometer
7. Preparation of (any one) polystyrene, urea formaldehyde, phenol formaldehyde and its Characterization
8. Determine Calcium from given sample of cement by volumetric method
9. Determination of total dissolved and suspended solids in given water sample
10. Study of corrosion of metals in medium of different ph
11. Determine total alkalinity of water sample
12. Determine the COD of given water sample
13. Study of Corrosion of Metals in the different Mediums

REFERENCE BOOKS:1. Engineering Chemistry JAIN & JAIN Dhanpat Rai and Sons

Course Title: Building Drawing (Code: 3320601)

Teaching Scheme			Evaluation Scheme			
Theory	Tutorial	Practical	Mid	Internal	University	Credits
2	0	4	30	100	70	6

Unit – I Introduction

Types of drawing with appropriate scale & uses Index map, key plan, village map, site plan, layout plan., Types of Projection adopted in Building Drawing ,Scales for various types of Drawings

Working drawing, large scale drawing enlarges scale drawing. , Symbols, Conventions and Abbreviations for - Electrical fittings , water supply ,sanitary fittings, material for construction etc.,

Sizes of various standard papers

Unit– II Building, regulation, byelaws and Principle of Planning

Building bye laws of local body for residential building (show local authority publication)

-plot area, built up area, carpet area, FSI, size of rooms, margins, heights, passages, ventilation,circulation and others, Principles of planning for residential building in detail such as

- Room dimension, area, heights, privacy, roominess factor ,orientation, grouping, drainage, aspect, prospect, drainage, economy, Colour code for alteration and addition in existing building, Approval procedure with respect to bye's laws

Unit– III Planning of Residential Building

Concept plan and drawing of residential single and two storied buildings, Concept plan of public buildings such as hospital, school, shopping centre, office building and industrial unit, Given situation & Plot area, preparation of detailed drawing of a single storied and double storied residential building with detail of Line plan, Detailed Plan, Ground floor Plan, First floor plan, Elevation and Sections

Unit– IV Perspective Drawings and modelling

Introduction of perspective view and other related terms., Perspective view of single room residential building and simple public buildings, Elements of perspective drawing., Model preparation of simple buildings

Unit- V Constructioal details drawing of buildings

Drawings of Parts of buildings such as staircases, chajjas , projections, columns , pier,slabs, footings etc, Provisions in drawings for building services such as air conditioning, plumbing, water supply and firefighting, elevators, lifts and escalators etc, Electrification plan and drawings

Show building service like water supply, sanitary, electrification on line plan.

LIST OF PRACTICALS

1. Interpretation of building drawings approved under local authority
2. Draw symbols, conventions and Abbreviations in sketchbook
3. Study of building by-laws act and national building code (NBC)
4. Draw detail plan on drawing sheet - 1 plan, elevation and section of existing building (actual Measurement Drawing)
5. Draw detail of foundation plan of one room building /two room building in sketch book
6. Draw working drawings sheet -2 for single storied residential building (bungalow)on 250sq.m plot with scale and show following detail: GF & FF plan with elevation, section and opening schedule
7. Prepare concept plan of any one other type of building considering local bye laws: high school building, Shopping centre, Hospital and Industrial Building in sketch book.
8. Develop perspective view of single room residential building with verandah & steps by any methods.
9. Visit a residential building and observe the existing building service and Draw line plan for above services in sketch book
10. Prepare a model of a simple building using card board

REFERENCE BOOK

- 1 V. B. Sikka Civil engineering
- 2 Gurcharan singh, Subash chander drawing B. D. Kataria Sons , Ludhiana Civil Engineering Drawing

**COURSE TITLE: BASIC MECHANICAL ENGINEERING.
(CODE: 3320602)**

Teaching Scheme			Evaluation Scheme			
Theory	Tutorial	Practical	Mid	Internal	University	Credits
0	1	2				3

Unit – I Introduction

Introduction of mechanical engineering., Use of mechanical engineering: i: In day to day life. ii: Interdisciplinary use., Items in general use- identification criteria, major types, specifications and uses: such as bolts, nuts, washers, bearings, bushes, belts, springs, levers, couplings, brakes, screws, rivets, keys,o’ rings, oil seals, gears, pulleys, shafts, axles, etc. , Pipes and pipe fittings- Types, specifications and uses of pipes and pipe fittings., Hand and power tools:

i: Types, specifications and uses of spanners (such as fix, ring, box, pipe, allen, adjustable, etc.).

ii: Types, specifications and uses of hand tools (such as pliers, screw drivers, saws, hammers, chisels, cutters, planes, etc.). ,Types, specifications and uses of power tools(drill, chipper, etc.)

Unit– II Power Transmission & Safety

Power transmission:

- i. Importance.
- ii. Modes (belt drives, rope drives, chain drives and gear trains).
- iii. Types of belts.
- iv. Gear train-concept, transmission ratio.
- v. Applications.

Types and applications of couplings in power transmission., Causes and remedies of general accidents in power transmission. ,Safety norms to be followed for preventing accidents and damage in power transmission. , Safety norms to be followed in mechanical based industries / shop floors.

Unit– III Welding and Gas Cutting

Welding and Gas Cutting

- i. Types of welding
- ii. Arc and gas welding equipment, accessories and consumables.
- iii. Types of work carried out by welding and gas cutting.

Welding and Gas Cutting Process

- i. Working setup of arc and gas welding.
- ii. Precautions and safety during arc and gas welding

Unit– IV Internal Combustion Engines (I.C.Engines)

4.1 Internal combustion engines.

i: Meaning.

ii: Classification.

Working of petrol engine, diesel engine and gas engine., Performance parameters., Common troubles and remedies., Main parts and functions, Applications.

Unit– V Hydraulic and Pneumatic devices

Concept of theory of fluid flow., General properties of fluids., Pump.

- i. Working principle.
- ii. Types.
- iii. Working of centrifugal and reciprocating pumps.
- iv. Performance parameters.
- v. Main parts of pumps and their functions.
- vi. Common troubles and remedies.

Water turbines-working principle, types and applications., Common troubles and remedies of water turbine., Air compressor.

- i. Working principle.
- ii. Types.
- iii. Performance parameters.
- iv. Applications.

Other hydraulic/pneumatic/ hydro-pneumatic equipments.

- i. Principle of working-hydraulic lift, hydraulic pump, hydraulic power pack, hydraulic jack.
- ii. Applications of above equipments.

Unit – VI Material Handling

Need of material handling., Types, principle of working and applications of material handling equipments.

- i. Hoisting equipments.
- ii. Conveying equipments.
- iii. Surface & overhead equipments.
- iv. Earth moving machineries.
- v. Construction machineries.

Criteria for selection of material handling equipments., Factors affecting selection of material handling equipments., Selection of suitable material handling equipment for the given situation.,

Common troubles and remedies.

LIST OF PRACTICALS

1. a: Study various mechanical items, hand tools and power tools listed in Unit 1. Note their specifications/ designations (as per BIS) and uses.
 b: Identify use of each item demonstrated and will prepare the report with sketch of each item along with specifications/ designations (as per BIS) and uses.
2. a: Study various power transmission methods including points stated in. Explain concept and calculation of velocity/ transmission ratio for belt drives and gear trains.
 b: Prepare the report including sketches of power transmission systems studies with labeling of each part, their specifications and functions.
 c: Calculate the velocity ratio, diameters/number of tooth based on data given. This has to be included in report also.
3. a: Study arc and gas welding including points stated at unit number 3.
 b: Explain welding transformer settings for welding.
 c: Explain pressure settings for gas cuttings.
 d: Study use of welding and gas cutting consumables, accessories and safety items.
 e: Observe safety norms to be followed for welding and gas cutting.
 f: Prepare the report including :
 i. Sketches for welding and gas cutting setups.
 ii. Specifications, uses and sketches for welding accessories, consumables and safety items.
 g: Prepare one job using welding and one job using gas cutting.
4. a: Identify parts and demonstrate strokes of petrol, diesel and gas engines.
 b: Explain classification of IC engine on models.
 c: Determine the effect of variation of load on fuel- consumption of an I.C. engine. Also locate the faults in a given I.C. engine and suggest remedial measures.
 d: Prepare the report including :
 a. Sketches for various parts of petrol, diesel and gas engines and will explain the functions of each.
 b. Explanation of working of petrol, diesel and gas engines.
 c. Workout various parameters like break power, indicated power, fuel consumption, etc..
5. a: Explain concept of theory of fluid flow.
 b: Study properties of fluids.
 c: Classify, show various parts and explain their functions, also demonstrate working of:
 a. Various pumps.
 b. Various turbines.
 c. Various air compressors.
 d. Other hydraulic/pneumatic/ hydro-pneumatic equipments.
 d: Perform test on centrifugal pump. Also find fault and remedies for centrifugal pump. Work out important performance parameters.
 e: Study working of Air compressor.
 f: Prepare the report including :
 a. Sketches for various parts of pumps, turbines, air compressors and other hydraulic/pneumatic devices and will explain the functions of each.
 b. Explain working of various pumps, turbines, air compressors and other hydraulic and pneumatic devices.
 c. Workouts
6. a: Explain concept / demonstrate working of various material handling equipments / devices listed in Unit number 6. Also explain / demonstrate working of main parts of each equipment / device.
 b: Prepare the report including :
 a. Sketches for various parts of various material handling equipments / devices.
 b. Explain working of various material handling equipments / devices.

REFERENCE BOOKS:

1 Theory of Machines R.S.Khurmi and J.K.Gupta S.Chand

Course Title: Civil Engineering Workshop Practice
Course Code: 3320603

Teaching	Evaluation Scheme						
	Theory	Tutorial	Practical	Mid Term	Internal	University	Credits
		0	4		100		4

Unit – I Civil Engineering Activities At Construction Site

Unit– V Finishing Works

1. False ceiling, POP work, aluminum –glass works
2. Whitewashing and painting: brush, roller and spray painting, types of finishing, preparation of surface, need of primer for timber, steel and plastered surface.

LIST OF EXERCISES/PRACTICALS

1. Visit a nearby site where construction is at initial stage and observe for following (if necessary visit two/three times with a gap of a week). If drawings are available relate/match activities with the drawings.

- (a) Digging and filling
- (b) Foundation preparations
- (c) Brick/stone masonry
- (d) Concrete laying and Curing
- (e) Laying of sewerage/sanitary lines
- (f) Bar bending and bar laying for columns, beams and ceiling.
- (g) Onsite testing for quality
- (h) Onsite preparation for construction work

(i) Erection and removal of form work, scaffolding, centring/shuttering

Prepare a brief report on construction activities observed and methods, tools, equipment and materials being used.

2. Visit a nearby site where construction is at advance stage and observe for following (if necessary visit two/three times with a gap of a week) :

- (a) Plumbing
- (b) Welding, fittings,
- (c) Plastering
- (d) Flooring
- (e) POP work

Prepare a brief report on construction activities observed and material, tools, equipment and methods being used.

3. Visit a nearby site where construction work is at finishing stage and observe for following (if necessary visit two/three times with a gap of a week):

- (a) Carpentry work
- (b) False ceiling and aluminum –glass works
- (c) White washing/painting work (surface preparation being carried out for timber/steel/plastered surface.)

Prepare a brief report on construction activities observed and material, tools, equipment and methods being used

4. Assemble a brick wall of 120 cm length and 20 cm thickness and 60 cm height by arranging bricks in different bonds (using only wet mud as mortar). Ensure that wall is in line, plumb and at right angle to a given structure.(Group of 10 students).

5. Mark level of given height from ground level at different locations in the workshop using water pipe

technique.(Group of 10 students)

6. Prepare a plain smooth block (cuboids) of timber of given dimension using sawing and planning

operations.(Individual)

7. Join two wooden blocks with the help of dovetail joint.(Using sawing and chiselling operations) (Individual)
8. Drill the hole of given dimension at given location on a metal/wood piece. (Individual)
9. Observe demonstration of Arc welding and Gas Cutting of metal plates. (Group of 20 Students)
10. Assemble a pipe line as per given drawing using pipes of one inch diameter, pipes of half inch diameter, nipple, reducer, union, T, elbow, tap etc. (This may involve basic tasks such as marking, cutting, threading, etc and use of appropriate techniques so that water leakage does not occur) and then disassemble this pipe line. (Group of 10 students)

REFERENCE BOOKS

- 1 Bull, J.W. The Practical design of Structural Elements in Timber

Course Title: Contributor Personality Development
Subject Code: 1990001

Teaching Scheme			Evaluation Scheme			
Theory	Tutorial	Practical	Mid	Internal	University	Credits
4	0	0	30	50	70	4

- 1 **Who is a Contributor** Student develops an appreciation of who the Contributors are and how they fundamentally differ from Non-contributors in their overall approach to work, to other human beings, to society as a whole

- 1 **The Contributor's identity**

Student develops his/ her own answer to the question "who am I?" The student becomes aware of the fact that Non-contributors usually define themselves in terms of what they have acquired in life (e.g. qualifications, position, years of experience, etc.) while Contributors define themselves in terms of what they will become or accomplish (e.g. capacity to deliver, commitment and ownership of the organization's purpose, etc.).

- 2 **The Contributor's vision of success**

The student explores the meaning of success in his life. Through this exploration, the student is expected to recognize that Contributors have a wider definition of success than Non-contributors. While Non-contributors define success in terms of material success, achievement, external impact, etc., Contributors are able to widen this definition of success to include personal fulfillment, development of self-esteem, ongoing development of personal capabilities etc.

- 3 **The Contributor's vision of career**

The student learns to distinguish between an "acquisitive career" and a "contributive career". An acquisitive career is one in which the career-seeker is focused on acquiring higher position, higher salary, more benefits etc. This preoccupation with selfish interests often damages the individual's career, as well as, damages the organization and society. A contributive career is one where the career-seeker is focused on contributing, with rewards being a by-product of the contributions made.

- 4 **The scope of contribution**

The student learns to perceive that in all type of work, every type of role, there is a possibility of contributing at multiple levels – contributing to self, contributing to organization, and contributing to society. The student also appreciates the difference between "acquisition for self" and "contribution to self" – the former being material acquisition and the latter being conscious development of oneself through the medium of one's career.

- 5 **Embarking on the journey to contributor ship**

The student recognizes the fundamental "building blocks" for becoming a Contributor – the first building block being a shift from a "victim" to being a "creator of one's destiny"; the second building block being acceptance of the ideal of contributor ship; the third building block being the willingness to take full responsibility for one's own development; the fourth

building block being the capacity to reflect on one's development and make appropriate modifications.

6 Design Solutions

When faced with a challenge, the Contributor's first response is: "Can we find a solution?" This is unlike a Non-contributor who may respond to the challenge by trying a little and giving up, blaming others, or finding excuses to cover up the issue. Whereas, the Contributor finds a solution. In other words, the Contributor develops the capacity to find solutions through continuous practice and learning from other Contributors. In this topic, students learn the importance of willingness and ability to find solutions

7 Focus on value

What does creating value mean? It means making a positive difference, a tangible impact, a specific contribution to any situation. This positive difference or impact can be in the form of achieving a specific goal, creating a product, creating „human touch“ in a particular interaction, or enhancing one's own capacity, or the capacity of one's colleagues and teammates. Contributors are therefore extremely result-focused, but the result is measured in terms of value created. In this topic, students learn to clarify the meaning of the word "value" and how value is created in various situations.

8 Engage deeply

Contributors are instantly distinguished by the way they approach work. They get involved. They are enthusiastic. They go deep into the subject. In short, Contributors love what they do. This is in direct contrast to Non-contributors who want to do only what they love - an approach that seems reasonable until you realize that life and workplaces have so much variety that you may very often be called upon to do tasks that seem unpleasant or boring until you get involved.

In this topic, students learn the importance of engaging deeply with whatever work they do – at work, in study, in personal life.

9 Think in Enlightened Self-interest

Contributors think in Enlightened Self-Interest. In every situation they get into, they find a way to create something good for self and for all at the same time – including team mates, bosses, customers and their organization.

Contrasting to this is the mindset of a Non-Contributor. Such a person is only concerned with his/ her own self-interest in a situation. He/she is not concerned about the impact (positive or negative) on the other person. This leads to unpleasant situations, broken relationships, unhappy team-mates, subordinates, and bosses, and lower trust in any situation.

Students are expected to learn to appreciate the importance of thinking win-win for all stakeholders and also in various situations.

10 Practice Imaginative Sympathy

One of the unique qualities of Contributors is their ability to appreciate and understand others' life situation, others' mental condition, and others' point of view. How do they do this?

They have consciously developed a „way of thinking“ called „Imaginative Sympathy“. In this way of thinking, they are able to give due importance to the human aspects of a situation, and not just the technical or commercial aspects.

But this is not all. Imaginative Sympathy goes beyond looking at the human aspects of the situation. It also means that Contributors are able to anticipate possible interactions or reactions, they are able to take a multi-dimensional view of a situation and they are able to bring about changes or results while taking everybody along with them.

Imaginative Sympathy translates itself into active concern for others. Students will learn the importance and consequences of Imaginative Sympathy in a workplace situation.

11 Demonstrate Trust Behavior

Contributors recognize that they are able to achieve results and make contributions with the help of other human beings. They receive this help if and only if they are trusted and, in turn, trust. Contributors practice trust behavior from very early in their career, thereby building a huge trust balance (like a bank balance) over their career and relationships.

The term Trust Behavior may be described as character-in-action. This includes keeping one's word and commitments, staying with a task, acting with integrity in every situation, making sure that there is complete transparency in one's actions and interactions, etc.

Students are expected to learn to develop a deep appreciation of trust behavior and how it is practiced.

12 Resume Building

In this topic, students learn to develop a resume for the job-market. Students will learn to develop both a generic resume and resumes specific to some types of jobs. Students learn about best practices and common errors in developing their resume. Most important, students learn to analyze the jobs offered and present themselves in terms of their potential / willingness to contribute to the job.

13 Group Discussions (GDs)

In this topic, students learn (i) how to participate in a group discussion from the contributor's view-point (i.e. how to speak) (ii) how to contribute to the development of the topic (i.e. what to speak) and (iii) to develop the Contributor's view-point on various GD topics (i.e. how to interpret a topic of discussion from the point of view of a contributor)

14 Interview Skills

In this topic, students learn about (i) common interview questions and how to develop answers (ii) typical challenges faced in interviews beyond the questions (such as body language, grooming, presentation) (iii) most important, the student learns the importance of trust building and creating confidence in the interview.

REFERENCE BOOKS:

1 Swami Ranganathananda Universal Message of the Bhagavad Gita (Vol 1-3)