

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA IN ARCHITECTURE

FOURTH SEMESTER SYLLABUS(W.E.F. JANUARY 2015)

SUBJECT NAME –DESIGN STUDIO IV

SUBJECT CODE – 3346201

FOCUS:

To understand the use of technologies developed in other fields as a precursor to creating architecture. The design shall deal with multiple functions resulting in complex form. The design shall be sensitive to the needs of disabled, aged people and children To understand creating of spaces. Formal, informal and interactive spaces and their hierarchies in built Environment.

Design emphasis shall also be laid on structural feasibility and use of innovations in materials and techniques of construction for achieving the thermal comfort and energy efficiency for a given context. The design shall be mainly addressing to the local issues and construction processes.

CONTENTS:

- Studio project shall include problems involving above considerations such as institutes, Residential schools, Shopping malls (medium size), Single function Sports Complex, medium rise buildings, apartments etc (G+3).
- One major project and one minor project and a time problem to be tackled in the semester. Detailing of architectural features of the major project has to be attempted
 - Study of various building techniques and planning methods adopted in building for achieving thermal comfort and energy efficiency.
 - Study of structural system adopted
 - Case study, data collection, literature survey
 - Design proposal including study model
 - Detailing of architectural features involved shall be attempted

SUGGESTED BOOKS

- Time Saver Standards for Architectural Design Data by John Hanock,
- Architectural Graphic Standard by Ramsay and Sleeper.
- Neufert Data Standards Ernst Neufert Archon Books
- Building Drawing Shah, Kale, Patki Tata Mcgraw Hill Publishing

SUBJECT NAME – ADVANCED CONSTRUCTION TECHNOLOGY

SUBJECT CODE – 3346202

FOCUS:

To study the construction systems of roofing for large span and complex buildings. To study construction systems with focus on modern & contemporary building elements. Understanding of specialized construction system

CONTENTS:

- Materials and Construction Technology for large span structures(Temporary/Permanent):
 - Modular unit system
 - Space frame system
 - Tensile structures
 - Shell structures, folded plate, geodesic domes
 - Pneumatic structures
 - Flat slab
 - Waffle slab
 - Cofferslab
- PVC & FRP, frameless glass doors and windows and partitions. Wooden/ steel/ Aluminum sliding and folding doors and partitions.
- Steel doors for garages and workshops.
- Remote control systems of doors and gates.
- Structural glazing, aluminum composite panel. Cladding
- Understanding of Precast and Prestressed concrete components and their applications in building /construction industry.

- Plastics – types, properties and uses of plastics such as polycarbonates, acrylics, PVC polymer films, fiber reinforced plastic. Rubber and Asbestos cement products. Water proofing elements, construction chemicals and additives, adhesives, plaster of Paris, gypsum, Polystyrenes, sealants.
- Glass – its types like plate, tinted, decorative reinforced, laminated glass block, fiber glass, glass murals, partially colored glass, etching of glass and its applications in building industry for both exterior and interiors, functional and decorative, and fixing details.

SUGGESTED BOOKS

- Construction Technology by Chudley
- Construction of Buildings by Barry
- Building construction by McKay
- Building construction by Frank Ching

SUBJECT NAME – CPD

SUBJECT CODE – 1990001

Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE (E)	PA (M)	ESE Pr/Viva (V)	PA (I)	
4	0	0	4	70	30	0	50	150

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment

Note: It is the responsibility of the institute heads that marks for **PA of theory & ESE and PA of practical** for each student are entered online into the GTU Portal at the end of each semester within the dates specified by GTU.

Note:

1. This subject is compulsory.
2. 4 Credits will be over and above the existing credit structure.
3. This subject will be taught by faculty of English. For B. Pharm., the institute will have to nominate one faculty member for the subject.
4. In Institutes, whereas the load is not managed by the lecturers of English only, please nominate the other faculty for teaching the course of Contributor Personality Development.

(A) Background

The Contributor Personality Program has been designed keeping in mind the following:

- 1.0 Technology students should not only be excellently trained in the technological field, they should acquire soft skills if they are to be successful. Every student must also learn about the techniques of effective participation in a group discussion. He/she must learn to prepare his/her resume and he/she should also be groomed for presenting himself/herself at an interview.
- 2..0 There is a great need to equip students with not only the right skill-sets but also the right mindsets.



3.0 The „mind-sets“ needed in today’s environment must support both (i) effective action and (ii) Values and service oriented behaviour.

Effective action without human values can lead to personal benefits for individuals but a long-term cost to both nation and society. Human values without effective action can lead to an inability on the part of the individual to perform and flourish in today’s environment.

This combination of effectiveness with human values is crystallized in the concept of “contributor ship”.

4.0 Students who adopt and develop the right mindsets early in their professional career are able to bring about a positive and sustainable change in their overall personality.

They are able to grow the right approaches to their peers, seniors, industry, and their own future. They become more responsible and capable of shaping their own lives.

Therefore, the program may be rightly called a “Contributor Personality Development Program”.

5.0 Any program of this sort must, in order to be effective, be inspired and guided by a high ideal and principles/ practices flowing from that ideal.

The Contributor Personality Program is guided by the ideals and ideas of Swami Vivekananda – who represented in his leonine personality the highest ideals of human values combined with effective action.



(B) Course Outline

Topics 1-6 relate to the basic axioms or “mental models” that students carry about themselves, about success, careers, contribution, etc. The right mental models are a necessary prerequisite for developing into a Contributor.

Topics 7-12 are 6 core practices that will help a student manifest the ideal of contributor ship in one’s life.

Topics 13-15 relate to the students capability to connect into the job-market.

Topic	Course Title
1	<p>Who is a Contributor</p> <p>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.</p>
2	<p>The Contributor’s identity</p> <p>Student develops his/ her own answer to the question “who am I?” The student</p>

	<p>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.).</p>
3	<p>The Contributor's vision of success</p> <p>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.</p>
4	<p>The Contributor's vision of career</p> <p>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.</p>
5	<p>The scope of contribution</p> <p>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.</p> <p>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.</p>
6	<p>Embarking on the journey to contributor ship</p> <p>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.</p>

7	<p>Design Solutions</p> <p>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.</p> <p>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.</p> <p>In this topic, students learn the importance of willingness and ability to find solutions.</p>
8	<p>Focus on value</p> <p>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 team- mates.</p> <p>Contributors are therefore extremely result-focused, but the result is measured in terms of value created.</p> <p>In this topic, students learn to clarify the meaning of the word “value” and how value is created in various situations.</p>
9	<p>Engage deeply</p> <p>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.</p> <p>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.</p> <p>In this topic, students learn the importance of engaging deeply with whatever work they do – at work, in study, in personal life.</p>
10	<p>Think in Enlightened Self-interest</p> <p>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.</p> <p>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</p>

	<p>situations, broken relationships, unhappy team-mates, subordinates, and bosses, and lower trust in any situation.</p> <p>Students are expected to learn to appreciate the importance of thinking win-win for all stakeholders and also in various situations.</p>
11	<p>Practice Imaginative Sympathy</p> <p>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?</p> <p>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.</p> <p>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.</p> <p>Imaginative Sympathy translates itself into active concern for others. Students will learn the importance and consequences of Imaginative Sympathy in a workplace situation.</p>
12	<p>Demonstrate Trust Behavior</p> <p>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.</p> <p>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.</p> <p>Students are expected to learn to develop a deep appreciation of trust behavior and how it is practiced.</p>
13	<p>Resume Building</p> <p>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.</p>

	Most important, students learn to analyze the jobs offered and present themselves in terms of their potential / willingness to contribute to the job.
14	<p>Group Discussions (GDs)</p> <p>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)</p>
15	<p>Interview Skills</p> <p>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.</p>

(C) Course Plan

The course duration is 48 hours. It can be conducted in sessions of 1 hour each or some of the sessions can be combined as 2 hours each. The course plan is as follows –

<p>Topic 1: Who is a Contributor –</p> <p><input type="checkbox"/> 2 hours Theory and practice exercises based on Contributor Personality Program Workbook (Vol I)</p>	3 hours
<p>Topic 2: The Contributor's identity –</p> <p><input type="checkbox"/> 2 hours Theory and practice exercises based on Contributor Personality Program Workbook (Vol I)</p>	3 hours
<p>Topic 13: Resume Building</p> <p><input type="checkbox"/> 2 hours for Concepts, Tools, and Techniques <input type="checkbox"/> 2 hours for Projects</p>	4 hours
<p>Topic 3: The Contributor's vision of success –</p> <p><input type="checkbox"/> 2 hours Theory and practice exercises based on Contributor Personality Program Workbook (Vol I)</p>	3 hours
<p>Topic 4: The Contributor's vision of career –</p> <p><input type="checkbox"/> 2 hours Theory and practice exercises based on Contributor Personality Program Workbook (Vol I)</p>	3 hours
<p>Topic 5: The scope of contribution –</p> <p><input type="checkbox"/> 2 hours Theory and practice exercises based on Contributor Personality Program Workbook (Vol I)</p>	3 hours

Topic 6: Embarking on the journey to contributorship – <input type="checkbox"/> 2 hours Theory and practice exercises based on Contributor Personality Program Workbook (Vol I)	3 hours
Topic 14: Group Discussions (GDs) <input type="checkbox"/> 2 hours for Concepts, Tools, and Techniques <input type="checkbox"/> 2 hours for Projects and Practice	4 hours
Topic 7: Design Solutions – <input type="checkbox"/> 2 hours Theory and practice exercises based on Contributor Personality Program Workbook (Vol II)	3 hours
Topic 8: Focus on value – <input type="checkbox"/> 2 hours Theory and practice exercises based on Contributor Personality Program Workbook (Vol II)	3 hours
Topic 9: Engage deeply – <input type="checkbox"/> 2 hours Theory and practice exercises based on Contributor Personality Program Workbook (Vol II)	3 hours
Topic 10: Think in Enlightened Self-interest – <input type="checkbox"/> 2 hours Theory and practice exercises based on Contributor Personality Program Workbook (Vol II)	3 hours
Topic 11: Practise Imaginative Sympathy – <input type="checkbox"/> 2 hours Theory and practice exercises based on Contributor Personality Program Workbook (Vol II)	3 hours
Topic 12: Demonstrate Trust Behavior – <input type="checkbox"/> 2 hours Theory and practice exercises based on Contributor Personality Program Workbook (Vol II)	3 hours
Topic 15: Interview Skills <input type="checkbox"/> 2 hours for Concepts, Tools, and Techniques <input type="checkbox"/> 2 hours for Projects and Practice	4 hours
TOTAL	48 hours

(D) Examination Approach

Total marks: 150. Break-up of marks -

- (i) Final exam: 70 marks (equal weightage for topics 1-15)
- (ii) Presentations and projects for topics 1-12: 30 marks
- (iii) Projects for topics 13-15: 50 marks

(E) Instructional Strategy

1.0 The entire course will use a three-level instructional strategy

- Level I: Classroom Explorations
- Level II: Projects and Presentations
- Level III: Self-study by students

2.0 Level I: Classroom Explorations

1. The Classroom Explorations will be organized around the „Contributor Personality Program – Study Book“.

The Study Book may be downloaded by the student from the resource site produced by GTU.

2. The Classroom Explorations involves two kinds of explorations:
 - (i) Exploration of key concepts / frameworks such as “contributors vision of success” etc.
 - (ii) Exploration of the examples provided in the CPP Study Book.
3. The Classroom Explorations will be supported by Session Guide Sheets available online in the CPP ActivGuide.

3.0 Level II: Projects & Presentations

1. The entire Classroom Exploration process will be supplemented by projects and presentations.
2. Session Guides will provide sample topics for projects and presentations. Individual instructors will be free to develop their own projects/ presentation topics also.
3. This will not only enhance conceptual clarity but also build presentation, public-speaking, report writing, and group discussion skills of the students.

4.0 Level III: Self Study by students

1. Students will be given extensive learning support (upto 400 learning units) in the ActivGuide website. This will include videos, presentations, tests, etc.
2. Students can refer to ActivGuide on their own time through internet.

(F) Reference Material

Basic Study Material

SN	Author/s	Name of Reference	Publisher	Edition
1	Illumine Knowledge Resources Pvt. Ltd. (Downloadable from the internet)	Contributor Personality Program Workbook (Vols I & II)	Illumine Knowledge Resources Pvt. Ltd	Latest
2	Illumine Knowledge Resources Pvt. Ltd. (will be made available to all students on the Internet)	Contributor Personality Program ActivGuide	Illumine Knowledge Resources Pvt. Ltd	Latest

Reference Books

Topic	Course Title	Reference
1	Who is a Contributor	1. On Contributors, Srinivas V.; Illumine Ideas, 2011 2. Enlightened Citizenship and Democracy; Swami Ranganathananda, Bharatiya Vidya Bhavan, 1989 3. Personality Development, Swami Vivekananda; Advaita Ashrama
2	The Contributor's identity	1. To have or to be, Erich Fromm; Continuum International Publishing Group, 2005 2. The art of being, Erich Fromm; Continuum International Publishing Group, 1992 3. Raja Yoga, Swami Vivekananda; Advaita Ashrama
3	The Contributor's vision of success	1. Eternal Values for a Changing Society – Vol IV (Ch 25, 35), Swami Ranganathananda; Bharatiya Vidya Bhavan, 1993 2. Karma Yoga, Swami Vivekananda; Advaita Ashrama
4	The Contributor's vision of career	1. Six Pillars of Self Esteem , Nathaniel Branden; Bantam, 1995 2. Mindset: The New Psychology of Success, Carol S. Dweck; Random House Publishing Group, 2007
5	The scope of contribution	1. Awakening India, Swami Vivekananda; Ramakrishna Mission, New Delhi, 2011 2. Eternal Values for a Changing Society – Vol IV

		<p>(Ch 35), Swami Ranganathananda; Bharatiya Vidya Bhavan, 1993</p> <p>3. Lasting Contribution: How to Think, Plan, and Act to Accomplish Meaningful Work, Tad Waddington; Agate Publishing, 2007</p>
6	Embarking on the journey to contributor ship	<p>1. Vivekananda: His Call to the Nation, Swami Vivekananda; Advaita Ashrama</p> <p>2. Eternal Values for a Changing Society – Vol IV (Ch 33), Vol III (Ch 19, 21, 30) Swami Ranganathananda; Bharatiya Vidya Bhavan, 1993</p> <p>3. Lectures from Colombo to Almora, Swami Vivekananda; Advaita Ashrama</p>
7	Design Solutions	<p>1. Why not?: how to use everyday ingenuity to solve problems big and small, Barry Nalebuff, Ian Ayres; Harvard Business School Press, 2003</p> <p>2. How to Have a Beautiful Mind, Edward De Bono; Vermilion, 2004</p>
8	Focus on value	<p>1. The value mindset: returning to the first principles of capitalist enterprise (Ch 8 & 9); Erik Stern, Mike Hutchinson; John Wiley and Sons, 2004</p> <p>2. Managing for Results, Peter F. Drucker; HarperCollins, 2009</p>
9	Engage deeply	<p>1. The Power of Full Engagement: Managing Energy, Not Time, is the Key to High Performance and Personal Renewal, Jim Loehr, Tony Schwartz; Simon and Schuster, 2003</p>
10	Think in Enlightened Self-interest	<p>1. The 7 Habits of Highly Effective People, Stephen R. Covey; Simon and Schuster, 2004</p> <p>2. Creating Shared Value, Michael E. Porter and Mark R. Kramer; Harvard Business Review; Jan/Feb2011, Vol. 89 Issue 1/2</p>
11	Practice Imaginative Sympathy	<p>1. Eternal Values for a Changing Society – Vol IV (Ch 8, 10, 23, 35, 37), Swami Ranganathananda; Bharatiya Vidya Bhavan, 1993</p> <p>2. Eternal Values for a Changing Society – Vol III (Ch 18), Swami Ranganathananda; Bharatiya Vidya Bhavan, 1993</p>
12	Demonstrate Trust Behavior	<p>1. The Speed of Trust: The One Thing That Changes Everything, Stephen M. R. Covey, Rebecca R. Merrill, Stephen R. Covey; Free Press, 2008</p> <p>2. Integrity: The Courage to Meet the Demands of</p>

		Reality, Henry Cloud; HarperCollins, 2009 3. Responsibility at work: how leading professionals act (or don't act) responsibly, Howard Gardner; John Wiley & Sons, 2007
13	Resume Building	1. What Color Is Your Parachute? 2012: A Practical Manual for Job-Hunters and Career-Changers, Richard Nelson Bolles; Ten Speed Press, 2011 2. The what color is your parachute workbook: how to create a picture of your ideal job or next career, Richard Nelson Bolles; Ten Speed Press, 2011
14	Group Discussions (GDs)	1. Effective Group Discussion: Theory and Practice, Gloria J. Galanes, Katherine Adams; McGraw-Hill, 2004
15	Interview Skills	1. What Color Is Your Parachute? 2012: A Practical Manual for Job-Hunters and Career-Changers, Richard Nelson Bolles; Ten Speed Press, 2011 2. The what color is your parachute workbook: how to create a picture of your ideal job or next career, Richard Nelson Bolles; Ten Speed Press, 2011

General References:-

SN	Author/s	Name of Book	Publisher	Edition
1	Swami Ranganathananda	Universal Message of the Bhagavad Gita (Vol 1-3)	Advaita Ashrama, Kolkata	Latest
2	Swami Ranganathananda	Eternal Values for a Changing Society (Vol 1-4)	Bharatiya Vidya Bhavan	Latest
3	Asim Chaudhuri	Vivekananda: A Born Leader	Advaita Ashrama, Kolkata	Latest
4	Swami Vivekananda	Complete Works of Swami Vivekananda (Vol 1-9)	Advaita Ashrama, Kolkata	Latest
5	Swami Vivekananda	Letters of Swami Vivekananda	Advaita Ashrama, Kolkata	Latest

SUBJECT NAME – LANDSCAPE ARCHITECTURE

SUBJECT CODE – 3346204

FOCUS:

To introduce students to the discipline of landscape architecture and to develop basic skills required in handling simple landscape design projects.

CONTENT:

- Introduction to Landscape Architecture,
- Role of Landscape in architecture, natural and manmade landscape, urban and rural landscape
- Landscape elements – land forms, water bodies' vegetation, climate, and landscape furniture – their application in design.
- Study of Landscape materials and plant materials of surrounding region
- Landscape Design principles.
- Graphic design in Landscape
- Introduction to site planning: site study, site analysis, requirement analysis, synthesis and final site plan.
- Introduction to historical gardens like Mughal, Chinese, Japanese, Indian etc
- Study and analysis of contemporary landscape designs with two or three examples.
- Study of landscape of courtyards, roads, pathways, urban spaces, gardens, parking areas.

SUGGESTED BOOKS

- Landscape architecture by J .O. Simonds
- The landscape we see by Garrett Eckbo
- Introduction to landscape architecture by Michael Laurie.
- Time Saver Standards for Landscape architecture

SUBJECT NAME – THEORY OF ARCHITECTURE

SUBJECT CODE – 3346205

FOCUS:

To understand various concepts that lead to define “Theory of Architecture”. To develop ability to evaluate/understand our ‘built environment’.

CONTENTS:

- The proposed course primarily focuses on identifying various underlying covert, overt concepts, which are responsible to create our built environment. The question to be debated throughout the duration of the course is ‘whether there is anything like theory of architecture? Or is there an absolute theory of architecture?’
- The attempt will be made to understand various theories, namely, spatial concepts such as existential space, Euclidian space, physical space, perceptual space, conceptual space, behavioral space, interwoven space, space, positive/negative space, directional space, non directional space etc., theory of aesthetics, theory of semiotics, theories of human behavior (from behavioral sciences), theories of form, morphology, normative theory, positive theory and also Kantian concept of beauty.

SUGGESTED BOOKS

- Creating Architectural Theory- The Role of the Behavioral Sciences in Environmental Design, by Jon Lang
- The Theory of Architecture – ‘concepts, themes and practices’ by Paul-Alan Johnson
- Personal space- the behavioral basis of design by Robert Sommer

SUBJECT NAME – EKISTICS: SCIENCE OF HUMAN SETTLEMENT

SUBJECT CODE – 3346206

FOCUS:

It involves the study of all kinds of human settlements, with a view to geography and ecology — the physical environment — and human psychology and anthropology, and cultural, political, and occasionally aesthetics, organized in five **ekistics elements**: Nature, Anthropos, Society, Shells, and Networks.

CONTENTS:

- Scope, definition and introduction
- Ekistics units: Anthropos (1) to Ecumenopolis – 50,000 million
- Details of history and extent of human settlements, quality of human settlements
- 5 elements of Ekistics – Nature, Anthropos, Society, Shells and Networks
- The ekistics study will be conducted to analyze and understand human settlements in details in the following manner:
 - Physical factors- such as buildings used for housing, community services, commerce and recreation.
 - Activity pattern- means the various socio-economic and cultural activities which form the basic functions of the core
 - Traffic factor- study of movement and transportation facilities which connect activities and spaces
 - Aesthetic factors- include the visual aspects perceived by human sensory systems. Study of certain features like color, form, smell and noise, sense of motion and visual contrast.

SUGGESTED BOOKS

- Ekistics: an introduction to the science of human settlements, Kōnstantinos Apostolou Doxiadēs, Oxford University Press, 1968
- Ekistics 1969, 312 (Nov. 1969) by W.A. Howard,
- Emergence and Growth of an Urban Region, Vol.1, Analysis (1966); Vol. 2, Future Alternatives (1967); Vol. 3, A by C.A. Doxiadis,
- Concept for Future Development (1970) (Detroit Edison Co., Detroit)
- Past journals “Ekistics” published by Ekistic Institute, Athens, Greece