

	Course Title: TOWN PLANNING		
	Credits (L:T:P) : 4:0:0	Total Contact Hours: 52	Course Code: 15CE63A
	Type of Course: Lectures, Self Study	Credit : 04	Core/ Elective: Elective
CIE- 25 Marks		SEE- 100 Marks	

Prerequisites: Basic knowledge of Building Drawing and Building Bye - laws, Highway and Engineering.

Course Objectives:

1. To understand the concept of balanced town by ensuring that new and existing facilities are complimentary to each other.
2. To provide sustainable buildings by considering the environmental, social and economic conditions.
3. To provide diversity of accommodation.
4. To provide leisure and cultural facilities for the town.
5. To create awareness about the traffic management within the town.

At the end of the course the students should be able to:

Course Outcome		CL	Linked PO	Teaching Hrs
CO1	Analyse the data collected and apply suitable methods of planning.	R/U	1,2,5,7	06
CO2	Assess the infrastructure requirements of towns and to distinguish between rural and urban planning methods.	R/U/Ap/Ay	1,2,4,5,6,7	12
CO3	Solve the real time problems by keeping in view of social, environmental and health issues in a sustainable way.	R/U/Ap/Ay/	1,2,4,5,6,7,9	09
CO4	Focus on the various recreational requirements of the town and preparation of master plan.	R/U/Ap/Ay	1,2,4,5,6,7	09
CO5	Predict the difficulties and obstacles in re-planning of towns and select suitable urban renewal schemes.	R/U/Ap/Ay	1,2,3,4,5,6,7,	07
CO6	Plan safe and rapid road transit system by proper design of roadways and effective traffic management.	R/U/Ap/Ay	1,2,3,4,5, 6,7	09
CO7	Manage the suggested or identified problems in the field of town planning and solve in teams, in order to improve future problem solving ability and able to present it.	R/U/Ap/Ay	1,2,3,4,5,6,7,8,9,10	*
Total sessions				52

**Legend- R; Remember U: Understand Ap: Application Ay: Analysis C:Creation
E: Evaluation**

*** Related to Student activity beyond classroom hours.**

§ Mapping Course Outcomes with Program Outcomes

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments and Practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communication	Lifelong learning
Town Planning	3	3	2	2	3	3	3	1	2	1

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.

If $\geq 40\%$ of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3

If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2

If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1

If $< 5\%$ of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed.

UNIT	CONTENTS	HOURS	MARKS
1	Introduction	06	15
2	2.1 Surveys & Planning	12	35
	2.2 Zoning		
3	3.1 Housing	09	25
	3.2 Slums		
	3.3 Public buildings & Industries		
4	4.1 Recreation measures	09	25
	4.2 Master Plan		
5	Re-planning Existing Towns	07	20
6	6.1 Urban Roads	09	25
	6.2 Traffic Management		
Total Hours		52	145

Detailed Course Contents

UNIT	CONTENTS	HOURS
1	Introduction: Objects of town planning, principles of town planning, Origin and growth of towns – development of towns, Modern town planning in India, Socio – Economic aspects of town planning. Selection of site for an ideal town.	06
2	2.1 Surveys & Planning: Various types of surveys to be conducted for town planning project. Data's to be collected in different types of town planning survey. Types of planning, -a brief note on urban, rural and regional planning 2.2 Zoning: Definition – objects and principles of zoning. Advantages of zoning, Special Economic Zone (SEZ), Maps for zoning.	12
3	3.1 Housing: Classification of residential building as per HUDCO norms, Housing in villages, Low Cost Housing, Housing policy, different types of housing agencies involved in housing, investment in Housing, Housing Problems in India 3.2 Slums: Causes, growth, characteristics, effects, slum clearance and re-housing, prevention of slum formation, financial assistance for slum clearance. 3.3 Public buildings & Industries: Classification – location, Design Principles of public building, Grouping of public buildings. Effects of Industries on towns and cities, classification of industries, regulation of their location.	09
4	4.1 Recreation measures: Parks- park ways, Playgrounds, Theme parks, boulevards and their space standards, knowledge of Landscape sketches for a) Residential Building, b) Public Buildings and c) Industrial Buildings. 4.2 Master Plan: Meaning – Definition – objects and necessity of master plan, Data and Drawings required for master planning. Building bye laws, Preparation of a layout plan for a residential area showing LIG, MIG and HIG houses and other amenities (not to scale).	09
5	Re-planning Existing Towns: General - Objects of re-planning – Analyzing the defects of existing towns –difficulties in Master Planning of existing towns / cities - Urban renewal projects, merging of suburban areas – Decentralization - Satellite Towns – Smart cities- definition and features.	07
6	6.1 Urban Roads: objects, requirements, classification, types of street systems, through and bypass roads, outer and inner ring roads, expressways, freeways. 6.2 Traffic Management: objects, traffic surveys, traffic congestion, traffic control, road junctions and intersections, parking, road accidents, traffic capacity of roads, traffic islands, roundabouts, traffic signals, road signs, road markings, street lighting in a town.	09
	TOTAL	52

NOTE: Seminar/Model/Case study should be submitted by individual student at the end of every two units

COURSE DELIVERY: The course will be delivered through lectures and quizzes.

SUGGESTED STUDENT ACTIVITY:

1. Collect the town planning map of the nearby layout and study the land distribution as per zoning regulations.
2. Prepare a village map suitable for a 2000 population.
3. Collect the data of the existing industrial layout.
4. Prepare a master plan for a new residential layout keeping in view of the future growth for another century.
5. Collect the data regarding various housing schemes and their importance and utility.
6. Visit the nearby slum clearance board, study the various schemes and prepare a report.
7. Prepare a map consisting of various public buildings such as schools, banks court etc.
8. Prepare a report on various urban renewal projects.
9. Collect the data regarding the passive and active recreation facilities available in your locality.
10. Prepare a detailed chart of various building bye laws and zoning regulations.
11. Study the various administrative approval processes for buildings and prepare a report.
12. Prepare a detailed report about activities of HUDCO or any other housing/ urban development schemes or missions like Pradhan Mantri awas Yojana, Rajiv awas yojana, JN-NURM.
13. Prepare a report on various agencies for housing schemes in Karnataka like RGRHCL, KHB, and KSDB.
14. List out the functions of Karnataka Slum Clearance board.
15. List out the important benefits of Real estate control act-2016.
16. Study the road network pattern of your city/town/ locality and identify the problems and suggest suitable solutions.
17. Prepare a report on the use of Intelligent Transport System (ITS) for the traffic management.
18. Prepare a report on the Smart City Concept.
19. Prepare a case study on various SEZ's of India.
20. Study the different modern slum improvement techniques and prepare a report.

NOTE:

1. Students should select any one of the above or other topics relevant to the subject approved by the concerned faculty, individually or in a group of 3 to 5. Students should mandatorily submit a written report and make a presentation on the topic. The task should not be repeated among students. Report will be evaluated by the faculty as per rubrics. Weightage for 5 marks Internal Assessment shall be as follows:

Unsatisfactory **1**, Developing **2**, Satisfactory **3**, Good **4**, Exemplary **5**.

Reports should be made available along with bluebooks to IA verification officer

Example of model of rubrics / criteria for assessing student activity

Dimension	Students score				
	(Group of five students)				
	STUDENT 1	STUDENT 2	STUDENT 3	STUDENT 4	STUDENT 5
Rubric Scale	Unsatisfactory 1 , Developing 2 , Satisfactory 3 , Good 4 , Exemplary 5				
1.Literature	3				
2.Fulfill team's roles & duties	2				
3.Conclusion	4				
4.Conventions	5				
Total	14				
Average=(Total /4)	3.5=4				
Note: Concerned faculty (Course coordinator) must devise appropriate rubrics/criteria for assessing Student activity for 5 marks One activity to attain last CO (course outcome) may be given to a group of FIVE students					

Note: Dimension should be chosen related to activity and evaluated by the

Dimension	Rubric Scale				
	1 Unsatisfactory	2 Developing	3 Satisfactory	4 Good	5 Exemplary
1.Literature	Has not included relevant info	Has included few relevant info	Has included some relevant info	Has included many relevant info	Has included all relevant info needed
2. Fulfil team's roles & duties	Does not perform any duties assigned	Performs very little duties	Performs partial duties	Performs nearly all duties	Performs all duties of assigned team roles
3.Communication	Poor	Less Effective	Partially effective	Effective	Most Effective
4.Conventions	Frequent Error	More Error	Some Error	Occasional Error	No Error

Course Assessment and Evaluation Scheme:

What		To whom	When/Where (Frequency in the course)	Max Marks	Evidence collected	Course outcomes
Direct Assessment method	CIE	IA	Three Tests	20	Blue Books	CO1 to CO6
		Class room assignments	Assignments/ Seminars	05	Maintaining Log Book of activity	CO1 to CO7
		Seminars				
		Case Studies				
	Mini Project	Students				
SEE	End Exam	End of the course	100	Answer scripts at BTE	CO1 to CO6	
Indirect Assessment	Student Feedback on course		Middle of the course		Feedback forms	CO1, CO2, CO3 Delivery of course
	End of Course Survey		End of the course		Questionnaires	CO1 to CO7 Effectiveness of Delivery & Assessment Methods

*CIE – Continuous Internal Evaluation

*SEE – Semester End Examination

Note: I.A. test shall be conducted for 20 marks. Average marks of three tests shall be rounded off to the next higher digit.

Note to IA verifier: *The following documents to be verified by CIE verifier at the end of semester*

1. Blue books (20 marks)
2. Student suggested activities report for 5 marks evaluated through appropriate rubrics.
3. Student feedback on course regarding Effectiveness of Delivery of instructions & Assessment Methods

Weightage of Marks and blue print of marks for SEE

Unit	Major Topics	Hours Allotted	Questions to be set for SEE				Marks weightage	weightage (%)	A*	B*
			Cognitive Levels							
			R	U	Ap	Ay				
1	Introduction	6	50%	50%	0%	0%	15	10	1	1
			7	8	0	0				
2	2.1 Surveys & Planning 2.2 Zoning	12	30%	30%	30%	10%	35	25	1	3
			10	10	10	05				
3	3.1 Housing. 3.2 Slums 3.3 Public buildings	9	20%	20%	40%	20%	25	17	1	2
			5	5	10	5				
4	4.1 Recreation Measures 4.2 Master Plan	9	20%	20%	20%	40%	25	17	1	2
			5	5	5	10				
5	Re- planning of existing towns	7	22%	22%	44%	12%	20	14	2	1
			5	5	10	3				
6	6.1 Urban Roads, 6.2 Traffic Management	9	12%	22%	22%	44%	25	17	3	1
			3	5	5	10				
Total		52	26%	27%	26%	21%	145	100	9	10
			36	38	40	31				

A*-SEE QUESTIONS TO BE SET FOR (05MARKS) in PART – A

B*- SEE QUESTIONS TO BE SET FOR (10MARKS) in PART – B

Questions for CIE and SEE will be designed to evaluate the various educational components such as:

Sl. No	Bloom's taxonomy	% in Weightage
1	Remembering and Understanding	53%
2	Applying the knowledge acquired from the course	26%
3	Analysis	21%
4	Synthesis (Creating new knowledge)	0%
5	Evaluation	0%

MODEL QUESTION PAPER FOR CIE (TESTS)

Test/Date and Time	Semester/year		Course/Course Code	Max Marks
Ex: I test/6 th week of sem 10-11 Am	VI SEM		Town Planning	20
	Year: 2015-16		Course code:15CE63A	
Name of Course coordinator :				
Course outcome :CO1, CO2				
Note: Answer all questions				
Question	M	CL	CO	PO
1	5	R/U	1	1,2,5,7
What are the objects of town planning? OR Distinguish between horizontal and vertical growth.				
2	5	Ap	1	1,2,5,7
3	5	An	2	1,2,4,5,6,7
4	5	An/ Ap	2	1,2,4,5,6,7
How the vital survey is conducted before planning of the town? OR What is the necessity of drawings? What are the usual drawings prepared?				

Model Question Paper
Diploma in Civil Engineering
6th semester
Course title: **TOWN PLANNING**

Time: 3Hrs.

Max. marks: 100

Part – A

Answer any six questions of the following. Each question carries five marks:

1. What are the guiding principles of town planning?
2. How the town planning surveys are useful for a town planner?
3. Give a brief outline and functions of HUDCO.
4. Define master plan. What are the objects of master plan?
5. What are the objects of re-planning?
6. Write a short note on satellite town.
7. Mention the requirements of a good city road.
8. Differentiate between freeways and expressways.
9. What are the disadvantages of traffic congestion?

Part – B

Answer any seven questions of the following. Each question carries ten marks:

1. Explain the features of a satellite town with a neat sketch.
2. What are the topics to be covered in a civic survey?
3. Write a short note on i) regional planning ii) national planning
4. Explain the methods adopted to collect the data before planning a town. And also mention the drawings and maps to be prepared.

5. Explain briefly the causes and characteristics of slum.
6. Explain the broad principles which are to be observed while designing site and size of public buildings.
7. Define the parkway. And mention important factors to be remembered in connection with it.
8. List out the data to be collected while preparing the master plan of a town.
9. What are the usual defects of modern unplanned cities?
10. Enumerate the general principles to be observed in the design of road junctions to minimize the accidents.

Model Question Bank:

Introduction
Remembering
<ol style="list-style-type: none"> 1. What is meant by the term town planning? 2. What are the objects of town planning? 3. What are the guiding principles of town planning?
Application
<ol style="list-style-type: none"> 1. Discuss the growth of towns according to origin. 2. What is ribbon development? What are its disadvantages? 3. Mention the features of the satellite town. 4. Explain the concentric spread concept of development.
Analysis
<ol style="list-style-type: none"> 1. Distinguish between horizontal and vertical growth. 2. Mention the various stages of town development according to Lewis Mumford. 3. Mention the various stages of town according to Griffit Taylor. 4. Explain how the Indian villages are grouped. 5. How the cities are classified on the basis of population. 6. How the town is divided according to distribution of land use. 7. What are the ways of mobilizing the fund for the development of the town? 8. What are the factors to be considered while selecting an ideal site for a town?

Surveys & Planning
Remembering
<ol style="list-style-type: none"> 1. List out the various surveys to be conducted for the collection of data 2. What is the type of information collected in functional survey 3. Mention the information collected in the social survey 4. Enlist the information's to be collected in territorial survey
Application
<ol style="list-style-type: none"> 1. What is the necessity of drawings? What are the usual drawings prepared 2. Why is national survey necessary? Mention the topics which are usually covered in it? 3. What are the methods adopted to collect the data? 4. How the town planning surveys are useful for a town planner?
Analysis

1. How the vital survey is conducted before planning of the town?
2. How the national resources are studied?
3. Distinguish between national and preliminary survey
4. Differentiate between functional survey and territorial survey
5. Differentiate between regional survey and civic survey.
6. Differentiate between urban and rural planning.
7. Differentiate between regional and urban planning.

Zoning

Remembering

1. What you meant by the term zoning? What are the objects of zoning?
2. Mention the main principles of zoning.
3. What are the advantages and objects of height zoning?

Application

1. Explain the importance of zoning with illustrations.
2. Write a short note on the aspects of zoning.
3. What is the usual percentage of each zone in a normal town?
4. Describe transition zone?
5. Explain zoning powers.
6. What is the meaning of SEZ? What is its importance?

Analysis

1. Distinguish between density zoning and height zoning
2. Distinguish between zoning regulations and structural regulations
3. Distinguish between profit making and nonprofit making uses of the land.

Housing

Remembering

1. What are the factors to be considered while selecting the building site?
2. How are residential buildings classified?
3. Describe briefly a typical rural house.
4. Describe the agencies involved in the housing.

Application

1. Write short notes on i) flats, ii) Importance of housing iii) Rural housing iv) Investment in housing v) LIC housing boards vi) rural housing boards
2. Explain the function of GRUH
3. What are the important aspects of rural housing?
4. Give a brief outline and functions of HUDCO.

Analysis

1. What are skyscrapers? Are they desirable?
2. Mention the aspects to be considered in the design of residential areas.
3. Write a critical note on HDFC.
4. Why was CIDCO formed? Give an idea about its functions and achievements.
5. Discuss the national housing policy announced by the government in 1988.
6. Differentiate between the following:

- Detached houses and semi detached houses
- Apartments and skyscrapers
- Rural planning and city planning
- EWS, LIG, MIG and HIG

Slums

Remembering

1. Define and explain what is meant by slums.
2. What are the characteristics of slums?

Application

1. What are the objects of slum clearance programs?
2. State the legal aspects to be considered in any slum clearance project.
3. Explain rent restriction act

Analysis

1. Mention the points to be considered in any slum clearance project.
2. What are the resources for slum clearance and rehousing?
3. Discuss the open plot scheme for removal of slums.
4. How can formation of slum be prevented?
5. Describe the two methods of slum clearance.
6. Differentiate between the following:
 - Slum clearance and slum improvement
 - Transit camps and rehousing

Public Buildings and Industries

Remembering

1. How are public buildings classified?
2. What are the principles of design of public buildings?
3. What is town centre? What are its different forms?
4. How are industries classified according to the nature of dependence on circumstances?
5. What are the advantages and disadvantages of concentration of industries?
6. What are the measures to be adopted to control the location of industries?
7. Write short notes on : i) industrial survey ii) foot loose industries iii) special industries iv) Layout of an industrial township

Application

1. Mention the categories in which the public buildings are generally grouped.
2. Give some illustrations to indicate the importance of site selection with respect to the purpose of public buildings.
3. Mention the reasons for concentration of industries.
4. State the requirements of normal typical industry.

Analysis

1. Discuss the factors to be examined at the time of site selection for the public buildings?

<ol style="list-style-type: none"> 2. What are the different measures adopted for developing civic aesthetics? 3. Differentiate between the following: <ul style="list-style-type: none"> • Dependant buildings and institutional buildings. • Business centers and civic centers • Public buildings and business buildings • Educational center and health center • Departmental stores and market 4. Discuss the types of industries classified on the basis of nature of industry. 5. Explain what is meant by sitting of an industry. 6. Differentiate between the following: <ul style="list-style-type: none"> • Fixed industries and linked industries • Heavy industries and light industries • Primary industries and secondary industries • Linked industries and foot loose industries

Recreation measures
Remembering
<ol style="list-style-type: none"> 1. What are the two types of recreation? 2. How are parks classified according to character? 3. How are parks classified according to size? 4. What is ideal park system? Describe important types of park systems. 5. Write a short note on i) theme parks ii) boulevards
Application
<ol style="list-style-type: none"> 1. Give sketches of the following <ul style="list-style-type: none"> • Combined belt and wedge park system • Layout of a typical park • Typical play ground of fully developed school
Analysis
<ol style="list-style-type: none"> 1. What are the space standards for parks and play grounds? 2. Prepare landscape sketches for a) Residential Building, b) Public Building and c) Industrial Building.

Master Plan
Remembering
<ol style="list-style-type: none"> 1. Define master plan. What are the objects of master plan? 2. What is the necessity of master plan? 3. Mention the various stages of preparation of a master plan for a town. 4. Explain building Bye-laws
Application
<ol style="list-style-type: none"> 1. What are the data to be collected to prepare a master plan? 2. What are the drawings to be prepared to prepare a master plan?
Analysis
<ol style="list-style-type: none"> 1. What are the features of a master plan? 2. What is meant by the term planning standards?

Re-planning of existing towns**Remembering**

1. What are the objects of re-planning?
2. What are the data to be collected for re-planning of a town?

Application

1. What is an urban renewal project? Mention the important aspects of urban renewal projects.
2. Define smart city. What are its features?
3. Define a garden city and explain in detail how Ebenezer Howard Conceived it.
4. Write a short note on- i) satellite town ii) sub urban areas

Analysis

1. What are the defects of existing towns?
2. What are the arrangements adopted for decentralization and recentralization?

Urban Roads**Remembering**

1. What are the importance and objects of urban roads?
2. Mention the requirements of a good city road.
3. How are the urban roads classified?
4. Define a freeway and mention its essential features.
5. Define an expressway and mention its essential features.

Application

1. Discuss the various categories of street systems.
2. Explain with sketches i) through and bypass road ii) outer and inner ring road

Analysis

1. Differentiate between ring road and expressways.
2. Differentiate between freeways and expressways.

Traffic Management**Remembering**

1. What are the main objects of traffic management?
2. What are the chief uses of traffic surveys?
3. What are the disadvantages of traffic congestion?
4. What is traffic control? What are its objectives and how is it achieved?
5. What is roundabout? State its advantages and disadvantages.

Application

1. What is the procedure adopted for a traffic survey? Discuss the information collected in such a survey.
2. State the measures adopted to avoid traffic congestion.
3. What are the factors to be considered while selecting a particular type of road junction?
4. Draw sketches of the following i) traffic island ii) elliptical roundabout iii) clover leaf crossing iv) diamond crossing v) tangent type roundabout vi) turbine type round about vii) rotary interchange viii) T – intersection ix) Y- intersection.

5. Write a note on traffic capacity of roads.
6. What are the advantages and disadvantages of traffic signals?
7. What are the usual forms of road markings?
8. Why are street lights necessary? Mention the usual types of street lights.

Analysis

1. What is traffic congestion? What are the causes responsible for developing traffic congestion?
2. Discuss the arrangements made at important road junctions.
3. Mention the general principles to be observed in the design of road junctions.
4. What are the effects of improper parking on urban environment?
5. Explain the methods adopted to grant parking facilities.
6. What are the causes of road accidents?
7. Why are road signs necessary? Mention their negative functions.
8. What are the limitations of road signs?
9. Discuss the various types of road signs as per the provisions of the Indian motor vehicle act and IRC code.
10. Explain with the help of sketches, various arrangements of street lights.
11. Differentiate between the following:
 - On street parking and off street parking
 - Guiding road signs and regulatory road signs
 - Clover leaf crossings and diamond crossings
 - Traffic island and roundabout
 - Mandatory road signs and regulatory road signs

TEXT BOOKS/WEB LINKS

- Town Planning by Rangwala.
- Fundamentals of Town Planning by G.K Hiraskar.
- Town Planning by Abir Bandyopadhyay.
- www.moud.gov.in/
- www.uddkar.gov.in
- <https://www.karnatakahousing.com/>
- www.hudco.org
- www.ksdb.kar.nic.in
- <http://www.uddkar.gov.in>
- <http://www.urbantransport.kar.gov.in/>