

Q.1. Write a short note on town planning.

A. The term “town planning” is used to indicate the arrangement of various units or components of a town in such a way that it is healthy for its inhabitant to live in, convenient for them to move about, beautiful for people to look at and its environment helps in striking a balance between one’s personal and professional lives. It also includes ways and means to be adopted for the improvement of the existing towns or their extension. Thus, the knowledge of town planning helps in achieving the best possible advantage of the situation of town with respect to its land and the surrounding environment.

Town planning is science as well as an art.

The science consists of collecting, correlating and analyzing the facts about a town. However, it is not an exact science and precise forecasts about the future possibilities are not attainable. But the gap between guesswork and prediction can be brought down to a minimum by the cooperation of various agencies involved in the use and development of land.

The art is in arranging its units in such a way that the final result is in the form of a beautiful, convenient, economic and efficient town.

Town planning demands active imagination and sharp common sense of the understanding of various needs of the society occupying or likely to occupy the town. It requires preparation of layout plans and carrying out researches so that it caters to all sectors of its public. The success of town planning lies in converting the town from an inert and lifeless place to a complex area that thrives with lives.

Q.2. Discuss the objectives of town planning.

A. The four essential objectives or ideals of town planning are convenience, health, beauty and environment.

The objective of convenience is understood in the form on various economic, social and recreational amenities to be given to the public. These amenities include cheap power and electricity, proper sites for industrial units, transport facilities, adequate water supply, easy disposal of sewage and industrial wastes, facilities to commercial units etc. The recreational units include open spaces, parks, town halls, play grounds, cinema houses, community centres, stadiums etc.

The objective of health is accommodated in a town planning scheme by making right use of land for the right purpose, by providing parks and playgrounds for the public, by maintaining the pollutions of various forms to the lowest degree possible. It is achieved by dividing the land into zones such as residential, commercial etc. and by avoiding the encroachment of one zone upon the smooth and orderly development of the town in future.

The objective of beauty is achieved by taking the most possible advantages of the natural conditions surrounding the town and also by giving architectural finishes to the various components of the town. It also includes the preservation of trees, natural greenery, architectural control on public as well as semi-public buildings and buildings of religion, culture and historical significance etc.

The objective of environment is important in the sense that environment should be moulded in such a way that people can get about their normal activities with the least amount of strain. The complex problems of modern society such as tiresome travel to work, long hours at work, limited time spent with the community etc. have gradually led towards serious mal-adjustment between the human being and the type of life he had to live. These mal-adjustments have tended to destroy the vitality of urban living and the town planning is mainly concerned with bringing about a better relation between man and his environment.

Q.3. Explain the principles of town planning.

A. The subject of town planning demands knowledge of various professions, especially those of engineering, architecture and surveying. A town should not be designed only to satisfy the needs of the future generation, but the probable growth and development of the town should be conceived while town planning and it should be seen that the town doesn't develop in any haphazard manner. Some of the guiding principles of town planning are as follows:

- i) Green Belt: The provision of a green belt on the periphery of a town results in the limitation of its area and hence, the final size of the town can be anticipated.
- ii) Housing: Extreme care should be taken to provide housing accommodation to the various categories of people. It should be observed that there is no development of slums and further, if slums are existing, they are cleared by the provision of some alternative management.

- iii) Public Buildings: There should be a well balanced grouping and distribution of various public buildings throughout the town. The unnecessary concentration of public buildings at certain spots of the town should be avoided.
- iv) Recreation Centres: Depending upon the size of the town, enough spaces should be reserved for the development of recreation centres for the general public.
- v) Road Systems: The efficiency of any town is determined by the layout of its roads. A nicely designed road system puts a great impression in the mind of people, especially the visitors of the town. The provision of a faulty road system in the initial stages of town formation proves to be too difficult to repair or re-arrange in the future.
- vi) Transport Facilities: The town should be provided with suitable transport facilities so that there is minimum loss of time from place of work to the place of residence.
- vii) Zoning: The town should be divided into suitable zones such as residential zone, commercial zone, industrial zone etc. and suitable rules and regulations should be formed for the development of each zone.

Q.4. Explain development plan or master plan in detail.

A. A development plan or a master plan or a town plan may be defined as a general plan for the layout of a city showing both existing and proposed streets or roads, open spaces, public buildings etc. A development plan is required either for the improvement of an old city or a new town to be developed from virgin soil. Thus, a development plan is an ideal plan showing the full development of a town at some future date. It aims at controlling the future growth of a town along preconceived and predetermined path.

Following are the main *objectives* of a development plan:

- i) It aims at intelligent and economic spending of the public funds for achieving welfare of the inhabitants in respect of amenity, convenience and health
- ii) It places various functions which a town has to perform in physical relation to each other so as to avoid the chances of mutual conflict
- iii) It arranges the pattern of the town in such a way so as to satisfy the present requirements by keeping enough provision for future expansions
- iv) It helps in restricting the haphazard and unplanned growth
- v) It serves as a guide to the planning body for making any recommendations for public improvement.

vi) It removes the defects of uncoordinated physical growth of the physical components of town due to the fact that it considers the entire area of the town as planning and development entity.

Development plan is *necessary* for:

- i) the control of development of various industries in a systematic way
- ii) discouraging the growth of town in an unplanned and unscientific way
- iii) giving a perspective picture of a fully developed town
- iv) limiting to a certain extent the unprecedented flow of rural population to the urban area
- v) offsetting the disadvantages due to overcrowding of population such as traffic congestion, insufficiency in public amenities etc.

The *data required* for the preparation of a development plan are:

- i) details of trade and industries
- ii) development of the airports
- iii) economic conditions of the authorities
- iv) environments of the site
- v) transportation facilities
- vi) geological conditions of the site
- vii) land values and land use pattern
- viii) locations of spots of natural beauty
- ix) location of the water supply units
- x) meteorological details such as intensity and direction of wind, temperature, rainfall etc.
- xi) mineral resources
- xii) places of historic origin
- xiii) political position of the surrounding area
- xiv) population
- xv) requirements for railway stations, goods yard, shipping facilities etc.
- xvi) special requirements for power houses, gas works, sewage disposal plant, storm water drainage etc.

The development plan is proposed in the form of the following *drawings*:

- i) boundaries of lands of different types such as residential, agricultural, industrial etc.
- ii) boundary of green belt surrounding the town
- iii) contours of the whole city
- iv) different zones

- v) landscape features
- vi) locations of the public buildings and town centres
- vii) open spaces including parks and playgrounds
- viii) positions of natural springs, rivers and streams
- ix) positions of the public utility services such as water supply station, sewage disposal plant, power plant etc.
- x) road systems etc.

The *features* to be included in a development plan of a town can be listed as follows:

- i) convenience and cheap mode of transport
- ii) good sanitation and water supply
- iii) open air spaces
- iv) population density control
- v) proper situations for places of worship, education and recreation
- vi) rational layout
- vii) width of roads etc.

Q.5. Classify the road systems in detail.

A. Road systems are the layout and interconnectivity of the various types of roads in a town (namely arterial roads, sub-arterial roads or major roads, local roads or minor roads, streets and pathways). On examining the street systems of existing towns, it is possible to classify them into various categories or patterns as follows:

i) Rectangular Road System:

In this road system, the roads are usually of equal width and they cross each other at right angles. It is also known as *grid-iron* or *chequer-board pattern*. This pattern is suitable for flat or level country without any predominant features. Its advantages are considerable increase in traffic capacity, comfort, convenience, simple intersections, economic construction and minimising wastage of land. Its disadvantages are more chances of road accidents, monotony and no shortcuts.

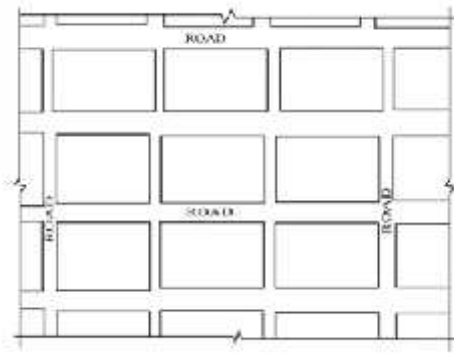


Fig 1: Rectangular or Grid Iron or Chequer Board Road System

ii) Rectangular with Superimposed Diagonal Street System:

This arrangement is an improvement on grid on pattern. The diagonal streets provide direct communication between the distant parts of town as shown in the figure. The points where diagonals meet are utilized for parks, gardens, memorials etc. However, a dangerous intersection is formed at the crossing point of diagonal street and rectangular street.

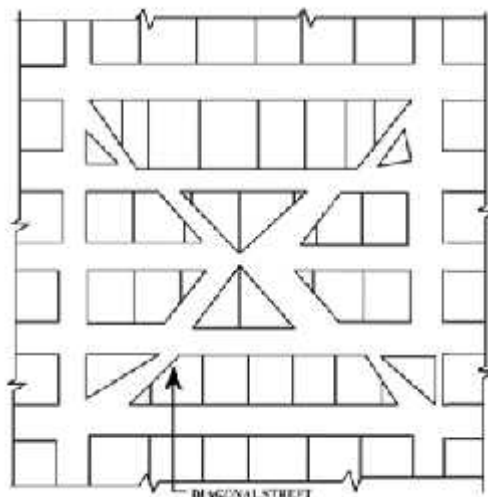


Fig 2: Rectangular with Superimposed Diagonal Street System

iii) Concentric Road System:

In this pattern, the ring roads or circumferential roads are connected by radial roads and will form concentric development as shown in the figure. This pattern is also known as the Spider's Web system. It is developed mostly due to the removal of encircling walls and fortifications. If however, the radial roads are not fully developed, they will overload the central part of the town where they intersect.

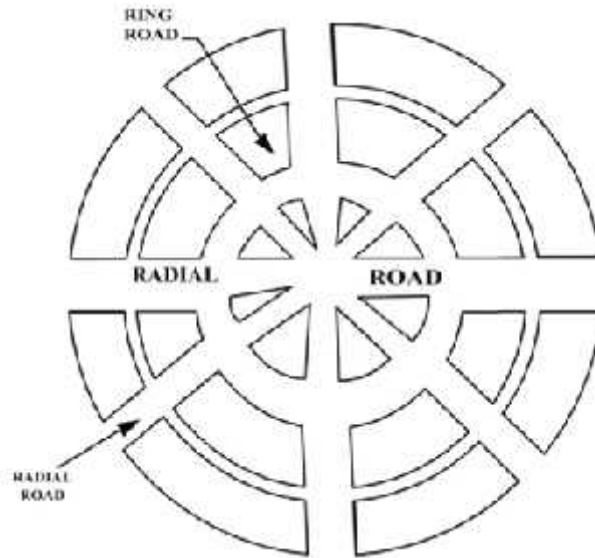


Fig. 3: Concentric or Spider's Web Road System

iv) Radial Road System:

In this pattern, the ring road springs out from a central civil centre or hub like the spokes of a wheel as shown in the figure. This gives significance and importance to the hub, but may prove uneconomical due to wastage of land.

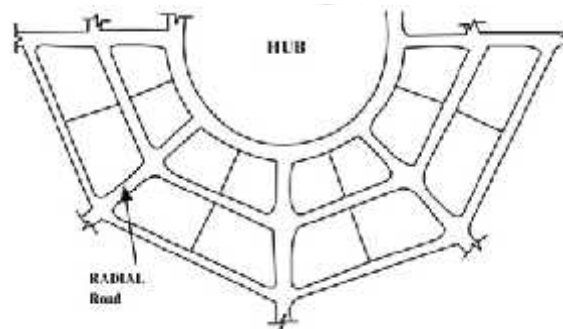


Fig 4: Radial Road System

v) Combination of Radial and Rectangular Road System:

In this system, the radial streets are blended or mixed with rectangular streets to derive maximum advantage of the topography as can be seen in Delhi and London.

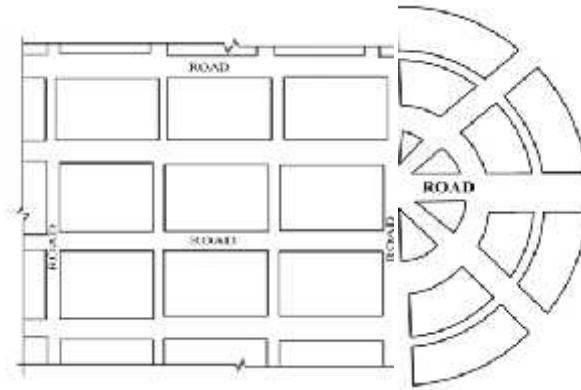


Fig. 5: Combination of Radial and Rectangular Road System

vi) Irregular Mediaeval Road System:

Places that develop in an irregular way without any definite plan of road system leads to this unmethodical and illogical road system which is naturally inefficient to carry urban traffic.

vii) Topographical Road System:

This is an unplanned, irregular road of varying width formed with the advantage of natural topography like river, hillock etc. thereby providing a pleasant view but is inefficient in carrying urban traffic.

viii) Combination of Rectangular and Mediaeval Road System:

In this system, an old mediaeval road is connected to a new rectangular road system.

Q.6. Write a short note on zoning.

A. The term “zoning” in town planning is used to include two aspects of planning: (i) allocation of land for specific purposes and (ii) control of the use, height and construction of the building.

There are three types of zoning:

a) Density zoning:

The population density in residential areas is controlled by means of suitable rules and regulation. It is quite evident that it is not practical to restrict the number of person from occupying any residential units. Hence, certain indirect measures are adopted; like specifying the front, side and rear margins of the building from the boundaries, specifying the ratio of total built up area to total site area etc. This helps in the planning and providing of adequate facilities and amenities for a town.

b) Height zoning:

The height zoning aims at controlling the heights of buildings with due consideration of the following two factors: (i) bulk or cubical contents of the building and (ii) street width and other adjacent marginal open spaces from the point of view of provision for light and ventilation. The restriction of height of a building depends on the nature of building, type of zone and climatic conditions. Special restrictions for height is applied if the locality is nearby an airport site.

c) Use zoning:

According to us, the zones are usually categorised into the following four types: (i) residential zone (40 – 50% of the total area of the town), (ii) commercial zone (2 – 5%), (iii) industrial zone (2 – 25%) and (iv) recreational zone (remaining area). The residential area needs to be near markets, parks and playgrounds but need to be free of nuisance, noise and smoke. Commercial areas need to be near the centres of traffic and should preferably be near the roads. Light industries or factories running on electric power and causing no nuisance to nearby areas may be allowed next to residential zones; on the other hand, the ones releasing obnoxious gases and fumes should be placed on the outskirts of the town. Recreational zone includes mainly parks, playgrounds, cinemas, clubs etc and they may be scattered throughout the plan of the town based on demand.

Q. 7. Write a short note on slum clearance and rehousing.

A. The complete removal of slum has been recognised as the ultimate objective and slum improvement has been considered as an immediate alternative to give relief to slum dwellers.

The main five difficulties to be encountered while pursuing the slum clearance programme are as follows:

- (i) constraint of resources,
- (ii) high cost of alternative sites near the place of work,
- (iii) lengthy and time consuming procedures of the acquisition of slum area,
- (iv) low rent paying capacity of the slum dwellers with the result that the subsidized rents also prove to be too high and

(v) reluctance or the unwillingness of the slum dwellers to move from the areas elected for clearance.

Following are some of the measures which may be adopted to make the slum clearance and rehousing schemes successful:

- (i) In the surrounding area of the metropolitan city, satellite towns should be formed with the view to provide for growing employment opportunities and better living conditions in such centres.
- (ii) The slum rehabilitation scheme may be combined with some commercial schemes so as to make it self-supporting in finance.
- (iii) The minimum carpet area including sanitary conveniences may be decided for a family.
- (iv) The potentialities of the open plot scheme combined with self-help housing on the part of the slum community should be fully exploited.
- (v) The state Government should make enough provisions in the budget for the construction of minimum houses for the slum population.

Q.8. Write a short note on green belt.

A. An open strip of land provided on the periphery of a town. Construction of buildings in the green belt is strictly prohibited; although permission for building construction in the green belt may be permitted under special circumstances. It serves the following purposes:

- (i) It defines the size of the town and in this respect it assists in suitably designing the various public amenities for the city or town.
- (ii) It prevents the spreading of town.
- (iii) It helps in preventing the slum formation.
- (iv) It can be used for agricultural purposes, thereby providing the food and vegetables required for the town.
- (v) It can be developed as poultry farm or nursery.
- (vi) It can be developed as parks, playgrounds, picnic spots and recreational centres.