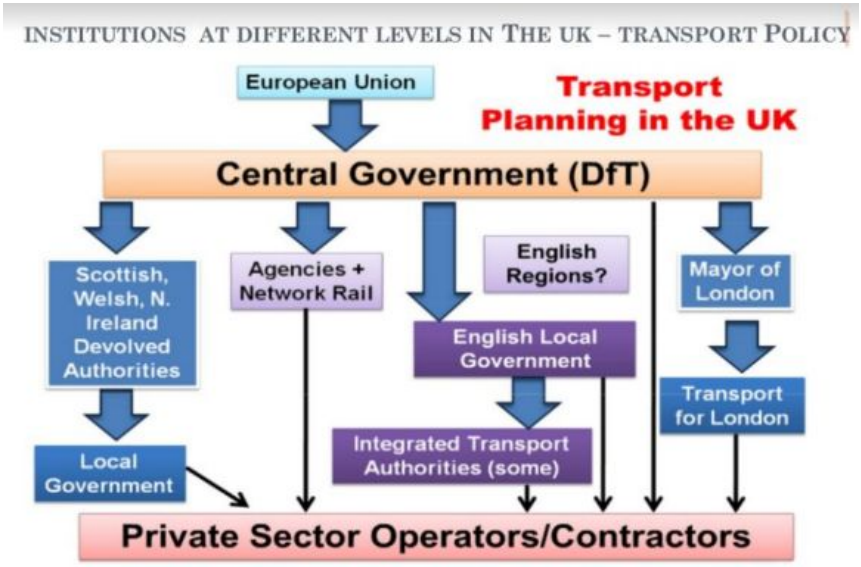
Transportation Planning II

Question Bank

Module I:

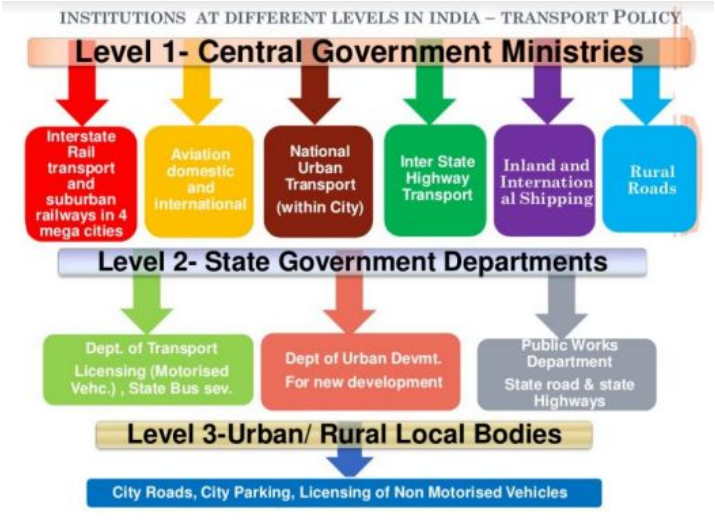
1. **Evolution of Transportation policy in India and UK? 20M**
   - **A. UK :---10M**

The United Kingdom, made up of England, Scotland, Wales and Northern Ireland,
is an island nation in northwestern Europe. The United Kingdom is a parliamentary democracy with a constitutional monarch. A king or queen is the head of state, and a prime minister is the head of government. The people vote in elections for Members of Parliament (MPs) to represent them. Although some powers have been devolved to Scotland, wales and Northern Ireland.



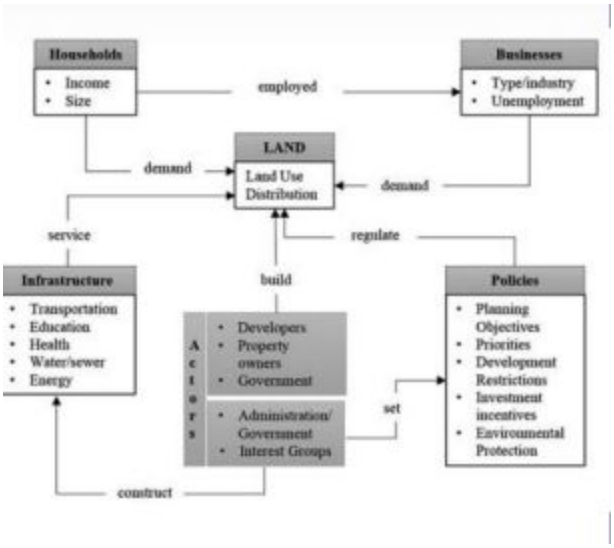
- **B. India:---10M**

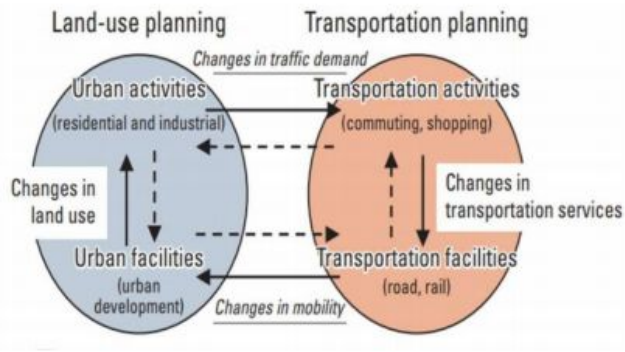
The Republic of India is a federation of 29 states and 7 union territories. It has a parliamentary government, organized under the Constitution of India. The Indian Parliament consists of two Houses – Rajya Sabha (Council of States/Upper House) and Lok Sabha (House



of the People/Lower House). While the President is the head of the state, the Prime Minister, as head of the Central or Union government, exercises the most executive power.

2. Explain briefly about the land use transportation policy along with the cycle? 20m





A. Urban models and more specifically LUTIM were the way in which planners began to use the capabilities of personal computers, a tool to process large volumes of spatial data quickly, reliably, and accurately. The first generation of ITLUM occurred in the 1950s in North America, where rapid economic growth and the need for systematic study of interactions between land uses and the transport system set the conditions for creation and exploitation of the first urban models (Brail and Klosterman, 2001).

3. Explain National urban Transport Policy? 20m

A. VISION:

• To recognize that people occupy center-stage in our cities and all plans would be for their common benefit and well being

• To make our cities the most livable in the world and enable them to become the“engines of economic growth” that power India’s development in the 21st century

• To allow our cities to evolve into an urban form that is best suited for the unique geography of their locations and is best placed to support the main social and economic activities that take place in the city.

OBJECTIVES:

The objective of this policy is to ensure safe, affordable, quick, comfortable, reliable and sustainable access for the growing number of city residents to jobs, education, recreation and such other needs within our cities. This is sought to be achieved by:

• Incorporating urban transportation as an important parameter at the urban planning stage rather than being a consequential requirement

• Encouraging integrated land use and transport planning in all cities so that travel distances are minimized and access to livelihoods, education, and other social needs, especially for the marginal segments of the urban population is improved.

Module II:

1. **Explain briefly about land use and transportation? 5M**
   A. land use is one of the prime determinants of movement and activity i.e, trip generation which needs streets and transport system for movement flow chart

2. **Explain early land use transport models? 15m**
   A. Land use Transport models
      a. Activity weighted techniques
      b. Density saturation gradient method
      c. Accessibility model
      d. Intervening opportunities

3. **Define urban form? Explain briefly about the Impact on land use and transport? 20M**
   A. The spatial pattern or arrangement of individual elements such as building streets, parks and other land uses as well as the social groups, economical activities and public institutions within an urban area are recognised on the urban form.**----5M**
   Impact of land use and transport :----5M
   Transport and land use interact with each other in a mutual and dynamic manner. Changes in the transportation system create new accessibility levels that influence land use patterns.
   Individual land use factors:----10M
      1. Density
      2. Regional accessibility
      3. Land use mix
      4. Road way design
      5. connectivity
      6. transit accessibility

4. **Define TOD? Explain the concept of TOD along with advantages? Explain design principles of TOD? with neat sketches? 20M**

   A. It means integrating urban places designed to bring activities buildings and public spaces together with easy walking and cycling connection between them and near excellent transit services to the rest of the city.**---5M**

   Design :-----15M

   1. Walk
   2. Cycle
   3. Connect
   4. transit
   5. mix
   6. Density
   7. Compact
   8. Shift

Module III:

1. **What regional transport planning? Explain in detail about the data required and techniques used to plan? 20m**
   A. RTP Process:---10M

   Regional vision and goals

   Existing conditions analysis

   population and employment forecast

   monitor system performance

   Data Required :---10M

   1. mode of transport
   2. Network of roads , railways,waterways
   3. Traffic volume
   4. Pattern of movement
   5. transport corridors and terminals

2. **Explain the regional transport accessibility is more essential in reducing rural regional planning? 20M**

   A. Accessibility highlights the relationship between transportation systems and various land use activities. For fast and safe transportation system , with accessibility and convenient network facilities are necessary for planned regional development**----10M**

   Accessibility and rural regional poverty :---10M

The reasons for poor economic growth and development and most similar at the local and regional levels. Poor accessibility services are considered as one of the prominent factors responsible for the economic recession and less development of rural areas.

3. **Discuss about the planning parameter for road transport? 20M**
    A. Planning Parameters of Road Transport
        1. Road type
        2. Vehicle type
        3. Road users
        4. Geometrics
        5. speeds
        6. controls
        7. Horizontal Alignment
        8. vertical alignment
4. **Explain briefly how metropolitan planning organizations plan transport systems at regional level? 20M**
    A. **RTP:** Generally , the need for transportation stems from within and beyond the region **---10M**

    Planning Activities and investments:---10M

    Planning process of the cities

    lane transit district

Module IV:

1. **Write a short note on transportation costing? Explain various factors that influence the transport cost? 20M**
    A. Transportation cost -----10m
        1. construction cost
        2. maintain cost
        3. Road user cost

    Various factors influencing transport cost -----10M

        1. Distance
        2. Weight
        3. Density
        4. stowability
        5. handling
        6. liability

2. **Explain about transport economics? 5M**

   A. The study of the movement of people and goods over space and time

   Transportation economics and pricing:

   1. The factors that drive transport cost
   2. the cost of the structure or classification

3. **Explain briefly about the PPP model? 10M**
   A. PPP model: model becomes an available, logical and necessary option if the government and private sector have to work together.-----**5M**

   PPP Policies: Government helps in the promotion of sustainability of the infrastructure projects through the viability gap funding scheme.------**5M**

Module V:

1. **What is an intelligent transport system? Along with it, explain the concept and major components of ITS? 20M**
   A. Integrated application of advanced technologies using electronics , computers , communication and sensing devices in the transportation system in order to improve efficiency and safety.
   The term Intelligent Transportation Systems (ITS) refers to information and communication technology, applied to transport infrastructure and vehicles, that improve transport outcomes such as:

   •Transport Safety
   •Transport Productivity
   •Travel Reliability
   •Informed Travel Choices
   •Social Equity
   •Environmental Performance
   •Network Operation Resilience

Figure 1. The Ministry of Land, Infrastructure, Transport and Tourism's ITS[1]

2. **Write a short notes on: 20m**
   1. **Smart parking**
      A. Parking strategy that combines technology and human innovation in an effort to use as few resources.

      Innovations in smart parking system

      1. Tracking cars with sensor system
      2. Smart counter system
      3. Automated parking system
      4. Control system

2. **SCADA**
    A. It is an automation control system that is used in industries such as energy ,oil and gas water , pours and many more. The system has a centralized system that monitors and controls entire sites ranging from an industrial plant to a complex of plants across the country.

       Diagram /Sketches**-----5M**

3. **Smart ticketing---5M**
    A. These are great ways to make travel more convenient. A smart ticket is a ticket that can be loaded on to smart cards, mobile phones in the form of mobile tickets.
4. **Big Data analysis---5M**
    A. The process of examining large data sets containing a variety of data types

       Various tools of big data analysis

       1. Data storage and management
       2. Data mining
       3. Data cleaning
       4. Data analysis
       5. Datavisualization
       6. Data integration
       7. Data collection
5. **Automated transport system**
    A. Automated transport system as an system where the driver of vehicle is partially or fully replaced by an advanced system consisting of computer , sensors , communication devices

       Diagrams/Sketches ----5M