



- 2** Answer in detail : **20**
- (a) Explain the urban infrastructure sector and the significance of physical and social infrastructure development in city planning in Indian context. **10**
  - (b) Explain the factors that have bearing in integrated infrastructure planning or brief the strategies of JNNURM project. **5**
  - (c) Brief out the metro rail infrastructure for big cities. **5**
- 3** Attempt any **two** : **30**
- (a) What is the need of Planning and Management of Infrastructure Development in Urban Areas? Discuss the need for innovative approach in Infrastructure Development?
  - (b) Which are the various models of public private partnership and its applications details.
  - (c) Discuss any case of physical infrastructure, where efforts are made for better provision of infrastructure in the city. Also critically evaluate how the city has change or benefited. Write the approach policies adopted for such project.
  - (d) Discuss how Finance play vital role in infrastructure planning, and evaluate the financing option and agencies of financing infrastructure.
- 4**
- (a) Work out water requirement for a city of 4 lac population, find maximum hourly demand. **7**
  - (b) Explain term BOD and COD, mentioned the infrastructure of water treatment and explain functioning of any one. **8**
  - (c) Attempt any **three** : **15**
    - (i) Sketch and explain sewage filtering system
    - (ii) Solid waste disposal methods
    - (iii) Heath infrastructure
    - (iv) Power loads and power development in India
    - (v) Storm water drainage system.