



- Notes :
1. All questions carry marks as indicated.
 2. Solve Question 1 OR Questions No. 2.
 3. Solve Question 3 OR Questions No. 4.
 4. Solve Question 5 OR Questions No. 6.
 5. Solve Question 7 OR Questions No. 8.
 6. Due credit will be given to neatness and adequate dimensions.
 7. Assume suitable data whenever necessary.
 8. Illustrate your answers whenever necessary with the help of neat sketches.
 9. Use of non programmable calculator is permitted.

1. a) What are the grades of cement? Explain field tests on cement. **5**
b) Explain load bearing structure & frame structure with neat sketches. **5**
OR
2. a) Which factors are to be considered while selecting site. Also explain role of Engineer for development. **5**
b) A building is to be constructed on a plot having dimensions 30m x 45m. If permissible F.S.I. is 1. Calculate total built up area. **5**
3. a) Explain flexible pavement with neat sketch. **4**
b) List out various instruments used in surveying with their uses. **6**
OR
4. a) Explain various types of Traffic signs & Signals. **6**
b) Explain different modes of transportation also explain how roads are classified. **4**
5. a) Explain the different method of solid waste management. **5**
b) Calculate per capita demand for a town of population 80, 000 and availability of supply water in 55 lakhs m³ per year. **5**
OR
6. a) Find the quantity of water available for harvesting on terrace of area 20,000m². Depth of rain water is 1500mm if the loss are 35%. **5**
b) Define watershed management and explain its necessity. **5**
7. a) List out the different equipments used in compaction work. **5**
b) Write short notes on. **5**
i) Distance Measuring instruments. ii) Angle measuring instruments.
OR
8. a) What is meant by LEED certification. **5**
b) Explain SCADA system. **5**
