

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: MUP
BRANCH: ARCHITECTURE & PLANNING

SEMESTER : II
SESSION : SP/22

SUBJECT: AR 653 URBAN INFRASTRUCTURE PLANNING

TIME:2.00 HOURS

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Candidates are required to answer all questions
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
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- Q.1(a) Explain the role of CPHEEO for the development of the urban infrastructure projects. [5]
Q.1(b) Enlist the classification of the various urban infrastructures. [5]
- Q.2(a) Explain with the help of flowchart, the treatment process of turbid surface water with organics. [5]
Q.2(b) A settlement houses a population of 10,000 stretched over 3 kms having a population density of 250 persons per acre. Calculate the diameter of the water supply pipe and the height of the overhead water reservoir making required considerations so that water may be supplied at the same rate to all parts. The type of distribution system and the related data may be suitably assumed. [5]
- Q.3(a) Write a short note on-'legal implications of waste water treatment'. [5]
Q.3(b) Explain the wastewater treatment process (Activated Sludge method) for a metropolitan city, with the help of a proper flow diagram. [5]
- Q.4(a) Discuss the basic approach to general distribution of electric power in towns and cities. [5]
Q.4(b) Calculate the average spacing of streetlights of average lux 4, having illumination of 600 lumen, for a road with a crown, having right of way width of 15m, for a mounting height of 10m. Assume the value of coefficient of utilization= 0.45 and maintenance factor= 0.80. [5]
- Q.5(a) Discuss the functional elements associated with the solid waste management. [5]
Q.5(b) Explain the various factors to be considered for selecting a dumping site for solid wastes of a city. [5]

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