SCHOOL OF PLANNING AND ARCHITECTURE, VIJAYAWADA

SEMESTER END EXAMINATIONS (REGULAR) NOVEMBER - 2016

B.PLANNING - II YEAR III SEMESTER

## PLANNING FOR PHYSICAL INFRASTRUCTURE (BPLN304)

Maximum Marks – 50   Time – 2.00 Hours

a) *Answer any **Two questions out of 1to 4 questions**.*
b) *Question No.5 is compulsory and **answer any four** out of six sub-questions.*

Q1. Solve up to two iterations for the discharge rates in the **(15M)** following water supply network using Hardy Cross Method of pipe network analysis. Explain the procedure step by step.
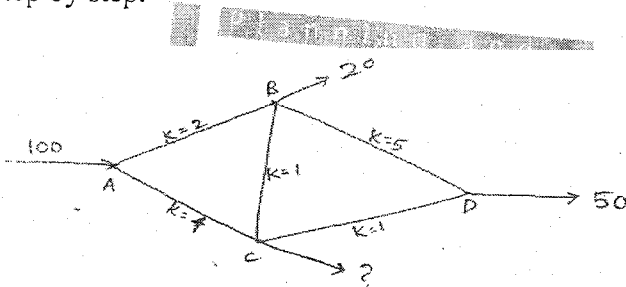
All values are in m^3/s.

Q2. A city with a population of 50 lakhs has an area of **(15M)** 150 Hectares, with an average run-off coefficient 0.5. Time of concentration of rainfall is 50 minutes. Rate of water supply is 150 lpcd of which 80% reaches the sewer. Calculate the dry weather flow and wet weather flow for the sewer line for the above data and also calculate the diameter of the combined sewer system for the design discharge if the flow velocity = 3m/s.

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Q3. Explain the various low cost appropriate techniques for **(15M)** onsite sanitation.

Q4. Describe the types of solid waste. Explain Indore and **(15M)** Bangalore methods of composting.

Q5. Write short notes on any FOUR of the following. **(4x5= 20M)**

    a) Explain the terms self-cleansing velocity and non-scouring velocity

    b) Define critical rainfall intensity and time of concentration

    c) Distinguish between the terms sewage and sewerage.

    d) List some of the issues of solid waste management with respect to Indian cites

    e) What is the necessity of freeboard in sewers?

    f) What is the 3R concept of waste management? How is it different from the 4R concept?

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