

Reg. No. \_\_\_\_\_

# Karunya University

(Declared as Deemed to be University under Sec.3 of the UGC Act, 1956)

## End Semester Examination – November / December 2009

**Subject Title: WATER SUPPLY ENGINEERING**

**Time : 3 hours**

**Subject Code: CE224**

**Maximum Marks: 100**

### Answer ALL questions

#### PART – A (10 x 1 = 10 MARKS)

1. Design period of water treatment units is \_\_\_\_\_ years.
2. What is the turbidity of water?
3. Intakes are mainly classified as \_\_\_\_\_ intakes and \_\_\_\_\_ intakes.
4. What are the different types of tube wells?
5. \_\_\_\_\_ formula is used for the design of pressure conduits.
6. The diameters of the cast iron pipes range from \_\_\_\_\_ to \_\_\_\_\_ mm.
7. \_\_\_\_\_ treatment is required for lakes, surface water reservoirs with less amount of pollution.
8. Detention period for coagulated sedimentation is \_\_\_\_\_.
9. Peak factor for the population up to 50,000 is \_\_\_\_\_.
10. The degree of corrosion depends on the \_\_\_\_\_ the pipe carries.

#### PART – B (5 x 3 = 15 MARKS)

11. What are the properties of wholesome water?
12. What are the reasons for the failure of the tube wells?
13. What are the factors affecting the selection of pipe material and pipe design?
14. What are the advantages and disadvantages of gravitational flocculation?
15. Name any two methods for the analysis of flow in a pipe network.

#### PART – C (5 x 15 = 75 MARKS)

16. List the different population forecasting methods. Explain the five population forecasting methods.

(OR)

17. Explain the different types of biological tests carried out on water.
18. Explain the different types of intakes based on sources of supply with neat sketches.
19. Explain the different types of tube wells with neat sketches.

(OR)

20. Explain the different types of joints used for connecting the pipes with neat sketches.
21. Explain the different types of appurtenances of pipes with neat sketches.

(OR)

22. Explain the working of rapid sand filter with neat sketch.
23. Draw the layout of water treatment plant and explain its components.

(OR)

24. Explain the different layout of distribution systems with neat sketches.

(OR)

25. a. Explain the different methods used for the analysis of distribution system. (10)  
b. What are the main functions of the storage and distribution reservoirs? (5)