

**Master of Science (M.Sc.) Third Semester (C.B.C.S.) (Environmental Science) Examination****ELECTIVE–WATER SUPPLY AND RESOURCES****Optional Paper–3****Paper–III**

Time : Three Hours]

[Maximum Marks : 80

**N.B. :—** (1) All questions are compulsory and carry equal marks.

(2) Draw well labelled diagrams wherever necessary.

1. Explain in detail sources of water. 16

**OR**

(a) What is the necessity of water scheme ? Discuss various factors important for water supply schemes ? 8

(b) Explain suitability of Surface water with regard to quality and quantity. 8

2. Describe in detail classification of Wells. Explain Artesian Wells in detail. 16

**OR**

(a) What do you mean by infiltration porosity and groundwater flow ? 8

(b) What is infiltration gallery ? Add a note on porous pipe gallery. 8

3. Describe in detail water demand, types of demand and variations in demand. 16

**OR**

(a) How population estimation can be done ? Discuss the factors affecting population estimation. 8

(b) Describe in detail analysis of water with special reference to physical, and chemical test. 8

4. Describe different methods of distribution system. 16

**OR**

(a) Give a brief account of types of Service reservoirs. 8

(b) How design and maintenance of distribution system can be done ? 8

5. (a) Write an informative note on reservoir storage capacity.

(b) What are dug wells or percolation wells ?

(c) Which factors affect the rate of demand water ?

(d) With suitable diagram explain different layouts for distribution of water.

**OR**

(e) Write an informative note on impounded reservoir and stored rain water.

(f) What is turbulence mixing in river ?

(g) Describe in brief pure and potable water.

(h) How analysis of pipe network can be done ? 4×4=16