

**PG**  
**M.SC. SEMESTER-I EXAMINATION, 2023**  
**(AGRICULTURE) IN AGRONOMY**  
**PAPER: AGRON 504**  
**(PRINCIPLES AND PRACTICES OF WATER MANAGEMENT)**

Full Marks: 50

Time: 2 Hours

The figures in the right-hand margin indicate full marks.  
 Candidates are required to give their answers in their own words as far as practicable.

**GROUP-A**

- 1. Answer any FIVE questions from the following: 2 X 5 = 10**
- What are the roles of water in plant life?
  - What do you understand by water management?
  - What is readily available water?
  - What is reference evapotranspiration?
  - Describe the factors affecting water holding capacity of the soil.
  - Explain scheduling of irrigation.
  - What is infiltration?
  - Define WUE.

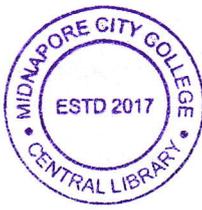
**GROUP-B**

- 2. Answer any FOUR questions from the following: 5 X 4 = 20**
- Discuss on the impact of excess water in plant growth.
  - Discuss the theories of water availability.
  - Briefly describe different methods for ET estimation.
  - Describe the water movement in SPAC.
  - Mention the various types of drainage.
  - Briefly discuss on water resources of the world as well as India.
  - How to increase the WUE of crops?
  - Suggest different strategies for rice water management.

**GROUP-C**

- 3. Answer any TWO questions from the following: 10 X 2 = 20**
- Define irrigation. Discuss the different roles of irrigation in agriculture production system. Discuss the causes and impact of steep increase in groundwater irrigation in this region. 2+4+2+2
  - What do you mean by Conjunctive use of water? What are the objectives of conjunctive use practice? What are the advantages of puddling. 2+4+4
  - What is irrigation scheduling? Write down the various approaches in irrigation scheduling briefly. 2+8

(P.T.O.)



(2)

d. Discuss the effect of submergence in rice soil. Differentiate between water requirement and irrigation requirement. Briefly describe the factors affecting water requirement of crops. 4+2+4

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