

2025

**M.Sc. in Agriculture
1st Semester Examination**

AGRONOMY

Paper : AGRON-504

[Principles and Practices of Water Management]

Full Marks : 70

Time : Two Hours

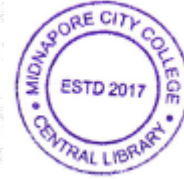
*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

Group - A

Answer any *five* questions : $2 \times 5 = 10$

1. Mention the role of water in plant life.
2. What is readily available water?
3. What is hysteresis?
4. What is PET (Potential Evapotranspiration)?
5. Define hygroscopic water.
6. Define water use efficiency (WUE).
7. What is infiltration?
8. Mention critical growth stages of irrigation of wheat.

P.T.O.





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Group - B

Answer any *four* questions : $5 \times 4 = 20$

9. Describe water movement in the Soil-Plant-Atmosphere Continuum (SPAC).
10. Discuss on various types of drainage and their importance.
11. "Transpiration is a necessary evil." — Explain briefly.
12. Explain the thumb rule of soil moisture extraction pattern.
13. What are the advantages of sprinkler method of irrigation?
14. Mention the problems associated with poor drainage.

Group - C

Answer any *two* questions : $10 \times 2 = 20$

15. Describe the surface water resources of India. Explain the water budget of India with a schematic diagram.
16. Discuss crop factors and soil factors influencing water requirement of crops. Explain moisture extraction pattern.
17. Discuss on the water budget of India with a proper schematic diagram. Explain border strip irrigation method. $7+3$
18. Explain how moisture stress affects crop growth, development and metabolic activities. What is temporary and permanent wilting? $6+4$

Internal Assessment : 20 marks
