JHARKHAND Rai University RANCHI

End Semester/Reappear (II) Examination May 2025

Programme: M. Sc. (Ag) Agronomy **Full Marks: 50**
Subject: Dryland farming & Watershed Management **Time: 2 Hrs.**
Subject Code: 13A.AGRON.512
Enrollment No: _____

Section I

1. Short Answer type questions. Answer any four. **4 x 5 = 20**

a. Define mulching. Discuss the benefits of conservation tillage.
b. Compare between dryland farming and dry farming.
c. Discuss how dry farming contributes to sustainable agriculture in arid and semi-arid regions.
d. Draw a flow chart showing different mechanisms for overcoming moisture stress.
e. Calculate the irrigation requirement for a wheat growing in a dryland area with an average annual rainfall of 500 mm and an evapotranspiration rate of 600 mm. with the assumption that crop efficiency is 75%.
f. Compare conventional tillage with conservation tillage.

Section II

Long Answer type questions. Answer any two. **2 x 15 = 30**

2. a. Explain the objectives and strategies of the Integrated Watershed Management Program (IWMP) in India. Appraise its successes and challenges. 10
   b. List any five principles of watershed management programme. 5
3. a. Explain the role of wind break and shelter belts for management of crops in rainfed areas**. 10**
   b. Briefly describe the characteristics of a good tilth. 5
4. a. Explain the role of cover crops and crop residue management in preventing soil erosion and improving soil quality in dryland areas. 10
   b. Discuss biotic and abiotic factor with suitable examples. 5
5. a. Define contingent crop planning. Mention the advantages of using drought-resistant crop varieties. 5
   b. Suggest corrective and preventive measures in case of crop loss due to heavy rain fall. 10

*****