

**DWM**

**ASSIGNMENT BOOKLET**  
**for**  
**Academic Year 2024-25**

**DIPLOMA IN WATERSHED MANAGEMENT (DWM)**

(A collaborative programme with Department of Land Resources, Ministry of Rural Development, Govt. of India)

**Note:** First of all, read the assignment/questions and instructions carefully and identify the components of an assignment. You should read the relevant sections and sub-sections of a unit while preparing your responses and write answers in your own words. Your responses should not be a verbatim reproduction of the textual materials/blocks provided for self-learning purposes. We also suggest that, you may read additional materials available in your study centre or in any other library before preparing your responses. However, extra reading is not a must to answer these assignments.



**School of Agriculture**  
**Indira Gandhi National Open University**  
**New Delhi -110068**  
**2024-25**

Dear student,

Welcome to the “Diploma in Watershed Management” (DWM) programme.

We hope that you have gone through the Programme Guide of DWM programme carefully. It is extremely important to complete the assignments within the stipulated time to be eligible to appear for the term-end examination. All the assignments of DWM programme are Tutor Marked Assignments (TMAs) and are part of the continuous evaluation process. The weightage to the Term-End Examination (TEE) will be 80% and Continuous Assessment (Assignment) will be 20%. There is one assignment for each course (Except BNRP-108) with theory component, thus, a total of seven assignments for this programme. Each assignment will be of 50 marks which will be converted to have weightage of 20% of theory component.

### Instructions to format your assignments

1. Before you write the assignments, read the instructions provided in the Programme Guide carefully and go through the course materials.
2. You are requested to go through the course material first and then complete the assignments. Your answers should not be a verbatim reproduction of the textual materials/blocks provided for self-learning purposes.
3. Use foolscap size paper for writing your answer. Leave 4 cm margin on the top, bottom and left of your answer sheet. Clearly indicate question no. and part of the question being solved while writing answers.
4. The Assignments should be sent or submitted to the Programme In-charge (PIC) of the Study Centre allotted to you.
5. We strongly suggest that you should retain a copy of your assignment responses.
6. On top of the first page of your answer sheet, please write the details exactly in the following format.

Enrollment no:.....

Name:.....

Address:.....

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Course Code:.....

Course Title:.....

Study Centre:.....

Date:.....

(Name and Code)

7. If you have any doubts or problems pertaining to the courses and assignments, do feel free to contact us at the School of Agriculture.

**Please submit your assignments at the Study Centre allotted to you before the due date as mentioned below:**

Course Code	Last Date for July 2024 Session	Last Date for January 2025 Session
BNRI-101 and BNRI-102	31 <sup>st</sup> October 2024	31 <sup>st</sup> May 2025
BNRI-103 and BNRI-104	31 <sup>st</sup> December 2024	31 <sup>st</sup> July 2025
BNRI-105, BNRI-106 and BNRI-107	28 <sup>th</sup> February 2025	25 <sup>th</sup> September 2025

Happy Learning! Wish you all good luck for successful completion of the programme.

**School of Agriculture**  
Indira Gandhi National Open University,  
Maidan Garhi, New Delhi-110068, India.

**Course Code: BNRI-101**  
**Course Title: Fundamentals of Watershed Management**

Maximum Marks: 50

**Note: Answer all the questions. Answer each question in about 500 words. All questions carry equal marks.**

1. Define watershed management. What is included in a watershed management action plan?
2. What is Integrated Watershed Management? Explain the institutional arrangement using flow diagram for watershed management.
3. Discuss the role of NGOs in watershed programs, providing examples.
4. How does information technology assist in watershed management?
5. Identify and explain two physical, natural resource indicators and two socio-economic indicators of successful watershed management.

**Course Code: BNRI-102**  
**Course Title: Elements of Hydrology**

Maximum Marks: 50

**Note: Answer all the questions. Answer each question in about 500 words. All questions carry equal marks.**

1. Describe in detail the various forms of precipitation.
2. What is cloud seeding? Explain how can it benefit areas currently experiencing drought?
3. Define seepage, transpiration, evaporation. Describe the factors that influence evaporation and transpiration.
4. What is head loss in pipe flow? Write expression for head loss in pipe flow along with different terms.
5. Explain how can the storage capacity of rectangular and cylindrical tanks be estimated?

**Course Code: BNRI-103**  
**Course Title: Soil and Water Conservation**

Maximum Marks: 50

**Note: Answer all the questions. Answer each question in about 500 words. All questions carry equal marks.**

1. Define Soil Erosion? Write the major causes for soil erosion.
2. Mention different forms of water erosion. Explain in detail about Rill erosion and gully erosion.

3. Define the soil loss. Describe Universal Soil Loss Equation along with its different terms.
4. What is bench terracing? Describe different types of bench terraces used for controlling soil erosion.
5. Discuss the importance of rainwater harvesting in present scenario. Describe the components of a rooftop rainwater harvesting system.

**Course Code: BNRI-104**  
**Course Title: Rainfed Farming**

Maximum Marks: 50

**Note: Answer all the questions. Answer each question in about 500 words. All questions carry equal marks.**

1. What is water use efficiency? Write the factors influencing Water Use Efficiency.
2. Define climate and weather. Explain about the weather forecasting and its models.
3. Explain Integrated farming system with suitable examples.
4. What is INM? Differentiate between Organic and Bio-fertilizers.
5. Define green manuring, Explain about the types and methods of green manuring.

**Course Code: BNRI-105**  
**Course Title: Livestock and Pasture Management**

Maximum Marks: 50

**Note: Answer all the questions. Answer each question in about 500 words. All questions carry equal marks.**

1. Explain the importance of Natural Resource management.
2. Define Mixed farming system. Explain how the poultry cum fish farming can benefit in improving farmers livelihood.
3. What are the sources of contamination of Milk? Describe the measures for the clean milk production?
4. What are the physical and behavioral signs exhibited by a cow in oestrus/ heat period?
5. Mention any two Bacterial, Fungal and Viral diseases in animals.

**Course Code: BNRI-106**  
**Course Title: Horticulture and Agroforestry System**

Maximum Marks: 50

**Note: Answer all the questions. Answer each question in about 500 words. All questions carry equal marks.**

1. Write the importance and scope of the Agro-forestry.
2. Describe the different types of low cost and low energy greenhouses.
3. Describe soil and environmental requirements for any five fruit and any five vegetable crops.
4. Write the process of preparation of fruit juices. Explain the methods of preservation of Juices.
5. Explain the importance of fruit and vegetable marketing. Write the factors influencing fruit and vegetable marketing.

**Course Code: BNRI-107**

**Course Title: Funding, Monitoring Evaluation and Capacity Building**

Maximum Marks: 50

**Note: Answer all the questions. Answer each question in about 500 words. All questions carry equal marks.**

1. What is watershed development fund? Explain its role in watershed development project?
2. How do Panchayat Raj Institutions at the district and intermediate levels contribute to watershed development programs in India?
3. Differentiate between Participatory Rural Appraisal (PRA) and Rapid Rural Appraisal (RRA). List the participatory tools.
4. How does communication play a crucial role in watershed extension programs?
5. Why is capacity building important for the effective implementation of watershed programs?