

ASSIGNMENT BOOKLET

DIPLOMA IN WATERSHED MANAGEMENT (DWM)

Assignment for the Academic Year 2017

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. But extra reading is not a must to answer these assignments.



School of Agriculture
Indira Gandhi National Open University
New Delhi -110068
2017

Dear learner,

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

As you are aware, 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 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. Each candidate will have to complete assignments as per the schedule in order to appear in TEE. Therefore, you are advised to take assignments seriously and submit them in time. Instructions to format your assignments are as follows:

Instructions to format your assignments

Before attempting the assignments, please read the following instructions carefully:

1. On top of the first page of your answer sheet, please write the details exactly in the following format.

Enrollment no:.....
Name:.....
Address:.....
.....
.....

Course Code:..... Course Title:.....
Study Centre:..... Date:.....
(Name and Code)

Please follow the above format strictly to facilitate evaluation and to avoid delay.

2. Use foolscap size paper for writing your answers.
 3. Leave 4 cm margin on the top, bottom and left of your answer sheet.
 4. Students are advised to give the relevant points from the course material and elaborate their answers and explain in their own language instead of reproducing the language of the course materials.
 4. Clearly indicate question no. and part of the question being solved while writing answers.
 5. **The Assignments should be sent or submitted to the Programme In-charge (PIC) of the Study Centre allotted to you.**
 6. **We strongly suggest that you should retain a copy of your assignment responses.**
- Happy Learning! Wish you all good luck for successful completion of the programme.

Note: Minimum 50% marks in Continuous Assessment i.e., each assignment in each course is required for completion of a course for DWM programme.

Programme Coordinator (DWM)
School of Agriculture
Indira Gandhi National Open University,
Maidan Garhi, New Delhi-110068, India.

Course Code: BNRI-101
Course Title: Fundamental of Watershed Management

Submission date: 15th October 2017
Maximum Marks: 50

Attempt all questions. Answer the questions in about 250 words. All questions carry equal marks

1. Define watershed and watershed management? Explain the important activities of DDP and NWPRA.
2. Describe the role of integrated watershed management in improving the socio-economic conditions of the rural people.
3. What is project implementation agency? Describe its various important functions.
4. Describe the different characteristics of watershed. Define micro and mini watershed.
5. What is Participatory Rural Appraisal? Explain how its role in watershed development projects?
6. What is good indicator? Distinguish between hydrological and water availability indicator.
7. Explain the role of information technology in successful planning of watershed projects?
8. Describe the phase wise development of watershed projects along with duration of each phase?
9. How social mobilization is important for successful implementation of watershed project?
10. Explain the institutional arrangement for undertaking watershed projects in the country.

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

Submission date: 31st October 2017
Maximum Marks: 50

Attempt all questions. Answer the questions in about 250 words. All questions carry equal marks

1. Define hydrology. Explain various process of hydrologic cycle with the help of a diagram.
2. Discuss different forms of precipitation. Describe the conditions required for precipitation formation?
3. Discuss the importance of rainfall-intensity-duration relationship for design of soil and water conservation structures.
4. What is average velocity of flow? Discuss in detail how it can be measured?
5. Discuss in detail the Rational method for estimating peak runoff rate. Write its assumptions also.
6. Define water budget. Write equation of water balance and explain its each term.
7. Differentiate between infiltration and percolation. Describe the different factors which affect infiltration rate?
8. What is open channel? Describe the different parameters which influence channel discharge.

9. A trapezoidal section of good earthen canal has base width as 50 cm, depth of flow as 20 cm. The side slope of the channel is 1 (vertical): 2 (horizontal) and a 1 m drop in 1200 m length. Compute discharge using Manning's equation.
10. Distinguish between recording and non recording type rain gauges.

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

Submission date: 15th November 2017
Maximum Marks: 50

Attempt all questions. Answer the questions in about 250 words. All questions carry equal marks

1. Define soil erosion? Describe the various forms of water erosion.
2. Describe the Universal Soil Loss Equation (USLE) to estimate the soil loss from agricultural lands under various agro-climatic and topographical situations.
3. Compute the crop management practice factor of a watershed. The USLE parameters are as follows under the specified conditions:
 $R = 175,$ $K = 0.40,$
 $LS = 0.70,$ $P = 0.55,$ and Soil loss = 5 tones/ha/yr.
4. What is wind erosion and explain the process of wind erosion in detail.
5. Describe the different methods used for measurement of wind erosion.
6. What is mulching discuss its advantages? List different types of materials used for mulching.
7. Describe the importance of contour cultivation and strip farming in soil and water conservation.
8. Discuss in detail the design of contour and graded bunds. Determine the horizontal interval of bunds on a land having 4 per cent slope and situated in a moderate rainfall zone. Also calculate the length of bunds per hectare.
9. What is filtration and purification of water, explain.
10. Define groundwater recharge. Explain different surface methods of artificial groundwater recharge.

Course Code: BNRI-104
Course Title: Rainfed Farming

Submission date: 30th November 2017
Maximum Marks: 50

Attempt all questions. Answer the questions in about 250 words. All questions carry equal marks

1. What is rainfed farming? Explain the rainfed farming zones in India in relation to water holding capacity.

2. Explain in brief different weather factors and their implications on crop growth.
3. Describe the different local and improved management practices for aberrant weather conditions.
4. Define farming system. Discuss the various enterprise combinations of the farming systems.
5. What is bio-fertilizers? Describe its advantages and functions.
6. Define green manuring write its advantages? Discuss different types of green manuring.
7. What is crop management? Explain the importance of primary tillage and timely sowing of crops.
8. Describe the importance of ITK on water conservation in detail. Explain any two water harvesting structures based on ITK.
9. Explain the procedure of planning and design of water harvesting structures.
10. Discuss in detail drip irrigation and border strip irrigation methods?

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

Submission Date: 15th December 2017
Maximum Marks: 50

Attempt all questions. Answer the questions in about 250 words. All questions carry equal marks

1. What is the role of livestock in livelihood improvement of farmers?
2. What care and management practices should be adopted for a new-born calf?
3. Write the advantages and disadvantages of artificial insemination.
4. Describe the systems of multiple cropping in brief.
5. What is hay? Write the basic steps involved in its processing.
6. Write about bacterial diseases of animals.
7. What measures should be taken for clean milk production?
8. Briefly describe the grazing system.
9. List the reproductive disorders of livestock and explain any one of them.
10. Describe feeding of poultry.

Course Code: BNRI-106
Course Title: Horticulture and Agro-Forestry System

Submission date: 31st December 2017
Maximum Marks: 50

Attempt all questions. Answer the questions in about 250 words. All questions carry equal marks.

1. Discuss the roles of multipurpose tree species (MPTs) in Agro forestry.

2. What is Green House? How it is helpful in food/nutritional security of mankind? Discuss.
3. Discuss the role of temperature in plant growth and fruit maturity.
4. Differentiate between medicinal and aromatic plants. Give suitable examples.
5. Write about following: (a) Blanching (b) Plastic low tunnel (c) Micro-nutrients for plants (d) Preparation of pickles (e) Surface irrigation
6. Discuss the problems in jelly preparation.
7. Discuss the factors affecting to the marketing of fruits and vegetables in India.
8. Describe the medicinal values of Mentha arvensis (Mintanc) rose.
9. Discuss the features of different Net Houses.
10. How to preserve fruit juice and squash? Discuss.

Course Code: BNRI-107

Course Title: Funding, Monitoring, Evaluation and Capacity Building

Submission date: 31st January 2018

Maximum Marks: 50

Attempt all questions. Answer the questions in about 250 words. All questions carry equal marks.

1. Describe the role and responsibility of Central and State Governments for watershed projects.
2. What are the main functions of the SLNA, explain.
3. What is monitoring? Describe the importance of monitoring in watershed programmes.
4. Why evaluation of watershed project is required? Explain basic features of evaluation in detail.
5. Discuss the concept and importance of microfinance.
6. What is communication? Discuss its different functions.
7. Describe the various steps in extension education process with the help of neat sketch.
8. Describe the importance and need of human resource development with respect to the watershed programmes.
9. Describe the important points for selection of audio-visual aids.
10. What are the different Participatory tools? Explain one in detail.