



Faculty of Agriculture

End Semester Examination May 2025

AG3CO43 Rainfed Agriculture & Watershed Management

Programme	: B. Sc. (Hons.)	Branch/Specialisation	: AG
Duration	: 3 hours	Maximum Marks	: 50

Note: All questions are compulsory. Internal choices, if any, are indicated. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Section 1 (Answer all question(s))

Marks CO BL

Q1. Which type of tillage operation in dryland improves moisture conservation?

1 1 1

Rubric	Marks
All of these	1

- ☐ Off season shallow tillage
☐ Shallow tillage in red soils

☐ Deep tillage one in 2-3 years
☒ All of these

Q2. Cultivation of crops in regions receiving more than 1150 mm rainfall is known as-

1 1 2

Rubric	Marks
Rainfed farming	1

- ☒ Rainfed farming
☐ Dry farming

☐ Dry land farming
☐ Mixed farming

Q3. Crop chosen under delayed onset of monsoon is-

1 2 1

Rubric	Marks
Both a and c	1

- ☐ Pulses
☐ Oilseeds

☐ Cereals
☒ Both (A) and (C)

Q4. Which type refers to the impact of drought, particularly the availability of soil moisture for crops?

1 2 2

Rubric	Marks
Agricultural Drought	1

- ☐ Meteorological Drought
☒ Agricultural Drought

☐ Hydrological Drought
☐ Socioeconomic Drought

Q5. Contour bunds are recommended for-

1 3 2

Rubric	Marks
Low rainfall areas	1

- ☒ Low rainfall areas
☐ High rainfall areas

☐ Medium rainfall areas
☐ None of these

Q6. Main objective of watershed management is to-

1 3 1

Rubric	Marks
All of these	1

- ☐ Protect and conserve the land resources
 ☐ Utilize the local resources effectively
☐ Improve the soil economic status and local residents
 ☒ All of these

Q7. Which among the crop is well adapted to transplanting under late onset of monsoon?

1 4 1

Rubric	Marks
Finger millet	1

- ☒ Finger millet
 ☐ Pearl millet
☐ Foxtail millet
 ☐ None of these

Q8. Legume crop gives good cover for land during rainy season is-

1 4 2

Rubric	Marks
Both a and b	1

- ☐ Cowpea
 ☐ Mung bean
☒ Both (A) and (B)
 ☐ None of these

Q9. Which is the important approach in micro watershed?

1 5 1

Rubric	Marks
All of these	1

- ☐ Soil conservation
 ☐ Soil improvement
☐ Storage of runoff water
 ☒ All of these

Q10. Which among the following erosion can not be prevented by normal tillage operations?

1 5 2

- ☐ Rill erosion
 ☒ Gully erosion
☐ Sheet erosion
 ☐ Splash erosion

Section 2 (Answer all question(s))

Marks CO BL

Q11. Define rainfed agriculture.

1 1 1

Rubric	Marks
rainfed agriculture.	1

Q12. List the different types of rainfed agriculture.

2 1 1

Rubric	Marks
different types of rainfed agriculture	2

Q13. (a) Explain the difference between rainfed and irrigated agriculture.

5 1 2

Rubric	Marks
Any five difference	5

(OR)

(b) Discuss the problems of rainfed agriculture in India.

Rubric	Marks
Any five point- problems of rainfed agriculture in India.	5

Section 3 (Answer all question(s))

Marks CO BL

Q14. Define drought.

1 2 1

Rubric	Marks
drought definition	1

Q15. Give the importance of mulching in conserving soil moisture in rainfed regions.

3 2 2

Rubric	Marks
the importance of mulching in conserving soil moisture in rainfed regions.	3

Q16. (a) Explain effect of water deficit on physio-morphological characteristics of the plants.

4 2 2

Rubric	Marks
Any four point	4

(OR)

(b) Differentiate between meteorological, hydrological, and agricultural droughts.

Rubric	Marks
Any four poin	4

Section 4 (Answer all question(s))

Marks CO BL

Q17. Define water harvesting and list its major techniques.

2 3 1

Rubric	Marks
water harvesting	1
list its major techniques.	1

Q18. (a) Describe the importance of water harvesting in sustainable agriculture.

6 3 3

Rubric	Marks
Any six point	6

(OR)

(b) Suggest and explain suitable cropping systems for efficient water utilization in arid and semi-arid regions.

Rubric	Marks
suitable cropping systems for efficient water utilization in arid	3
suitable cropping systems for efficient water utilization in semi-arid regions	3

Section 5 (Answer all question(s))

Marks CO BL

Q19. What is contingent crop planning?

2 4 1

Rubric	Marks
contingent crop planning	2

Q20. How does crop management in rainfed areas differ from irrigated farming?

2 4 2

Rubric	Marks
crop management in rainfed areas differ from irrigated farming	2

Q21. (a) Explain the concept and objectives of contingent crop planning in rainfed agriculture.

4 4 2

Rubric	Marks
Any four point	4

(OR)

(b) Explain management of crops in rainfed areas through contingent crop planning.

Rubric	Marks
Any four point	4

Section 6 (Answer any 2 question(s))

Marks CO BL

Q22. Explain the key principles of watershed management and their importance in sustainable agriculture.

4 5 4

Rubric	Marks
Any four point	4

Q23. Describe the major components of watershed management and their role in soil and water conservation.

4 5 4

Rubric	Marks
Any four point	4

Q24. How do biophysical and socio-economic factors influence watershed management in different regions?

4 5 4

Rubric	Marks
Any four point	4
