Reg. No.										

GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY, ODISHA, GUNUPUR
(GIET UNIVERSITY)
B. Sc. (Ag.) (Fifth Semester) Examinations, November-2024
AG-317 Rainfed Agriculture and Watershed Management

Time: 2 hrs | Maximum : 50 Marks

The figures in the right hand margin indicate marks.

PART – A

Q.1. Fill in the blanks with suitable word / figure. **(0.5 x 10 = 5 Marks)**

a. _____ plastic mulches will reflect the solar radiation and used for kharif crops.
b. Moisture availability index was given by _____
c. Temporary moisture less condition in soil is called as_____
d. The plant population should be _____ in dryland conditions than under irrigated conditions.
e. When plants show wilting symptoms during the hot part of the day when transpiration exceeds absorption temporarily for a short period is called as _____ drought.
f. _____ is growth retardant type of antitranspirants.
g. Length of growing period in dry farming areas is _____days.
h. The ability of crop to grow satisfactorily under water stress is called as _____
i. The growing of suitable crop in place of normally sown highly profitable crop of the region due to aberrant weather condition called as _____ crop.
j. The collection of runoff water during peak periods of rainfall and storing in different structures is known as_____

Q. 2. Define (or) Explain the following in one or two sentences. **(1 x 5 = 5 Marks)**

a. Hydrological drought
b. Wet spell
c. Agricultural drought
d. Watershed
e. Mid season correction

Q3. Match the following **(0.5 x 10 = 5 Marks)**

	Column – A		**Column – B**
(a)	1-100 ha	(i)	Crusting of soil surface
(b)	Dry farming	(ii)	75 - 120 days
(c)	Rainfed farming	(iii)	Micro watershed
(d)	1000 to10000 ha	(iv)	1923
(e)	Dry land farming	(v)	>120days
(f)	ICRISAT	(vi)	Milli-watershed
(g)	100-1000 ha	(vii)	1972
(h)	Red soil	(viii)	Mini watershed
(i)	Central Soil Conservation Centres	(ix)	75 days
(j)	Establishing Dryland Research Station at Manjri	(x)	1954

Q4. Write True or False against each statement **(0.5 x 10 = 5 Marks)**

a. ICRISAT classified the Semi-arid tropics (SAT areas) in India by adopting Trolls classification.

b. 1st dry land research station was started in the year 1923.

c. Leaf sucrose content increases under moisture stress condition.

d. Mulches will reduce soil salinity problem by increasing infiltration and reducing evaporation.

e. Rectangular type of planting pattern should always be followed under dryland conditions

f. Proper drainage is recommended under rainfed farming.

g. Most of the dry land soils are deficient in nitrogen and zinc.

h. Mini watershed covers an area of 100 – 1000 ha.

i. Dry farming areas receive an annual rainfall of 500 mm or less.

j. Crop ideotype refers to model plant or ideal plant type for a specific environment.

PART – B

Attempt *ANY FIVE* questions. All question carries equal marks (6 x 5 = 30 Marks)

5. Explain in details about the effect of drought on crop physiology.

6. Define mulching with examples. Discuss the effect of mulches on soil properties.

7. Explain about crop management practices under Rainfed areas.

8. Discuss different methods of water harvesting that are followed in arid and semi- arid regions of India.

9. Explain the factors affecting watershed management.

10. Define drought and explain classification of drought based on duration.

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