

**GIET UNIVERSITY, GUNUPUR – 765022**

B. Sc (AG) (Fifth Semester) Examinations, January – 2023

**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)**

- Rainfed farming areas are humid regions with growing period of \_\_\_\_\_.
- Management practices done in the standing crop to overcome the unfavourable soil moisture conditions due to prolonged dry spells are known as \_\_\_\_\_.
- Temporary moisture less condition in soil is called as \_\_\_\_\_.
- ICRISAT was established in the year \_\_\_\_\_.
- 1<sup>st</sup> dry land research station was started in the year \_\_\_\_\_.
- Dryland farming areas are semi-arid tracts with a growing period \_\_\_\_\_.
- Prolonged meteorological drought results in \_\_\_\_\_ drought.
- Moisture availability index was given by \_\_\_\_\_.
- Alley cropping is also known as \_\_\_\_\_.
- Invisible drought occurs usually in \_\_\_\_\_ regions.

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

- Meteorological drought
- Watershed
- Alley Cropping
- Broad Bed Furrow
- Anti-transpirants

**Q3. Match COLUMN-A with COLUMN-B****(0.5 x 10 = 5 Marks)**

Column – A			Column – B	
(a)	High tolerance		(i)	Ephemerals
(b)	Lifesaving irrigation		(ii)	600-850 mm
(c)	Intercropping		(iii)	Thin film forming
(d)	Mobileaf		(iv)	Protective irrigation
(e)	Escaping Drought		(v)	Water Spenders
(f)	Hexadeconol		(vi)	growth retardant
(g)	Cover crops		(vii)	Coffee garden
(h)	Cycocel		(viii)	Plastic strain
(i)	Vertical mulching		(ix)	Thick film forming
(j)	Improving water uptake		(x)	Cowpea

**Q4. Write True or False against each statement**

**(0.5 x 10 = 5 Marks)**

- a. Cultivation of crops in regions with annual rainfall less than 750 mm is called as Rainfed farming.
- b. Yearly sequence and spatial arrangement of crops on a given area is called Cropping scheme.
- c. Moisture Index (Im) value of -66.7 to -33.3 is for Arid.
- d. Moisture availability index was given by Trolls.
- e. A line joining the points of equal elevation is called contour.
- f. In areas where the annual rainfall is in the range of 600-850 mm, monocropping is being recommended and practiced.
- g. The process of runoff collection during periods of peak rainfall in storage tanks, ponds etc., is known as water spreading.
- h. Due to drought, leaf sucrose content decreases.
- i. 1<sup>st</sup> dry land research station was started in the year 1920.
- j. 1<sup>st</sup> KVK initiated in the year 1974.

**PART – B**

**Attempt ANY FIVE questions. All question carry equal marks.**

**(5 x 6 = 30 Marks)**

5. Define alternate land use systems. Differentiate between dryland and rainfed farming.
6. Define contingency cropping. Suggest contingency cropping system for different regions of Odisha.
7. Describe in detail regarding Drought tolerance mechanisms.
8. Define water harvesting. What are the techniques of water harvesting followed in semi-arid regions?
9. What is Watershed Management? Classify watershed on basis of its size and explain the principle of watershed management.
10. Mention about the problems or constraints for crop production in dry farming regions.

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