

Rainfed Agriculture and Watershed Management

MCQ

1. Alley cropping is also known as----
- Hedgerow intercropping
 - Avenue cropping 4
 - a &b
 - None

Ans: (c)

2. Cultivation of crops in regions with annual rainfall less than 750 mm is called as
- Rainfed farming
 - Dry farming
 - Dryland farming
 - None

Ans: (b)

3. Length of growing period between 75 and 120 days present for
- Rainfed farming
 - Dry farming
 - Dryland farming
 - None

Ans: (c)

4. Dryland Agriculture occupies-----
-----% of cultivated area
- 60
 - 40
 - 75
 - 50

Ans: (a)

5. Temporary moisture less condition in soil is called as-----
- Drought
 - Famine
 - Aridity
 - Dry spell

Ans: (a)

6. Moisture Index (I_m) value of -66.7 to -33.3 is for
- Arid
 - Semi arid
 - Humid region
 - Per humid

Ans: (b)

7. ICRISAT classified the Semi-arid tropics (SAT areas) in India by adopting
- Trolls classification
 - Koppen's classification
 - Hargreaves classification
 - Thornthwaite classification

Ans: (a)

8. Moisture availability index was given by?
- Trolls
 - Koppen's
 - Hargreaves
 - Thornthwaite

Ans: (c)

9. 1st dry land research station was started in the year
- 1920
 - 1923
 - 1926
 - 1945

Ans: (b)

10. ICRISAT was established in the year
- 1972
 - 1985
 - 1974
 - 1982

Ans: (a)

11. Prolonged meteorological drought is called as

- a. Agricultural drought
- b. Atmospheric drought
- c. Hydrological drought
- d. Relative drought

Ans: (c)

12. The kind of drought where crops are unable to absorb water from soil even when water is available, due to the high osmotic pressure of soil solution is referred as-----.

- a. Atmospheric drought
- b. Agricultural drought
- c. Apparent drought
- d. Physiological drought

Ans: (d)

13. Planting pattern should always be followed under dryland conditions is

- a. Rectangular type
- b. Square type
- c. Circular
- d. Hexagonal

Ans: (a)

14. Management practices done in the standing crop to overcome the unfavourable soil moisture conditions due to prolonged dry spells are known as ?

- a. Mid season correction
- b. Mid season drainage
- c. Contingent crop planning
- d. None

Ans: (a)

15. 1st KVK initiated in the year

- a. 1974
- b. 1972
- c. 1976
- d. 1985

Ans: (a)

16. Organic matter content in most of the soils under dryland conditions is

- a. < 1%
- b. >1%
- c. 0.5%
- d. None

Answer: (a)

17. In India nearly-----m.ha of land is subjected to different land degradations.

- a. 185
- b. 145
- c. 175
- d. 165

Ans: (c)

18. Presence of deep cracks is seen in---soils

- a. Red
- b. Sandy
- c. Clay
- d. Sandy loamy

Ans: (c)

19. Drought is a situation when the actual seasonal rainfall is deficient by more than twice the mean deviation given by

- a. Troll
- b. Ramdas
- c. Thornthwaite
- d. Kanitkar

Ans: (b)

20. Severe form of drought is known as

- a. Floods
- b. Famine
- c. Aridity
- d. Dry spell

Ans: (b)

21. Abnormal failure of rainfall is known as

- a. Permanent drought
- b. Seasonal drought
- c. Contingent drought
- d. Meteorological drought

- Ans: (c)
22. when plants show wilting symptoms during the hot part of the day when transpiration exceeds absorption temporarily for a short period called as –
- Physiological drought
 - Mid day depression
 - Ultimate wilting point
 - Atmospheric drought
- Ans: (b)
23. Terminal drought also known as---
- Mid season drought
 - Late season drought
 - Early season drought
 - None
- Ans: (b)
24. ----- type of drought is due to low air humidity and frequently accompanied by hot dry winds.
- Permanent drought
 - Seasonal drought
 - Contingent drought
 - Meteorological drought
- Ans: (d)
25. Amino acid accumulated under moisture stress conditions is----
- Betain
 - Proline
 - Gibberellic acid
 - Cysteine
- Ans: (b)
26. ----- acts as water deficit sensor to minimize the loss of tissue water potential
- Abscisic acid
 - Gibberellic acid
 - Ethylene
 - IAA
- Ans: (a)
27. Due to drought, leaf sucrose content
- Decreases
 - Increases
 - Remains constant
 - Both a & b
- Ans: (a)

28. To release controlled flow of water the gates opened in dams are called as
- Spillways
 - Sluice
 - Flap gate
 - Stop gates
- Ans: (b)
29. Generally the size of farm pond is
- 100-300m³
 - 300-400 m³
 - 100-150 m³
 - 400-500 m³
- Ans: (a)
30. Multi-K contains
- 13-0-45 NPK
 - 20-20-20 NPK
 - 35-0-30 NPK
 - 40-40-40 NPK
- Ans: (a)
31. Milli watershed have the size of
- >50,000 ha
 - 10,000- 50,000 ha
 - 1000-10,000 ha
 - 1-100 ha
- Ans: (c)
32. Contour bunds are followed in rainfall of—
- <600mm
 - >600 mm
 - >800 mm
 - None
- Ans: (a)
33. Agri-silvi-pastoral system means
- Crops+ trees+ grasses
 - Crops+ trees + Fruit trees
 - Crops + Grasses + Animals
 - Grasses + Crops + Trees
- Ans: (a)
34. Arable crops cultivation is possible in which Land Use Classification
- I-IV
 - V-VIII
 - None
 - IV – VIII
- Ans: (a)

35. Watersheds were cultivated in the land classification of---

- a. V
- b. I
- c. VI
- d. VIII

Ans. (d)

36. The following class of soils have no limitation on the type of crops grown

- a) class I
- b) class VIII
- c) class II
- d) a&b

Ans. (a)

37. The following chemicals fill pores and make soil repellent to water

- a) latexes
- b) asphalt
- c) a &b
- d) none of these

Ans. (c)

38. Vesicular Arbuscular Mycorrhizae has found to influence yield of several crops by Increasing the uptake

- a) N
- b) P
- c) N&P
- d) NP&K

Ans. (b)

ABBREVIATIONS

1. AICRPDA : All India Coordinated Research Project on Dryland Agriculture, Hyderabad
2. AISSLUP : All India Soil Survey and Land Use Planning, New Delhi

3. CAZRI : Central Arid Zone Research Institute, Jodhpur

4. CGWB : Central Ground Water Board, New Delhi

5. CIAE : Central Institute of Agricultural Engineering, Bhopal

6. CIDA : Canadian International Development Agency

7. CRIDA : Central Research Institute for Dryland Agriculture, Hyderabad

8. CSWCRTI : Central Soil and Water Conservation Research and Training Institute, Dehradun

9. DDP : Desert Development Programme

10. EGP : Effective Growing Period

11. GIS : Geographical Information System

12. ICARDA : International Centre for Agriculture Research on Dry Areas, Aleppo, Syria

13. ICRAF : International Centre for Research on Agroforestry, Nairobi, Kenya

14. ICRISAT : International Crops Research Institute for Semi-Arid Tropics, Hyderabad

15. IGFRI : Indian Grassland and Fodder Research Institute, Jhansi

16. IWDP : Integrated Watershed Development Project

17. LCC : Land Capability Class

18. NBSS & LUP : National Bureau of Soil Survey and Land Use Planning, Nagpur

19. NRCAF : National Research Centre for Agroforestry, Jhansi

20. NRSA : National Remote Sensing Agency, Hyderabad

21. NWDB : National Wasteland Development Board, New Delhi

22. NWDPR : National Watershed Development Programme for Rainfed Areas

23. UNDP : United Nations Development programme
24. USDA : United States Department of Agriculture

Fill in the blanks:

39. Dry farming areas are basically arid regions with a growing season (period of adequate soil moisture) **less than 75 days**.
40. Cultivation of crops in regions with annual rainfall more than 750 mm is termed as **Dryland farming**.
41. Dryland farming areas are semi arid tracts with a growing period **between 75 and 120 days**.
42. Crop production in regions with annual rainfall more than 1150 mm is termed as **Rainfed farming**.
43. Rainfed farming areas are humid regions with growing period **more than 120 days**.
44. The contribution (production) of rainfed agriculture in India is about 42 per cent of the total food grain, 75 per cent of oilseeds, 90 per cent of pulses and about 70 per cent of cotton.
45. Even after providing all the irrigation potential in India 55 per cent area remains as rainfed.
46. Globally the area under drylands is about **6150 m.ha**.
47. In India out of the total cultivated area of **143 m.ha** the area under drylands is about 85 m.ha, which comes to 60%.
48. The condition of deficiency of water due to either insufficient precipitation or excess water loss over supply is termed as Aridity.
49. ICRISAT classified the Semi-arid tropics (SAT areas) in India by adopting Troll's classification.
50. ICAR while establishing the dryland centers in different agro-climatic zones of the country used the formula of Thornthwaite.
51. Total area under arid and semiarid regions in India extends over 135.8 million hectares.
52. Systematic research work was started only from 1923 with the start of Research Centre at Manjri near Pune, in Bombay province by V.A. Tamhane.
53. During 1970, ICAR started All India Coordinated Research Project on Dryland Agriculture at 23 locations spread all over India.
54. Choose and furnish the year against the following events (1923, 1972, 1985, 1970, 1986)
55. 1923 Establishing Dryland Research Station at Manjri (Pune) by Tamhane
56. 1972- Establishment of ICRISAT
57. 1985 Birth of Central Research Institute for Dryland Agriculture at Hyderabad
58. 1970 Research Centres established under AICRPDA in 23 locations
59. 1986 Launching of NWDPRP programmes by Government of India in 15 states.
60. The average annual rainfall of India is **1192 mm** where as in Andhra Pradesh it is 890 mm.
61. More than one third of total geographical area in India receive rainfall **less than 750 mm**

62. Most of the dry land soils are deficient in **nitrogen and zinc**.
63. Soil crust hinders the emergence of seedlings.
64. Prolonged meteorological drought results in **hydrological** drought.
65. The kind of drought where crops are unable to absorb water from soil even when water is available, due to the high osmotic pressure of soil solution is referred to as **Physiological** drought.
66. The plant population should be lesser in dryland conditions than under irrigated conditions.
67. The **rectangular** type of planting pattern should always be followed under dryland conditions.
68. The contingent management practices done in the standing crop to overcome the unfavourable soil moisture conditions due to prolonged dry spells are known as **mid season conditions**.
69. The collection of runoff water during peak periods of rainfall and storing in different structures is known as water **harvesting**.
70. A line joining the points of equal elevation is called **contour**.
71. In general a single crop is being taken in dry farming areas where the annual rainfall is below 500 mm.
72. In areas where the annual rainfall is in the range of 600-850 mm, intercropping is being recommended and practiced.
73. **Double cropping** either by sequential cropping or relay cropping is possible in places with high rainfall of > 900 mm.
74. **Contingency cropping** refers to growing of a suitable crop in place of normally sown highly profitable crop of the region due to aberrant weather conditions.
75. **Soil mulch** is a thin layer of loose soil surface that can be created by frequently stirring the soil with surface tillage implements like danthis, guntakas (blade harrows) etc.,
76. Among the different mulches **soil mulch** is the cheapest.
77. Plastic mulches are very effective as mulches for evaporation control provided cost is not a limiting factor.
78. Black plastic mulches will absorb the solar radiation and enhance the soil temperature for hastening the germination of winter crops like wheat; barley etc.,
79. Vertical mulching is very effective in **black** soils.
80. Mulches will **reduce soil salinity** problem by increasing infiltration and reducing evaporation.
81. The process of runoff collection during periods of peak rainfall in storage tanks, ponds etc., is known as **water harvesting**.
82. Collecting and storing water for subsequent use is known as **water harvesting**.