2. Agrometeorology

1. Optimum temperature for cool season crops is
   (a) 30-38 °C (b) 25-30 °C
   (c) 45-50 °C (d) 15-20 °C
2. How many Agro-ecological zones are categorised in India by NBSS and LUP?
   (a) 20 (b) 18
   (c) 14 (d) 15
3. If rainfall is forecasted as scattered, then how much of the specified area is expected t receive rainfall?
   (a) < $1/3^{rd}$ (b) $1/3^{rd}$ to $2/3^{rd}$
   (c) > $2/3^{rd}$ (d) None of these
4. Photosynthetically active radiation falls in the range of
   (a) 100-200 nm (b) 200-400 nm
   (c) 400-700 nm (d) 700-1500 nm
5. A type of cloud that occurs in low height in the atmosphere is
   (a) Cirrus (b) Stratus
   (c) Nimbus (d) Cumulus
6. pF is a measure of
   (a) Soil moisture (b) Soil temperature
   (c) Soil aeration (d) Soil compaction
7. The solar radiation is measured by
   (a) Porometer (b) Pyrometer
   (c) Auxanometer (d) Pyrheliometer
8. Average concentration of carbon dioxide in the atmosphere is
   (a) 370 ppm (b) 37 ppm
   (c) 3.7 ppm (d) 0.037 ppm
9. Densest part of the atmosphere is
   (a) Troposphere (b) Stratosphere
   (c) Mesosphere (d) Biosphere
10. Frost damage in crops is due to
   (a) Desiccation
   (b) Cell elongation
   (c) Cell break up due to water expansion
   (d) Freezing of water inside

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11. Continuous variation in atmospheric pressure is recorded by
(a) Barograph (b) Thermograph
(c) Heliograph (d) Hygrograph

12. Which among the following colours absorbs more radiation?
(a) Red (b) Black
(c) White (d) Violet

13. Absolute zero is
(a) 273.15 °C (b) 273 °F
(c) 273 °K (d) –273.15 °C

14. Optimum temperature for warm season crop ranges between
(a) 40-45 °C (b) 38-45 °C
(c) 30-38 °C (d) 20-25 °C

15. Rice yields are higher during dry season mainly due to higher
(a) Temperature (b) Solar radiation
(c) Relative humidity (d) Wind velocity

16. Which of the following has least albedo?
(a) Black soil (b) Moist black soil
(c) Moist grey soil (d) Grey soil

17. Which of the following state has the maximum area under semi-arid climate?
(a) Uttar Pradesh (b) Madhya Pradesh
(c) Andhra Pradesh (d) Tamil Nadu

18. Cloud seeding is done by injecting which of the following chemical into the clouds?
(a) Mercuric chloride (b) Hydrogen chloride
(c) Potassium iodide (d) Silver iodide

19. The extinction coefficient for rice is about
(a) 0.65 (b) 0.70
(c) 0.85 (d) 1

20. Albedo is also called as
(a) Reflected radiation (b) Refracted radiation
(c) Direct radiation (d) Diffused radiation

21. Which of the following is a rain bearing cloud?
(a) Cumulus (b) Stratus
(c) Cirrus (d) Nimbus

22. Thermocouple is used for the measurement of
(a) Soil matric potential (b) Transpiration
(c) Leaf water potential (d) Leaf temperature

23. Isohels are the lines connecting
(a) Equal temperature (b) Equal pressure
(c) Equal sunshine hours (d) Equal rainfall

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24. Air mass concept was developed by
(a) Jethro Tull (b) Picardy
(c) Watson (d) Bjerknes

25. The precipitation distribution in a map is shown by
(a) Isoclines (b) Isoquants
(c) Isohytes (d) Isobars

26. Which one of the following is the highest cloud?
(a) Stratus (b) Cirrus
(c) Cumulus (d) Cumulonimbus

27. Portable evaporimeter was developed in
(a) USA (b) Canada
(c) Israel (d) China

28. What is the percentage of carbon dioxide in atmospheric air?
(a) 0.03 (b) 0.3
(c) 3 (d) 30

29. What is the percentage of carbon dioxide in the soil air?
(a) 0.03 (b) 0.25
(c) 3 (d) 30

30. Heliograph is used for the measurement of
(a) Atmospheric pressure (b) Relative humidity
(c) Actual sunshine hours (d) Rainfall

31. The wavelength of PAR is
(a) < 0.4 μm (b) 0.4-0.7 μm
(c) 0.7-4 μm (d) 4-10 μm

32. The actual amount of water vapour present per unit volume of the atmospheric air is called
(a) Relative humidity (b) Specific humidity
(c) Absolute humidity (d) Atmospheric moisture content

33. The surface temperature of Sun is about
(a) 4000 °K (b) 6000 °K
(c) 40000 °K (d) 60000 °K

34. Medium range weather forecasting is valid for
(a) 1-3 days (b) 3-10 days
(c) One month (d) One year

35. Albedo value for rice crop is
(a) 12% (b) 25%
(c) 32% (d) 55%

36. Height of anemometer from ground level is
(a) 3.08 m (b) 3.68 m
(c) 1.28 m (d) 0.58 m

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37. The term remote sensing was given by
(a) *Fisher* (b) Leibig
(c) Lawes (d) Gilbert

38. Condition of the atmosphere at a given place and time is called
(a) Climate (b) Weather
(c) Meteorology (d) Climatology

39. Atmosphere extends up to a height of
(a) 160 km (b) 16 km
(c) 1600 km (d) 16000 km

40. 99 % of the total mass of the atmosphere is within
(a) 10 km (b) 20 km
(c) 30 km (d) 40 km

41. Stratosphere contain ..... % of the atmosphere's mass
(a) 15 (b) 35
(c) 45 (d) 85

42. Layer in which photochemical reaction occur is
(a) Troposphere (b) Stratosphere
(c) Mesosphere (d) Thermosphere

43. Ozone layer is present in
(a) Troposphere (b) Stratosphere
(c) Mesosphere (d) Thermosphere

44. Long wave radio communication takes place through
(a) Troposphere (b) Stratosphere
(c) Mesosphere (d) Thermosphere

45. Number of weather elements are
(a) 4 (b) 5
(c) 6 (d) 7

46. PAR for diffused radiation is
(a) 0.42 (b) 0.50
(c) 0.65 (d) 0.85

47. Thermal radiation emitted by the earth is called
(a) Terrestrial radiation (b) Diffuse radiation
(c) Direct radiation (d) None of these

48. Diffused solar radiation is measured by
(a) Shading pyranometer (b) Albedometer
(c) Net radiometer (d) Quantum sensor

49. Spectroradiometer was developed by
(a) USDA (b) ISRO
(c) ICAR (d) None of these

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50. Heat transfer without any medium is
(a) Conduction (b) Convection
(c) Radiation (d) None of these

51. Heat transfer into the soil occur mainly by
(a) Radiation (b) Conduction
(c) Convection (d) None of these

52. Which of the following is not a mercury thermometer?
(a) Maximum thermometer (b) Soil thermometer
(c) Minimum thermometer (d) None of these

53. Weight of water vapour per unit weight of air is called
(a) Absolute humidity (b) Relative humidity
(c) Specific humidity (d) Vapour pressure deficit

54. Relative humidity is measured by
(a) Hydrometer (b) Hygrometer
(c) Wind vane (d) Rain gauge

55. Relative humidity in crop canopy can be accurately measured by
(a) Assman's psychrometer (b) Hair hygrometer
(c) Rain gauge (d) USWB open pan evaporimeter

56. Glaze is
(a) Freezing fog (b) Freezing rain
(c) Hail (d) Drizzle

57. Rime is
(a) Freezing fog (b) Freezing rain
(c) Hail (d) Drizzle

58. Cloud associated with hail fall is
(a) Cirrus (b) Nimbostratus
(c) Altostratus (d) Cumulonimbus

59. The value of PAR for global radiation is
(a) 65 % (b) 42 %
(c) 50 % (d) 10 %

60. Heap shaped clouds are called
(a) Cirrus (b) Stratus
(c) Nimbus (d) Cumulus

61. According to ICAWMD, clouds are classified into
(a) 6 classes (b) 8 classes
(c) 10 classes (d) 12 classes

62. Farmer's weather bulletin by IMD started in
(a) 1932 (b) 1945
(c) 1988 (d) 1875

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63. Division of Agrometeorology was established in IMD in
(a) 1932 (b) 1945
(c) 1988 (d) 1875

64. NCMRWF was established in
(a) 1932 (b) 1945
(c) 1988 (d) 1875

65. AICRP on Agro-meteorology was started in
(a) 1932 (b) 1954
(c) 1983 (d) 1988

66. Person associated with response farming is
(a) Lorenz (b) Aristotle
(c) Joseph Henry (d) Stewart

67. All of following instrument are placed at a height of 3.08 m from the ground level except
(a) Wind vane (b) Anemometer
(c) Microclimatic post (d) Sunshine recorder

68. Stevenson screen is placed at a height of ..... m from ground level?
(a) 3.68 m (b) 3.08 m
(c) 1.22 m (d) 0.75 m

69. Principles of cloud seeding was discovered by
(a) Vincent Schraefer (b) Edward Lorenz
(c) Joseph Henry (d) Blaise Pascal

70. As per IMD, hot weather period is
(a) Jan-Feb (b) Oct-Dec
(c) June-Sep (d) Mar-April

71. Which of the following is called as autumn equinox ?
(a) March 21 (b) June 21
(c) September 23 (d) December 21

72. Value of albedo ranges between
(a) +1 to –1 (b) 0 to ∞
(c) 0 to 1 (d) None of these

73. Albedo of wheat is
(a) 12 % (b) 24 %
(c) 19 % (d) 32 %

74. Lines joining places of equal cloud cover on a map is called
(a) Isohyte (b) Isotach
(c) Isochrones (d) Isoneph

75. Cloud cover is called broken when its value is
(a) < 1/10 of the sky (b) 1/10 to 5/10 of the sky
(c) > 5/10 of the sky (d) None of these

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76. A day is called rainy day if the amount of rainfall received during that day is
(a) > 1.5 mm (b) > 2.5 mm
(c) > 4 mm (d) > 5 mm

77. In synoptic chart, precipitation is shown by
(a) Shading (b) Arrows
(c) Narrow black lines (d) Small circle with shading

78. The value of solar constant is ..... langley min^{-1}.
(a) 0 (b) 2
(c) 20 (d) 200

79. Total solar radiation reflected from earth's atmosphere system is ..... %.
(a) 6 (b) 24
(c) 30 (d) 36

80. The albedo of short-wave radiation from crop plants is ..... to ..... albedo
(a) 5 to 15 (b) 15 to 25
(c) 35 to 45 (d) 75 to 95

81. On an average about ..... % of the incident radiation is absorbed by the plant cano
(a) 5 (b) 25
(c) 50 (d) 75

82. In full sunlight, the optimum leaf inclination for efficient light use is ..... .
(a) 51° (b) 61°
(c) 71° (d) 81°

83. The amount of heat required to raise the temperature of one gram of the substance by 1 is known as ..... .
(a) Heat capacity (b) Heat conductivity
(c) Specific heat (d) Heat constant

84. Under clear sky during hot summer the temperature of leaves are ..... than surround air temperature.
(a) Less (b) More
(c) Equal (d) None of the above

85. Vant Hoff's law or Temperature Coefficient is popularly known as ..... ,
(a) T10 (b) C10
(c) Q10 (d) S10

86. Droughts are broadly divided into three categories *i.e.* meteorological drought, hydrolog drought and agricultural drought by ..... during 1956.
(a) Van Bavel (b) Verlinden
(c) Van Bavel and Verlinden (d) None of these

87. Saturation light intensity of sugarcane crop is ..... foot candles.
(a) 2000 (b) 4000
(c) 6000 (d) 8000

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88. The high temperature limit for CO_2 uptake by agricultural C_3 plants is ..... °C to ..... °(C)
(a) 20 to 30 (b) 30 to 40
(c) 40 to 50 (d) 50 to 60

89. The optimum temperature for best growth of sugarcane is around ..... .
(a) 20 °C (b) 30 °C
(c) 40 °C (d) 10 °C

90. The ideal wind speed for spraying pesticides is ..... .
(a) < 8 kmph (b) 8-15 kmph
(c) 15-22 kmph (d) 23-28 kmph

91. The OMAI index based agroclimatic classification of India was proposed by ..... in 1980.
(a) Sastry (b) Simpson
(c) Hargreaves (d) Sarkar and Biswas

92. The light distribution in a plant canopy is expressed as $I = I_a e^{-kf}$ is proposed in ..... .
(a) Monteith's equation (b) Planck's law
(c) Beer's law (d) Wein's law

93. Plants not injured by prolonged chilling are ..... .
(a) Rice and cotton (b) Wheat and soybean
(c) Sunflower and potato (d) Maize and sorghum

94. The response of living organisms to regular changes in temperatures either day and night or seasonal is defined as ..... .
(a) Thermo stability (b) Thermoperiodism
(c) Vernalisation (d) Thermo constant

95. According to IMD when the rainfall variance from normal lower 50% it is called ..... .
(a) Severe drought (b) Moderate drought
(c) Very severe drought (d) None of these

96. Thornthwaite method, Papadakis method and Makkink methods are used to measure ..... .
(a) ET (b) WR
(c) PET (d) None of these

97. The GHGs are comprised of ..... .
(a) CO_2, CH_4 and N_2O (b) O_2, N_2 and H_2
(c) All of these (d) None of these

98. A doubling of CO_2 will lead to ..... % increase in dry matter production of many species provided all other factors remain constant.
(a) 5 to 10 (b) 10 to 15
(c) 15 to 30 (d) 30 to 50

99. The low temperature limit for net photosynthesis in the tropical plants is ..... .
(a) 5-7 °C (b) 10-15 °C
(c) 15-25 °C (d) 25-35 °C

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100. Compensation point is reached when ..... .

(a) Photosynthesis > Respiration (b) Photosynthesis = Respiration

(c) Photosynthesis < Respiration (d) None of the above

ANSWER KEY

1 (b)	2 (a)	3 (b)	4 (c)	5 (b)	6 (a)	7 (d)	8 (a)
9 (a)	10 (c)	11 (a)	12 (b)	13 (d)	14 (c)	15 (b)	16 (b)
17 (b)	18 (d)	19 (a)	20 (a)	21 (d)	22 (d)	23 (c)	24 (d)
25 (c)	26 (b)	27 (c)	28 (a)	29 (b)	30 (c)	31 (b)	32 (c)
33 (b)	34 (b)	35 (a)	36 (a)	37 (a)	38 (b)	39 (c)	40 (d)
41 (a)	42 (b)	43 (b)	44 (d)	45 (d)	46 (c)	47 (a)	48 (a)
49 (b)	50 (c)	51 (b)	52 (c)	53 (c)	54 (b)	55 (a)	56 (b)
57 (a)	58 (d)	59 (c)	60 (d)	61 (c)	62 (b)	63 (a)	64 (c)
65 (c)	66 (d)	67 (c)	68 (c)	69 (a)	70 (d)	71 (c)	72 (c)
73 (b)	74 (d)	75 (c)	76 (d)	77 (a)	78 (b)	79 (d)	80 (b)
81 (d)	82 (d)	83 (c)	84 (b)	85 (c)	86 (c)	87 (c)	88 (c)
89 (b)	90 (a)	91 (d)	92 (c)	93 (c)	94 (b)	95 (a)	96 (c)
97 (a)	98 (b)	99 (a)	100 (b)				

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