Subject Code : 11

# AGRONOMY

1. Atmosphere extends to a height of about
(A) 1600 km
(B) 1600 miles
(C) 1600 metres
(D) 160 km

2. Average composition of carbon dioxide in pure air on volume basis is
(A) 3.3%
(B) 0.33%
(C) 0.033%
(D) 0.003%

3. Densest part of atmospheric strata is
(A) Mesosphere
(B) Thermosphere
(C) Stratosphere
(D) Troposphere

4. Solar constant is equal to
(A) 194 cal/cm²/min
(B) 19.4 cal/cm²/min
(C) 1.94 cal/cm²/min
(D) 0.194 cal/cm²/min

5. Normal lapse rate of vertical temperature gradient is:
(A) 6.5°C/kilometer
(B) 6.5°F/ 1000 feet
(C) 10°C / kilometer
(D) 10°F/ 1000 feet

6. Horse latitude lies in between north and south latitudinal belt of equator:
(A) 10 to 15°
(B) 20 to 25°
(C) 30 to 35°
(D) 0 to 5°

7. The grand period of rainfall in India is:
(A) North-East monsoon
(B) South-West monsoon
(C) Post-monsoon
(D) Cold weather period

8. The number of agroclimatic zones of India is
(A) 15
(B) 10
(C) 7
(D) 17

9. Spectral region of photosynthetically active radiation is
(A) 0.3 – 0.6 µm
(B) 0.4 – 0.7 µm
(C) 0.5 – 0.8 µm
(D) 0.6 – 0.9 µm

Temperate cereal crops are :
(A) Day-neutral plants (B) Short-day plants
(C) Long-day plants (D) None of these

Heat unit is the relationship between :
(A) Mean temperature and base temperature
(B) Maximum temperature and minimum temperature
(C) Mean temperature above base temperature
(D) Mean temperature below base temperature
(C)

The line drawn on a map connecting points with equal rainfall is called :
(A) Isobars (B) Isobath
(C) Isohyet (D) Isotach

Classification of climate based on dependable rainfall and PET was proposed by :
(A) Papadakis (B) Thornthwaite
(C) Hurgreaves (D) Troll

Instrument used to measure the balance between upward and downward total radiant energy is :
(A) Pyronometer (B) Pyradiameter
(C) Net radiometer (D) Shading ring pyronometer
(C)

The material used to make artificial rain from warm clouds is :
(A) Silver iodide (B) Cupric sulphide
(C) Cadmium iodide (D) Sodium chloride

A shortage in supply of water in soil to meet the crop demand is known as :
(A) Meteorological drought (B) Physiological drought
(C) Hydrological drought (D) Agricultural drought

Under Seventh Approximation soil classification, the number of soil orders is :
(A) 8 (B) 11
(C) 14 (D) 15

The horizon of illuviation in a soil profile is :
(A) C (B) E
(C) A (D) B

Which one of the following clay mineral has the highest CEC :
(A) Kaolinite (B) Montmorillonite
(C) Vermiculite (D) Illite



Choose the correct answer for SAR

(A) $\frac{Na}{\sqrt{(Ca+Mg)}}$ (B) $\frac{2Na}{\sqrt{(Ca+Mg)}}$

(C) $\frac{Na}{\sqrt{(Ca+Mg)/2}}$ (D) $\frac{Na}{\sqrt{(Ca+Mg)}}$

Particle diameter of silt ranges from:
(A) 0.2 – 0.02 mm (B) 0.02 – 0.002 mm
(C) 0.2 – 2 mm (D) None of them

Optimum pH range for availability of manganese is
(A) 5.0 – 6.5 (B) 6.0 – 7.5
(C) 7.0 – 8.5 (D) 5.0 and below

Soil with EC more than 4, ESP more than 15 and pH less than 8.5 is classified as
(A) Saline (B) Saline alkali
(C) Alkali (D) Neutral

Chemical amendment for reclaiming alkali soil is:
(A) Gypsum (B) Calcium chloride
(C) Phosphogypsum (D) All of them

Chemical formula of Ammonium sulphate is:
(A) $NH_4SO_4$ (B) $(NH_4)_2SO_4$
(C) $NH_3(SO_4)_2$ (D) $(NH_3)_3SO_4$

The bulk density of normal soil is
(A) 2.4 to 2.8 g/cc (B) 0.5 to 1.0 g/cc
(C) 1.2 to 1.4 g/cc (D) 2.8 to 3.0 g/cc

Which one of the following chemical is used as indicator in organic carbon estimation
(A) Methyl red (B) Methyl orange
(C) Phenolphthalein (D) Diphenyl amine

The C:N ratio of normal soil is
(A) 12 : 1 (B) 18 : 1
(C) 24 : 1 (D) 30 : 1

The compound obtained when orthophosphoric acid is heated to 593°K
(A) $H_3PO_3$ (B) $H_4P_2O_7$
(C) $HPO_3$ (D) $P_2O_5$

The centre of origin of *Triticum aestivum* is :
(A) South Mexican centre
(B) Chilean centre
(C) Mediterranean centre
(D) Near Eastern centre

The chromosome number of chickpea is :
(A) 2n = 16 (B) 2n = 32
(C) 2n = 22 (D) 2n = 24

The biological name of white jute is :
(A) *Corchorus capsularis* (B) *Corchorus olitoris*
(C) *Corchorus custuans* (D) *Corchorus triloculanis*

The plants with male and female flowers on different plants are called :
(A) Dicot (B) Dicliny
(C) Dioecious (D) Dichogamy

Symptoms of calcium deficiency appear on :
(A) Lower leaves (B) Terminal buds
(C) Middle leaves (D) All leaves

Which one of the following is a C3 plant :
(A) Sorghum (B) Maize
(C) Pearlmillet (D) Wheat

Relative growth rate is a measure of :
(A) Ratio between leaf area to ground area
(B) Rate of crop growth in unit time
(C) Rate of growth per unit ground area
(D) Rate of growth per unit dry matter

Which one of the following process results in release of energy :
(A) Anabolism (B) Metabolism
(C) Catabolism (D) Physiology

38. Which part of the plant cell is known as power house :
(A) Golgi bodies (B) Mitochondria
(C) Lysosomes (D) Ribosomes

39. Under normal weather conditions, maximum transpiration is through :
(A) Cuticle (B) Lenticular
(C) Stomata (D) Epidermis

40. The splitting up of water molecules in the chloroplasts in the presence of sunlight is called :
(A) Phytosynthesis (B) Photolysis
(C) Photophosphorylation (D) Phosphorylation

41. Which one of the following element is a constituent of protoplasm :
(A) Potassium (B) Iron
(C) Sulphur (D) Calcium

42. Which one of the following element is mobile in plants but immobile in soil :
(A) Sulphur (B) Boron
(C) Phosphorus (D) Zinc

43. Which one of the following is sulphur containing amino acid :
(A) Tryptophan (B) Aniline
(C) Lusine (D) Cystine

44. When does the stomata open ?
i) When the guard cells are in flaccid condition
ii) When the water potential of guard cells is lower than that of adjacent cells
iii) When there is an accumulation of 'K' ions in the guard cells
iv) When water enters into the guard cells
(A) i and iv (B) i and iii
(C) ii and iv (D) ii, iii and iv

45. The light generated reducing power is :
(A) $FADH_2$ (B) $NADH_2$
(C) $NADPH_2$ (D) ATP

46. Which of the following process takes place in evolution of plants :
i) Crossing over ii) Mutation iii) Linkage iv) Coupling
(A) i and iii (B) ii, iii and iv
(C) i and ii (D) i

47. The 5 – carbon compounds produced during dark reaction are :
(A) Xylulose phosphate
(B) Seda hyptulose phosphate
(C) Ribulose bis phosphate
(D) Ribose phosphate

48. Out of the two growth substances mentioned below, one is a natural auxin and the other one is a synthetic auxin. They are respectively :
(A) NAA, 2,4-D (B) GA, NAA
(C) IAA, 2,4-D (D) NAA, GA

49. The weight of 1000 grains of hybrid maize is about :
(A) 150 g (B) 200 g
(C) 250 g (D) 300 g

50. To obtain a plant population of 66 plants / m², the plant geometry is to be :
(A) 20 x 10 cm (B) 15 x 10 cm
(C) 20 x 15 cm (D) 15 x 15 cm

51. In addition to 'P', single super phosphate contains following quantity of Ca & S respectively :
(A) 21 & 12% (B) 12 & 21%
(C) 18 & 46% (D) 46 & 18%

52. The nitrogen fertilizer most suited for alkaline soil is
(A) Urea (B) Ammonium chloride
(C) Ammonium sulphate nitrate (D) Ammonium phosphate

53. The planting row spacing recommended for mechanical harvesting of sugarcane is
(A) 2.5 m (B) 3.0 m
(C) 1.5 m (D) 2.0 m

54. Which one of the following chemical is used to control suckers in tobacco :
(A) NAA (B) MH
(C) PMA (D) GA

55. Groundnut + pigeonpea intercropping system is popular in :
(A) Eastern plateau (B) West coast plains
(C) Gangetic plains (D) Southern plateau

56. Cereals are grown in what percentage of world's arable land?
(A) 73 (B) 63
(C) 53 (D) 43

57. Optimum depth of sowing for most field crops is
(A) 1 – 3 cm (B) 3 – 5 cm
(C) 5 – 8 cm (D) 8 – 10 cm

58. Which one of the following equipment is used for fertigation?
(A) Knapsack sprayer (B) Ventury
(C) Dripper (D) Tine type Cultivator

59. A micro-watershed has an area of :
(A) Less than 100 ha (B) 100 – 250 ha
(C) 250 – 500 ha (D) 500 – 1000 ha



60. Which one is the water [illegible] moisture conservation practice
(A) Broad bed furrows (B) Contour bunds
(C) Terrace cultivation (D) Percolation ponds

61. Nipping is a practice in :
(A) Sugarcane (B) Cotton
(C) Castor (D) Pigeonpea

62. The largest producer of chickpea is :
(A) Bangladesh (B) India
(C) China (D) Indonesia

63. One square meter of rice seedlings raised by dapog method are sufficient to transplant in an area of _____ in the main field :
(A) 100 m² (B) 200 m²
(C) 300 m² (D) 400 m²

64. Maize type having small kernels with hard corneous endosperm is called
(A) Dent corn (B) Flint corn
(C) Pop corn (D) Pod corn

65. The most common sorghum-based intercropping system followed in drylands is
(A) Sorghum + Pigeonpea
(B) Sorghum + Sunflower
(C) Sorghum + Greengram
(D) Sorghum + Sesame

66. The effective root zone depth of peanut crop is :
(A) 60 cm (B) 90 cm
(C) 120 cm (D) 150 cm

67. The periodicity of publication of the Indian Journal of Weed Science is
(A) Monthly (B) Bimonthly
(C) Quarterly (D) Half-yearly

68. In dry farming, the crop growth will be normal when :
(A) PET > PPT (B) PPT > PET
(C) PPT = PET (D) PET = Temp.

69. The major soil type of dry farming tracts of India is :
(A) Vertisol (B) Alfisol
(C) Inceptisol (D) Aridisol

Dust mulching refers to :
(A) Primary tillage (B) Secondary tillage
(C) Preparatory tillage (D) Intercultivation

Which one of the country has maximum productivity of rice in the world :
(A) India (B) China
(C) Indonesia (D) Philippines

The optimum plant population for achieving high yield in irrigated maize is around :
(A) 55000 plants/ha (B) 65000 plants/ha
(C) 75000 plants/ha (D) 85000 plants/ha

Which one of the following is a composite maize recommended for cultivation throughout the country :
(A) Vijay (B) Ganga 5
(C) Naveen (D) Deccan

Sorghum poisoning occurs in animals when the HCN content in leaves exceeds :
(A) 100 ppm (B) 200 ppm
(C) 300 ppm (D) 400 ppm

Which state of India leads in area under wheat crop :
(A) Punjab (B) U.P.
(C) M.P. (D) Rajasthan

The optimum moisture content in wheat grain for safe storage and milling is
(A) 10% (B) 12%
(C) 14% (D) 16%

Which state has the highest productivity of groundnut :
(A) Gujarat (B) Andhra Pradesh
(C) Tamil Nadu (D) Karnataka

The Ca content in rock phosphate is
(A) 15 – 20% (B) 20 – 25%
(C) 25 – 30% (D) 30 – 35%

The Fe content in ferrous sulphate is
(A) 9% (B) 19%
(C) 29% (D) 39%

Which one of the following element encourages Fe deficiency :
(A) K (B) Mn
(C) Zn (D) B

81. Most safe limit of biuret content in urea for foliar spray using high volume sprayer :
(A) 0.5% (B) 1.0%
(C) 2% (D) 3%

82. The $C_4$ plants are more efficient than $C_3$ plants because
(A) They lack photorespiration
(B) $CO_2$ acceptor in them is PEP
(C) They have two types of chloroplasts
(D) None of the above

83. The form of fertilizer recommended for foliar spray to pulse crops is :
(A) Ammonium sulphate (B) DAP
(C) Urea (D) CAN

84. Boron in plants is involved in :
(A) Osmotic and ionic regulation
(B) Development and growth of new cells
(C) Energy transfer
(D) Cell division and membrane integrity

85. Little leaf and rosetting of leaves are the characteristic symptoms due to deficiency of :
(A) Cu (B) Mn
(C) Fe (D) Zn

86. Which one of the following method involves analysis of plant tissue for nutrient management in sugarcane :
(A) DRIS (B) Crop logging
(C) STCR (D) None of them

87. Blanket fertilizer recommendation (kg N- $P_2O_5$ – $K_2O$/ha) for wheat is :
(A) 150-60 -50 (B) 125-60-30
(C) 120-80-40 (D) 60-30-20

88. Region of zinc deficiency symptoms in plant is :
(A) Growing point (B) Older leaves
(C) Middle leaves (D) New leaves

89. Hydrogen is considered to be :
(A) Trace element (B) Basic nutrient
(C) Macro nutrient (D) Micro nutrient

90. The critical concentration of boron required for normal plant growth is :
(A) 0.01 to 0.05 ppm (B) 0.02 to 0.2 ppm
(C) 0.1 to 1.0 ppm (D) 0.5 to 5 ppm

1. Which of the following nutrient deficiency causes whip tail symptoms in cauliflower :
(A) Boron (B) Molybdenum
(C) Zinc (D) Copper

2. Khaira disease in rice is due the deficiency of :
(A) Zinc (B) Manganese
(C) Sulphur (D) Boron

3. Which of the following is not required for growth of bacteria :
(A) Carbon (B) Nitrogen
(C) Oxygen (D) Sulphur

4. Which of the following is an anaerobic microorganism :
(A) Bacillus (B) Clostridium
(C) Pseudomonas (D) Streptomyces

95. The process of use of microorganisms to remove salts from soil is called :
(A) Bioremediation (B) Phytoremediation
(C) Chelation (D) Oxidation
(A)

96. The inoculation of seed legumes with *Rhizobium* culture is done :
(A) 12 hrs. before sowing (B) 1 day before sowing
(C) 2 days before sowing (D) 3 days before sowing

97. The most sensitive period of water stress for barley is :
(A) Shooting & heading (B) Milk & dough stages
(C) Flowering to maturity (D) Vegetative to flowering

98. The average water use efficiency of millet crops is
(A) 8-10 kg/ha mm (B) 12-15 kg/ha mm
(C) 15-18 kg/ha mm (D) 20-22 kg/ha mm

99. Which one of the following method of irrigation is recommended for cotton :
(A) Flood (B) Check basin
(C) Drip (D) Furrow

100. The energy status of soil water in submerged soil is :
(A) 0 bar (B) – 0.33 bar
(C) – 15 bars (D) – 30 bars

101. The discharge of water from a V notch (90°) is computed using the formula :
(A) $Q = 0.0138\ H^{2.5}$ (B) $Q = 0.138\ H^{2.5}$
(C) $Q = 1.38\ H^{2.5}$ (D) $Q = 13.8\ H^{2.5}$



102. Surge irrigation is a modified method of [illegible] irrigation
(A) Border irrigation (B) Trickle irrigation
(C) Furrow irrigation (D) Over head irrigation

103. The equipment used for measuring permanent wilting point is :
(A) Neutron probe (B) Pressure plate apparatus
(C) Tensiometer (D) All the above

104. The quantity of water required to produce one kg of rice is
(A) 1050 lit. (B) 2400 lit
(C) 5200 lit. (D) 10100 lit
(C)

105. Salt encrustation in drip lines can be alleviated by clearing with
(A) Citric acid (B) Sulphuric acid
(C) Hydrochloric acid (D) Nitric acid

106. Which one of the following is pressurized irrigation system
(A) Tank irrigation (B) Drip irrigation
(C) Surge irrigation (D) Canal irrigation

107. Water requirement of sugarbeet crop is :
(A) 700 – 900 mm (B) 500-700 mm
(C) 900 – 1200 mm (D) 1200 – 1500 mm
(C)

108. With an average discharge of 20 lit. / second, a pump irrigates one ha for 8 hours. The depth of water applied would be :
(A) 5.75 cm (B) 6.75 cm
(C) 7.65 cm (D) 4.75 cm

109. A groundnut crop is irrigated at IW/CPE ratio of 0.5 with 6 cm depth of irrigation. Which one of the following would be the CPE at the time of irrigation :
(A) 6 cm (B) 8 cm
(C) 10 cm (D) 12 cm

110. The non-available and available water to the plants are respectively
(A) Capillary water, hygroscopic water
(B) Gravitational, capillary water
(C) Gravitational, hygroscopic water
(D) Capillary water, gravitational water

111. One hectare centimeter (1 ha-cm) of water is equal to
(A) 1000 litres (B) 1 lakh litres
(C) 10 lakh litres (D) 1 million litres
(B)

Sprinkler irrigation is most suitable for
(A) Clay soils (B) Loamy soils
(C) Sandy soil (D) Clay loam soils

The ratio between yield and ET is called :
(A) Crop water use efficiency
(B) Field water use efficiency
(C) Physiological water use efficiency
(D) Irrigation project efficiency

To apply herbicide pendimethalin at 0.75 kg a.i./ha, how much is the commercial product (stomp) required?
(A) 1.5 lit. (B) 2.0 lit.
(C) 2.5 lit (D) 3.0 lit.

*Orobanche cernua* is the most common parasitic weed of
(A) Sugarcane (B) Lucerne
(C) Tobacco (D) Sesame

Which one of the following is a submerged aquatic weed :
(A) Potamogeton (B) Myriophyllum
(C) Typha (D) Salvinia

Precise quantification of agrochemicals residue could be made by using :
(A) TLC (B) HPLC
(C) GC (D) Spectrophotometer

Which one of the following is relatively a more persistent herbicide :
(A) Pretilachlor (B) Atrazine
(C) Isoproturon (D) Fluchloralin

Which one of the following is a non-selective post-emergence translocated herbicide :
(A) Paraquat (B) Glyphosate
(C) Glufosinate (D) 2,4-D

The Mexican beetle *Zygogramma bicolorata* is used for controlling the weed :
(A) *Panicum repens* (B) *Phalaris minor*
(C) *Portulaca oleracea* (D) *Parthenium hysterophorus*

Strigol is a root exudate from :
(A) Sorghum (B) Cotton
(C) Potato (D) Sunflower

122. The weed that has developed herbicide resistance :
(A) *Avena fatua* (B) *Chenopodium album*
(C) *Melilotus alba* (D) *Phalaris minor*

123. Which one of the following is a soil applied herbicide
(A) Propanil (B) Paraquat
(C) Glyphosate (D) Atrazine

124. Alien weeds are called :
(A) Native weeds (B) Associated weeds
(C) Obligate weeds (D) Exotic weeds

125. Which one of the herbicide is widely used in rice
(A) Butachlor (B) Pendimethalin
(C) Oxyfluorfen (D) Diuron

126. Pre-emergence herbicide recommended for maize + pulse intercropping system is :
(A) Atrazine (B) Butachlor
(C) Pendimethalin (D) Pretilachlor

127. Which one of the following weed acts as an alternate host for rice stem borer :
(A) *Sphenoclea zeylanica* (B) *Echinochloa colona*
(C) *Ammania baccifera* (D) *Eclipta alba*

128. The scientific name of the weed, white horse nettle is :
(A) *Sonchus arvensis* (B) *Solanum xanthocarpum*
(C) *Solanum elaegnifolium* (D) *Solanum nigrum*

129. Which one of the following is a selective contact herbicide :
(A) Propanil (B) Paraquat
(C) Pretilachlor (D) Pendimethalin

130. The principle of flushing out germinable weed seeds before cropping is called :
(A) Soil solarization (B) Weed eradication
(C) Weed prevention (D) Stale seed bed

131. The most suitable herbicide for wheat + mustard intercropping system is :
(A) Prometryn (B) Isoproturon
(C) Metalochlor (D) Pendimethalin

132. Which one of the following is growth regulator but not a hormone:
(A) $GA_3$ (B) Gibberellic acid
(C) 2,4-D (D) IAA

3. Maximum amount of vitamin C is present in
(A) Chillies (B) Apple
(C) Banana (D) Pear

4. Dead heart in sugarcane is caused by :
(A) *Chilo infuscatellu* (B) *Chilo sacchariphagus indicus*
(C) *Chilo partellus* (D) *Odontotermes obesus*

5. Norin-dwarf genes were introduced in the cereal
(A) Rice (B) Wheat
(C) Maize (D) Oat

6. Earthing up in sugarcane will reduce the infestation of :
(A) Early shoot borer (B) Internode borer
(C) Top borer (D) Pink borer
(A)

7. Saffron belongs to the family
(A) Orchidaceae (B) Iridaceae
(C) Lauraceae (D) Apiaceae

8. Economic part of Isubgol is
(A) Leaf (B) Seed
(C) Husk (D) Seed and husk

9. Which of the following is a Non-Climacteric fruit
(A) Litchi (B) Mango
(C) Apple (D) Banana
(C)

10. In a group frequency data, if the lower limit of a class is 30 and mid point of the class is 40, then the upper limit of the class is:
(A) 30 (B) 40
(C) 50 (D) 60

11. The maximum area of a rectangular field that can be inscribed (drawn) inside a circle of radius "r" is:
(A) $r^2$ (B) $2r^2$
(C) $\frac{r^2}{4}$ (D) $\frac{\sqrt{3}r^2}{2}$

12. Which one of the following chemical is recommended to control sheath blight of rice :
(A) Ediphenphos (B) Carbendazim (Bavistin)
(C) Mancozeb (D) Chlorpyrifos
(B)



13. Honey like secretion is a characteristic symptom of disease
(A) Downy mildew (B) Ergot
(C) Smut (D) Rust
(B)

14. Which one of the following measure could be applied to compare two sets of data when their means are near equal :
(A) Mean (B) Median
(C) Coefficient of variation (D) Standard deviation

15. In statistical terms angular transformation is also known as :
(A) Arcsine transformation
(B) Inverse sine transformation
(C) Log transformation
(D) Both A and B

16. The contribution of Agricultural Sector to the Gross Domestic Product in India in the year 2004-2005 has been nearly:
(A) 35% (B) 25%
(C) 45% (D) 55%

17. Which one of the following is used to work out critical difference (CD) :
(A) $CD = \frac{EMS}{\text{ovetall mean}} \times 100$ (B) $CD = t \times SE(d)$
(C) $CD = \frac{\sqrt{2EMS}}{r}$ (D) $CD = \frac{\sqrt{SE(d)}}{r}$

18. In a RBD experiment having 9 treatments and 4 replications, the error degrees of freedom will be :
(A) 36 (B) 27
(C) 24 (D) 32
(C)

19. Usually, confounding of treatment is adopted when the number of treatments exceeds
(A) 9 (B) 14
(C) 20 (D) 24

20. Most suitable design for experiment involving varying number of tillage and nitrogen treatments is
(A) RBD (B) Strip-plot
(C) Split-plot (D) Latin-square
(C)

...atching type questions (nos. 151 to 160). Each sub-question carries One mark, ...se the correct answer (A,B,C,D,E) for each sub-question (I,II,III,IV,V) and enter ...oice in the circle (by shading with a HB pencil) on the OMR-answer sheet. For wrong answer, 0.20 mark will be deducted.

Match the following plants with their habit

(i) *Pisum sativum*
(ii) *Indigofera enneaphylla*
(iii) *Clitoria ternata*
(iv) *Cajanus cajan*
(v) *Crotalaria juncea*

(A) Prostrate herb
(B) Twiner
(C) Shrub
(D) Erect herb
(E) Tendril climber

Match the following variety / hybrid with the corresponding crop

i) Arjun
ii) Mahalakshmi
iii) Kuber
iv) Kargil
v) Athiyaman

(A) Cotton
(B) Soybean
(C) Wheat
(D) Groundnut
(E) Maize

Match elements with their functions in plant

(i) Oxygen
(ii) Sulphur
(iii) Potassium
(iv) Iron
(v) Zinc

(A) Activator element
(B) Catalyzer element
(C) Structural element
(D) Regulatory element
(E) Energy element

Match the concepts with the scientists

(i) Law of minimum
(ii) Law of optima and limiting factor
(iii) Law of diminishing returns
(iv) Law of Inverse yield – nitrogen
(v) Concept of leaf are index

(A) Blackman (1905)
(B) Watson (1947)
(C) Justus Von Liebig (1840)
(D) Mitscherlich (1909)
(E) Wilcox (1929)

Match the chemical group of herbicides with their herbicide formulation

(i) Acetamides
(ii) Ureas
(iii) Diphenyl ether
(iv) Bipyridyllium
(v) Dinitroanilines

(A) Oxyfluorofen
(B) Pendimethalin
(C) Paraquat
(D) Diuron
(E) Metolachlor

156. Match the weeds against their appropriate characteristics

(i) *Digitaria sanguinalis*
(ii) *Digera arvensis*
(iii) *Eichhornia crassipes*
(iv) *Striga asiatica*
(v) *Cyperus rotundus*

(A) Broad leaved weed
(B) Parasitic weed
(C) Perennial weed
(D) Grass weed
(E) Aquatic weed

157. Match the *Rhizobium* sp. with specific crop they are recommended

(i) *R. leguminosarum*
(ii) *R. trifoli*
(iii) *R. japonicum*
(iv) *R. meliloti*
(v) *R. phaseoli*

(A) Kidney bean
(B) Peas
(C) Berseem
(D) Soybean
(E) Lucerne

158. Match the following meteorological parameters with the instruments used to measure

(i) Phytosynthetically active radiation
(ii) Direct solar radiation
(iii) Atmospheric pressure
(iv) Wind velocity
(v) Relative humidity

(A) Psychrometer
(B) Barograph
(C) Quantum sensor
(D) Pyrhaliometer
(E) Anemometer

159. Match the International Institutes with the country of their location

(i) International Board for Plant Genetic Resources (IBPGR)
(ii) International Institute of Tropical Agriculture (IITA)
(iii) International Irrigation Management Institute (IIMI)
(iv) International Rice Research Institute (IRRI)
(v) International Crops Research Institute for Semi-Arid Tropics (ICRISAT)

(A) Syria
(B) Sri Lanka
(C) Rome
(D) india
(E) Philippines

160. Match the fertilizers with their nitrogen content

(i) Ammonium sulphate
(ii) Ammonium chloride
(iii) Urea
(iv) Ammonium nitrate
(v) Anhydrous ammonia

(A) 81.5 %
(B) 46.0 %
(C) 33.5 %
(D) 20.6 %
(E) 25.0 %