

SERICULTURE — II

FINAL KEY

1. Use of SSP (Single super phosphate) is advantageous over gypsum in Farm Yard Manure (FYM) preservation

Reducing the loss of nitrogen

2. The tillage in which primary tillage is completely avoided and secondary tillage is restricted to seed sowing

Zero tillage

3. Share of Agriculture in total GDP in India is

15%

4. Soils of Andhra Pradesh are mostly found with the deficiency of which micronutrient

Zinc

5. The highest percentage area under high yielding varieties is in the following crop in India

Rice

6. The state which is having more area under semi-arid region is

Maharashtra

7. Which is the quality protein maize hybrid or composite released in India?

Shakti-1

8. Presently the cropping intensity of Andhra Pradesh is

126%

9. Which of the following intercropping system is most popular in Rayalseema of Andhra Pradesh?

Groundnut + Pigeonpea

10. Major cropping system followed in Godavari command area of Andhra Pradesh is

Rice—Rice

11. Total depth of water application for a crop with base period of 110 days is 80 cm what is the duty of water?

1188 ha/cumec

12. Soil moisture content in effective root zone depth before the crop is irrigated will be

Less than FC-PWP

13. Infrared balance method is used to measure

Gravimetric water content

14. The formulae given by Blaney-Criddle for estimation of potential evapotranspiration (PET) is

$ET_0 = [p (0.46T + 8)]$

15. The commonly used pan co-efficient value is

0.7

16. The climatologically approach for scheduling of irrigation is

IW/CPE approach

17. Gross amount of water applied in a field is 10.0 cm. Application loss and other losses in the field are 3.0 cm. Conveyance loss in the channel is 1.0 cm. Irrigation efficiency at field level will be

70%

18. The formula $Q=0.0138 \times H^{5/2}$ is used for measuring discharge of water through

V-notch

19. If irrigation water is available for two irrigations, it should be applied to Wheat crop at

CRI and late jointing

20. Most critical stage for soil moisture in cotton crop is

Squaring to peak flowering

21. The drainage co-efficient helps to determine

Drain size

22. Which of the following weeds cause asphyxia in animals due to high nitrate levels in dry lands?

Chenopodium album

23. The herbicide used for chemical ploughing is

Paraquat

24. Which nozzle is usually recommended for herbicide application to crops?

Flat fan

25. The botanical agent for suppressing the growth of parthenium weed is

Cassia sericea

26. The weed seeds that have similar shape and size as that of crop seeds are called as

Satellite weeds

27. The formulation of the commonly used herbicide atrazine is

WP (Wettable powder)

28. Crop associated weed in lucerne crop is

Cichorium intybus

29. Weed of wild community origin, escaping some times to crop lands is called as

Facultative weed

30. *Pistia stratiotes* is a _____ aquatic weed.

Floating

31. Foliage active translocative herbicides generally move through _____.

Symplast

32. Plants' non-heritable morphological adaptation to environmental stresses is known as

Ecophene

33. The crop, which is used as an indicator plant for bioassay of atrazine is

Soybean

34. Suicidal mechanism in *Striga* seeds is induced due to which hormone?

Ethylene

35. Sesquioxides are mainly found in which group of soils in Andhra Pradesh

Laterite and Lateritic Soils

36. in acid soil phosphorus fixation found with _____ element

Fe – P

37. pH of acid sulphate soil is _____

< 4.00

38. Which is salt tolerant crop

Barley

39. If the soil is having pH 5.0, what is its OH⁻ ion concentration

9

40. Which of the following is a facultative anaerobic bacterium

Azotobacter

41. Phloem consists of

4 cell types

42. Cell theory is put forth by

Schwann and Schleiden

43. Tonoplast encloses

Vacuole

44. Peak Absorption of Chlorophyll b
453 and 642nm
45. Peak Absorption of Chlorophyll a
430 and 662 nm
46. Non invasive method of measuring chlorophyll content
SPAD meter
47. Fate of excited Chlorophyll
All of the given options
48. Discovery of two light harvesting complex in plants enabled by
Red drop and Emerson Enhancement effect
49. Plastocyanin is a protein containing
Cu
50. Calvin cycle or C3 cycle is also called as
Reductive Pentose Phosphate pathway
51. Enzyme RuBISCO has
both Carboxylase activity and Oxygenase activity
52. RuBISCO has greater affinity for
CO₂
53. Photorespiratory substrates are
RuBP and O₂

54. ATP generated during glycolysis is by

Substrate level Phosphorylation

55. A molecule of Pyruvate entering TCA cycle yields

3CO₂ + 4 NADH + 1 ATP + 1FADH₂

56. NCED is one of the enzyme involved in

ABA biosynthesis

57. Avena curvature bioassay is to quantify

Auxin

58. Hormone which induces alpha amylase and facilitates germination

GA

59. Stomatal closure is induced by

ABA

60. DELETED

61. Plant growth regulator involved in host pathogen interaction

JA

62. Steroid hormone

Brassinolide

63. Dry heat is used to sterilize glassware at the temperature of

170 °C

64. Temperature and pressure maintained in autoclave

121°C & 15 lb

65. High efficiency particulate air filters are present in

LAF

66. ----- is the most active cytokinin

2ip

67. Thomas *etal* reported production of triploid plants through endosperm culture in

Mulberry

68. The invivo techniques employed to induce haploid production

All of the given options

69. Globular and Torpedo stages of Embryo shows increased content of

Glutamine and Arginine

70. Gelrite consists of a polysaccharide produced by the Bacterium

Pseudomonas Elodae

71. Bacterial promoters have 2 major recognition sites -10 and -35 reign of which-35 has got following consensus sequence

TTGACA

72. In transcription the DNA stands used by RNA polymerase is called

Antisense

73. Operon refers to

Clusters of Genes that share the same promotor

74. In Eukaryotes the important RNA polymerase which Transcribes the gene that encodes proteins

RNA polymers II

75. Shine Dalgarno Sequence is present in

Prokaryotic mRNA

76. The major bases of Sphigolipids in higher plants

Phytosphingosine

77. Examples for Negatively charged amino acid

Glutamic acid

78. The non amine acid portion of a conjugated proteins is called

Prosthetic group

79. Pyruvate dehydrogenase is used in converting

Pyruvate to acetyl-CoA

80. The Squalene (Triterpenes) an important precursor in the Biosynthesis of

Cholesterol

81. Haworth ring structure of glucose is chemically

Hemiacetal

82. In raw sewage the estimated level of fecal coliforms as indicator organisms will be

10^6 - 10^7 cfu per 100 ml

83. There is strong evidence of the contamination of human origin when the fecal coliform/fecal streptococci (FC/FS) ratio is

> 4.0

84. In India , as per the central pollution control Board standards, Drinking water source after conventional treatment and disinfection will be placed in _____ class of water and Biochemical Oxygen Demand 5 days 20°C will be _____

C and 3mg/l or less

85. The maximum permissible sound pressure level for new diesel generator (DG)sets with rated capacity upto 1000 KVA, manufactured on or after the 1stJanuary, 2005 shall be _____ at 1 metre from the enclosure surface.

75 dB(A)

86. For Ozone the Who guidelines has prescribed the limits as

100 µg/m³ 8-hour mean

87. During the sewage treatment, with high rate activated sludge some _____ percent of the influent BOD will be removed with a hydraulic retention time of approximately two hours

60-70%

88. What will be the recommended limit of application of the sludge to the arable soils over 30 years, if the sludge contains 1000 mgkg⁻¹ Zn, 500 mg Kg⁻¹ Cu and 60mg Kg Ni⁻¹ .The cumulative limit of addition of Zinc to the arable soils through sewage sludge disposal is 560 Kg Ha⁻¹.

225 t ha⁻¹

89. Caesium (Cs)-137, a radioactive isotope which went missing on January 16 from a truck ferrying machinery and tools from an ONGC exploration site near Machilipatnam had a half life of _____ Years

30.17

90. Uranium mining by UCIL in Tummalapalle, Andhra Pradesh has lead to the increase of uranium levels up to _____micrograms per litre, when the United Nations-certified limit for India is 30.

308.5

91. Indian Experimental remote sensing satellite Bhaskara-I and II carried a _____ band TV camera system

92. Delineation of the location and spatial extent of surface water is carried out through the sensors operating in the NIR _____

0.75-1.0 μm

93. Following sensors for detection, identification and measurement of aerial extent of water pollution through waste effluent are being used

CIR, TIR

94. The mapping of canal network, surface water bodies, flood areas etc. which play an important role in the assessment of recharge parameters can be done by the

IRSFCC data at 1:50000 and PAN data on 1:12500

95. For Discrimination of coniferous /deciduous vegetation, which spectral range _____ (microns) is being used in remote sensing satellite ?

0.45-0.52

96. M/s Hyderabad Waste Management Project has established Treatment, Storage and Disposal Facility(TSDF) as a part of bilateral aided project between Government of India and Government of _____.

Australia

97. In Tirupathi, sewage treatment plant located at Tukivakam is having a STP installed capacity of _____ MLD

50

98. Under the original Montreal Protocol agreement (1987), developed countries were required to begin phasing out CFCs in _____ and achieve a _____ reduction relative to 1986 consumption levels by 1994

1993 and 20%

99. Indian diesel has a sulphur content of _____ per cent by weight as compare to diesel used in countries like Sweden in which sulphur content is _____ per cent by weight

0.5 and 0.001

100. Global warming potential of perfluoromethane (CF₄) from the production of Aluminium is _____

6500

101. Out of total incoming solar radiation (118,872 gcal/cm²/yr), gross production (net production + respiration) by autotrophs is _____

118 gcal/cm²/yr

102 . Of the total energy incorporated at the herbivores level 15 gcal.cm²/yr _____ is used in the metabolic reactions

4.5 gcal/cm²/yr

103. Assume 500 units of energy are produced by trophic level 1. One half of that is lost to non-predatory death, while the other half (250 units) is ingested by trophic level 2. One half of the amount ingested is expelled through defecation, leaving the other half (125 units) to be assimilated by the organism. Finally one half of the remaining energy is lost through respiration while the rest _____ is used for growth and reproduction which constitutes to the net production of trophic level 1.

62.5 units

104. The ten percent law of transfer of energy from one trophic level to the next can be attributed to

Raymond Lindeman

105. On a clear day radiant energy reaching earth's surface is about _____ percent visible and _____ infrared

45 and 45

106. The southern limit of Arctic tundra follows the northern edge of the coniferous forest belt. In North America this line lies above latitude _____, while in Eurasia most of it occurs north of _____

60° N and 70° N

107. Where an area of sea separates two plates, sediments settle on the sea floor in depressions called _____

Geosynclines

108. Most common caves formed by dissolution of limestone or dolomite are known as :

Solution Caves

109. The place where summer days are 24 hours long and Summer temperatures rarely get above 10°C. The place falls in _____ Biome

Tundra

110. _____ are hot, tropical areas with temperatures averaging from 24°C –29°C and an annual rainfall of 51–127 cm.

Savanna

111. Potato crop needs _____ mm of water per total growing period

500-700

112. The main type of hemocytes that are responsible for encapsulation of foreign bodies in silkworm

Plasmatocytes

113. Silkworm relies solely on

Innate immunity

114. The rate of which hormone secretion determines, whether the kidney excretes dilute or concentrated urine

Both Antidiuretic hormone and Vasopressin

115. Which of the following is/are correct

Both Uric acid serve as an antioxidant in primates and The end product of Purine metabolism is Uric acid

116. The synthesis of urea occurs in

Liver

117. Which of the following is correct regarding Electrocardiogram

The P wave is caused by spread of depolarization through the atria

118. The rate limiting factor in causing blood coagulation

Formation of Prothrombin activator

119. In sickle cell anemia, the amino acid valine is substituted for

Glutamic acid

120. Which is/are correct about G protein

Both It acts as a second messenger and It consists of three components alpha, beta and gamma

121. When the greater amount of light energy striking the rod

Both Greater the electronegativity and High degree of hyperpolarization

122. Important enzyme involved in carbohydrate digestion of *Bombexmori*

Amylase

123. The most abundant of the absorbed monosaccharide

Glucose

124. The most abundant transport protein in haemolymph of *Bombyxmori*

Lipoprotein

125. The silk gland of *Bombyx mori* is

Exocrine gland

126. The pheromone secreted by female silkworm moth to attract mates

Bombykol

127. The parathyroid gland contain a single, basic type of secretory cell

Chief cell

128. The sex of the silkworm, Bombyx mori, is strongly controlled by the presence of the

W chromosome

129. A sperm storage organ in female *Bombyxmori* is

Seminal receptacle

130. The fusion of the male and female pronuclei

Both Synkaryon and Zygote nucleus

131. The Catecholamines are synthesized from

Tyrosine

132. The multiple changes that activate the sperm for the final process of fertilization in female genital tract is called

Capacitation

133. The key regulator of the metaphase to anaphase transition is

Cyclosome (APC/C)

134. Re-formation of the nuclear envelope event

Telophase

135. The membrane potential of a particular cell is at the K^+ equilibrium. The intracellular concentration for K^+ is at 150 mmol/L and the extracellular concentration for K^+ is at 5.5 mmol/L. What is the resting potential?

-90 mv

136. F-actin is a component of the cellular cytoskeleton that

Provides a structural component for cell movement.

137. On the summit of Mt. Everest, where the barometric pressure is about 250 mm Hg, the partial pressure of O_2 in mm Hg is about

50

138. Which of the following has the greatest effect on the ability of blood to transport oxygen?

Amount of hemoglobin in the blood

139. Full development and function of the seminiferous tubules require

androgens and FSH.

140. Maximum absorption of short-chain fatty acids produced by bacteria occurs in the

Colon.

141. Which of the following are *incorrectly* paired?

Heschel sulcus : Smell

142. Nociceptors

Are absent in visceral organs.

143. Increased neural activity before a skilled voluntary movement is *first* seen in the

Cortical association areas.

144. Glucose reabsorption occurs in the

Proximal tubule.

145. Renin is secreted by

Granular cells in the Juxtaglomerular apparatus.

146. Which of the following is the principal buffer in interstitial fluid?

Carbonic acid

147. The second heart sound is caused by

Closure of the aortic and pulmonary valves.

148. Which of the following is responsible for the movement of O₂ from the alveoli into the blood in the pulmonary capillaries?

Passive diffusion

149. Programmed cell death is referred as

Apoptosis

150. Lymphocytes are broadly divided into

B-cells, T-cells and Natural Killer cells