

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO

Test Booklet Series

T. B. C. : AHO – 2019

A

TEST BOOKLET

ASSISTANT HORTICULTURE OFFICER SI. No. 2019

Time Allowed : 3 Hours

Maximum Marks : 200

: INSTRUCTIONS TO CANDIDATES :

1. IMMEDIATELY AFTER COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET DOES NOT HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEM SETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET OF THE SAME SERIES ISSUED TO YOU.
2. ENCODE CLEARLY THE TEST BOOKLET SERIES A, B, C OR D, AS THE CASE MAY BE, IN THE APPROPRIATE PLACE IN THE ANSWER SHEET USING BALL POINT PEN (BLUE OR BLACK).
3. You have to enter your **Roll No.** on the Test Booklet in the Box provided alongside. **DO NOT** write *anything else* on the Test Booklet.
4. YOU ARE REQUIRED TO FILL UP & DARKEN ROLL NO., TEST BOOKLET / QUESTION BOOKLET SERIES IN THE ANSWER SHEET AS WELL AS FILL UP TEST BOOKLET / QUESTION BOOKLET SERIES AND SERIAL NO. AND ANSWER SHEET SERIAL NO. IN THE ATTENDANCE SHEET CAREFULLY. WRONGLY FILLED UP ANSWER SHEETS ARE LIABLE FOR REJECTION AT THE RISK OF THE CANDIDATE.
5. This Test Booklet contains 200 items (questions). Each item (question) comprises four responses (answers). You have to select the correct response (answer) which you want to mark (darken) on the Answer Sheet. In case, you feel that there is more than one correct response (answer), you should mark (darken) the response (answer) which you consider the best. In any case, choose **ONLY ONE** response (answer) for each item (question).
6. You have to mark (darken) all your responses (answers) **ONLY** on the **separate Answer Sheet** provided by using **BALL POINT PEN (BLUE OR BLACK)**. See instructions in the Answer Sheet.
7. All items (questions) carry equal marks. All items (questions) are compulsory. Your total marks will depend only on the number of correct responses (answers) marked by you in the Answer Sheet. **There will be no negative markings for wrong answers.**
8. Before you proceed to mark (darken) in the Answer Sheet the responses to various items (questions) in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per the instructions sent to you with your **Admission Certificate**.
9. After you have completed filling in all your responses (answers) on the Answer Sheet and after conclusion of the examination, you should hand over to the Invigilator the *Answer Sheet* issued to you. You are allowed to take with you the candidate's copy / second page of the Answer Sheet along with the **Test Booklet**, after completion of the examination, for your reference.
10. Sheets for rough work are appended in the Test Booklet at the end.

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SEAL

1. The Orissa Fruit Nurseries (Regulation) was enacted during the year :
 - (A) 1967
 - (B) 1977
 - (C) 1987
 - (D) 1997
2. Which media has a relatively high cation exchange capacity ?
 - (A) Peat
 - (B) Vermiculite
 - (C) Perlite
 - (D) Pumice
3. In which media bacterial and chemical decomposition of plant material is slowed down ?
 - (A) Bog
 - (B) Vermiculite
 - (C) Perlite
 - (D) Pumice
4. Which fumigant is used both as fungicide and insecticide for treating nursery soil ?
 - (A) Chloropicrin
 - (B) Formaldehyde
 - (C) Carbon disulphide
 - (D) Methyl bromide
5. Natural branch grafting to strengthen scaffold limbs of tree is known as :
 - (A) Top working
 - (B) Inarching
 - (C) Bracing
 - (D) Stubbing
6. Blunt part of budding knife used for opening bark and insertion of bud is known as :
 - (A) Splints
 - (B) Quill
 - (C) Raffia
 - (D) Open case
7. Indicator plant for greening in citrus is :
 - (A) Acid lime
 - (B) Sour orange
 - (C) Citron
 - (D) Mandarin
8. Embryo that by passes the usual process of meiosis and fertilization is known as :
 - (A) Apomixis
 - (B) Chimera
 - (C) Totipotency
 - (D) Parthenocarpy
9. Hard wood cutting are usually prepared from wood of the :
 - (A) Current season growth
 - (B) Previous seasons growth
 - (C) Summer season growth
 - (D) Autumn season growth

10. The duration for quick dip method of cuttings in hormonal solution is :
- (A) 5-10 seconds
 (B) 20-30 seconds
 (C) 30-40 seconds
 (D) 40-50 seconds
11. The age of mango scion for grafting by Veneer method should be between :
- (A) 1-2 months
 (B) 3-6 months
 (C) 6-9 months
 (D) 10-12 months
12. In which apomixis the resulting embryo is haploid ?
- (A) Vegetative apomixis
 (B) Facultative apomixis
 (C) Recurrent apomixis
 (D) Non-recurrent apomixis
13. Nucellar seedlings arising from polyembryonic seeds of mango are considered as :
- (A) Seedling rootstock
 (B) Dwarfing rootstock
 (C) Clonal rootstock
 (D) Vigorous rootstock
14. Which interstock is used for overcoming incompatibility in pear quince rootstock ?
- (A) Beurre Hardy
 (B) Sydo
 (C) Adams 332
 (D) Quince C
15. Which rootstock show inverted bottleneck condition in ber (*Ziziphus mauritiana*) ?
- (A) *Ziziphus horsefieldi*
 (B) *Ziziphus spinachristi*
 (C) *Ziziphus mitsol*
 (D) *Ziziphus numalaria*
16. In which solidifying agent, contamination is easily detected in tissue culture ?
- (A) Agar
 (B) Agarose
 (C) Gerlite
 (D) Phytigel
17. The plants in which embryo develops from the egg cell without fertilization are normally :
- (A) Diploids
 (B) Haploids
 (C) Triploids
 (D) Tetraploids
18. Litchi chinensis is a :
- (A) Long Day Plant
 (B) Short Day Plant
 (C) Day Neutral Plant
 (D) Short-Long Day Plant

19. Which among the following has the property of totipotency ?
- (A) Nucellus
(B) Zygote
(C) Chimera
(D) Clone
20. The term "ramet" refers to :
- (A) Clonal selection
(B) Chance seedling
(C) Vegetative offspring
(D) Mutant
21. Which fruit crop has maximum share in terms of production ?
- (A) Banana
(B) Citrus
(C) Papaya
(D) Mango
22. The genetic constitution of hermaphrodite plant in papaya is :
- (A) M_1m
(B) M_2m
(C) MM
(D) mm
23. The tedious process of emasculation in pineapple is overcome due to :
- (A) Incompatibility of pollen
(B) Incompatibility of ovule
(C) Incompatibility of pollen and ovule
(D) Incompatibility of stigma
24. Which loquat cultivar is a good polliniser for golden and pale yellow cultivars ?
- (A) Fire Ball
(B) Thames Pride
(C) Tanaka
(D) California Advance
25. Maru Gaurav is a new release in :
- (A) *Aegle marmelos*
(B) *Salvadora oleoides*
(C) *Carissa carandus*
(D) *Syzygium cumini*
26. The major protein from the jackfruit seed is :
- (A) Myosin
(B) Somatropin
(C) Actin
(D) Jacalin
27. Four lobed calyx cap fruit is :
- (A) Aonla
(B) Mangosteen
(C) Mandarin
(D) Loquat

28. Internode shortening in mango is due to the deficiency of :
- (A) Nitrogen
(B) Phosphorus
(C) Potassium
(D) Calcium
29. Higher level of ethylene is produced in :
- (A) Climacteric fruits
(B) Nonclimacteric fruits
(C) Suppressed climacteric fruit
(D) Suppressed nonclimacteric fruit
30. High carotenoid mango variety having potential for juice production and blending is :
- (A) Mallika
(B) Chausa
(C) Alphonso
(D) Amrapalli
31. The trigeneric hybrid in citrus of different genera is :
- (A) Limequat
(B) Citrangequat
(C) Citrumquat
(D) Kumquat
32. The first order sylleptic branches are usually formed in :
- (A) *Aegle marmelos*
(B) *Emblica officinalis*
(C) *Ziziphus mauritiana*
(D) *Grewia subinaequalis*
33. Which crop is considered as calcifuges crop ?
- (A) Mango
(B) Banana
(C) Citrus
(D) Date palm
34. The bark of which fruit is rich in white gummy latex called "chicle" ?
- (A) Sapota
(B) Jackfruit
(C) Mangosteen
(D) Custard apple
35. The retention of Vitamin C in aonla is due to the presence of :
- (A) β Sorbitosol
(B) Palmitic acid
(C) Alanine
(D) Leucoanthocyanin
36. Which arid fruit is the richest source of β carotene ?
- (A) *Cereus peruvianus*
(B) *Cordia dichotoma*
(C) *Capparis deciduas*
(D) *Salvadora oleoides*

37. Try (G)1 is a variety of :
 (A) Banana
 (B) Guava
 (C) Pummelo
 (D) Jackfruit
38. Mumification is a problem of which fruit crop ?
 (A) Mango
 (B) Litchi
 (C) Guava
 (D) Loquat
39. Which is a flood tolerant rootstock of Annona ?
 (A) *A. glabra*
 (B) *A. reticulata*
 (C) *A. squamosa*
 (D) *A. cherimola*
40. The calyx of which flower in pomegranate is Urceolate ?
 (A) Male
 (B) Female
 (C) Hermaphrodite
 (D) Intermediate
41. The optimum age for transplanting of coconut seedling is :
 (A) 1-2 months
 (B) 2-4 months
 (C) 4-6 months
 (D) 9-12 months
42. Which hybrid is a progeny of cross between West Coast tall and Gangabondam ?
 (A) Lakshaganga
 (B) Keraganga
 (C) Anandaganga
 (D) Chandralaksha
43. The most commercial viable technique for propagation of cashew nut is :
 (A) Embryo grafting
 (B) Epicotyle grafting
 (C) Soft wood grafting
 (D) Shoot tip grafting
44. In date palm the disaccharides are converted into monosaccharides at :
 (A) Kimri stage
 (B) Rutab stage
 (C) Hababook stage
 (D) Tamar stage
45. Removal of male and female flowers at the early stages in oil palm is known as :
 (A) Ablation
 (B) Pinching
 (C) Dura
 (D) Deblossming

46. Which cocoa variety is used in luxury chocolate ?
 (A) Amazon
 (B) Trinatairo
 (C) Forastero
 (D) Criollo
47. Chupon is a growth term related to seedlings in :
 (A) Tea
 (B) Cocoa
 (C) Coffee
 (D) Rubber
48. The parentage of Bhubaneshwar variety of cashew nut is :
 (A) M44/3
 (B) BLA 39/4
 (C) Vengrula 36/3
 (D) VTH 107/3
49. As a palm Areacanut is :
 (A) Monoecious
 (B) Dioecious
 (C) Gynodioecious
 (D) Endromonoecious
50. Blacknose a physiological disorder is associated with :
 (A) Coconut
 (B) Banna
 (C) Date palm
 (D) Cashew nut
51. Coconut toddy is obtained by tapping the :
 (A) Unopened spathe
 (B) Unopened spadix
 (C) Opened spadix
 (D) Opened spathe
52. Which grade of cashew nut falls under Jumbo nuts ?
 (A) W-180
 (B) W-210
 (C) W-240
 (D) W-320
53. Plucking of tea leaf should be done before unfurling of :
 (A) Third leaf
 (B) Fourth leaf
 (C) Fifth leaf
 (D) Eighth leaf
54. Palmyrah palm is a :
 (A) Tropical crop
 (B) Subtropical crop
 (C) Arid crop
 (D) Temperate crop
55. The tri-nut seeds selected from palmyrah palm gives :
 (A) 3 female trees
 (B) 3 male trees
 (C) 2 female and 1 male trees
 (D) 2 male and 1 female trees

56. The recommended planting density of budded rubber trees / ha is :
- (A) 175-200
 - (B) 250-300
 - (C) 420-445
 - (D) 550-600
57. Brown blast is a major physiological disorder of :
- (A) Tea
 - (B) Cocoa
 - (C) Coffee
 - (D) Rubber
58. The major production constraint in cashew nut is :
- (A) Thrips
 - (B) Tea mosquito bug (TMB)
 - (C) Leaf and blossom webber
 - (D) Mealy bug
59. Shade growing coffee in India should be trained on :
- (A) Single stem
 - (B) Double stem
 - (C) Three stem
 - (D) Multiple stem
60. Which Fenugreek Variety has been developed through mutation breeding ?
- (A) RMT 305
 - (B) RMT 143
 - (C) RMT 303
 - (D) RMT 1
61. The potato crop during tuberization need :
- (A) Long day condition
 - (B) Short day condition
 - (C) Day Neutral
 - (D) Long-short day condition
62. Which gourd is also known as white flowered gourd ?
- (A) Bottle gourd
 - (B) Ridge gourd
 - (C) Bitter gourd
 - (D) Pointer gourd
63. Little leaf of brinjal is caused due to :
- (A) Fussarium
 - (B) Damping off
 - (C) Blight
 - (D) Mycoplasma
64. White coloured brinjal is good for :
- (A) Arthritis patient
 - (B) Diabetic patient
 - (C) Kidney patient
 - (D) TB patient
65. Pillow disorder of cucumber is due to the deficiency of :
- (A) Calcium
 - (B) Magnesium
 - (C) Boron
 - (D) Iron

66. Removal of central portion of curd for flower initiation in cauliflowers is known as :
- (A) Roughing
(B) Stacking
(C) Scooping
(D) Netting
67. Which among the following is a C-4 vegetable ?
- (A) Potato
(B) Spinach
(C) Raddish
(D) Amaranth
68. Crimson Globe is a variety of :
- (A) *Beta Vulgaris*
(B) *Daucus carota*
(C) *Raphanus sativus*
(D) *Brassica rappa*
69. Recommended isolation distance for certified seed of okra is :
- (A) 150 m
(B) 250 m
(C) 350 m
(D) 500 m
70. Minimum standard for genetic purity of tomato and brinjal is :
- (A) 80%
(B) 85%
(C) 90%
(D) 95%
71. Which trap crop is effective for the control of Diamond black moth in cabbage ?
- (A) Mustard
(B) African marigold
(C) Maize
(D) Sesamum
72. The world leader in cultivating horticultural crops under protected structure is :
- (A) Israel
(B) India
(C) Brazil
(D) China
73. Indian Institute of Vegetable Research is located at :
- (A) Bangalore
(B) New Delhi
(C) Varanasi
(D) Ranchi
74. Which is plant growth retardant ?
- (A) Paclobutrazol
(B) Brassins
(C) Promalin
(D) Triacantanol

75. Zinc is responsible for the biosynthesis of which plant auxin ?
- (A) IAA
(B) NAA
(C) IBA
(D) 2, 4-D
76. Which chilli variety is resistant to CMV, TMV and leaf curl viruses ?
- (A) Pusa Jwala
(B) Pusa Sadabahar
(C) Pusa Deepti
(D) None of these
77. Utkal Urvasi is a popular variety of :
- (A) Brinjal
(B) Chilli
(C) Tomato
(D) Okra
78. Zoning disorder is associated with :
- (A) Cauliflower
(B) Beet root
(C) Carrot
(D) Cabbage
79. The seed rate for open pollinated variety of hot pepper for 75-100 m² area is :
- (A) 100-200 g
(B) 200-400 g
(C) 400-600 g
(D) 600-800 g
80. Forking in radish and carrot is due to :
- (A) High temperature
(B) Low temperature
(C) Moisture stress
(D) Excessive moisture
81. Andromonoecy condition is found in which spice crop ?
- (A) Coriander
(B) Black pepper
(C) All spice
(D) Nutmeg
82. In which spice crop the pericarp is removed before sowing :
- (A) Small cardamom
(B) Clove
(C) Large cardamom
(D) Black pepper
83. Which turmeric species is known as mango ginger ?
- (A) *Curcuma zedoaria*
(B) *Curcuma decipiens*
(C) *Curcuma amada*
(D) *Curcuma angustifolia*
84. The optimum time for sowing garlic in Orissa is :
- (A) March-April
(B) May-June
(C) July-August
(D) October-November

85. Corriander seeds should be harvested when :
- (A) 10% seeds turn yellow
 (B) 30% seeds turn yellow
 (C) 50% seeds turn yellow
 (D) 70% seeds turn yellow.
86. Which of the following fennel species (Var) can be cultivated as vegetable ?
- (A) *Foeniculum vulgare* var *azorium*
 (B) *Foeniculum vulgare* var *dulce*
 (C) *Foeniculum vulgare* var *piperitum*
 (D) *Foeniculum vulgare* var *vulgare*
87. Large cardamom are cured to retain a moisture content of :
- (A) 3-5%
 (B) 10-13%
 (C) 15-20%
 (D) 25-30%
88. Which *Cucurma* species is known as Indian arrow root ?
- (A) *Curcuma amada*
 (B) *Curcuma zedoaria*
 (C) *Curcuma angustifolia*
 (D) *Curcuma decipiens*
89. The chemical primarily responsible for the colour of saffron is :
- (A) Annato
 (B) Lutein
 (C) Zeaxanthin
 (D) Crocin
90. An open pollinated progeny of Balankotta in black pepper is :
- (A) Panniyur 1
 (B) Panniyur 2
 (C) Panniyur 3
 (D) Panniyur 4
91. Which large cardamom variety suited for higher altitude and on steep slope ?
- (A) Galsey
 (B) Sawney
 (C) Ramsey
 (D) Ramla
92. The optimum temperature required for bulb development in onion is :
- (A) 5-9°C
 (B) 15-21°C
 (C) 25-32°C
 (D) 32-45°C
93. Ginger variety developed by OUA & T, Bhubaneshwar is :
- (A) Suprabha
 (B) Manathodi
 (C) Thingpuri
 (D) Himgiri

94. Which turmeric variety have been developed by OUA&T, Bhubaneshwar?
- (A) Sonia
(B) Sugandham
(C) Pratibha
(D) Suroma
95. The gum/resin is trapped from which medicinal plant?
- (A) Henbane
(B) Liqourice
(C) Guggal
(D) Isabgol
96. Which medicinal plant is considered as safe laxative?
- (A) *Plantago ovata*
(B) *Hyocyanus niger*
(C) *Solanum viarum*
(D) *Glycyrrhiza glabra*
97. Which seed spice has its use as food, feed, medicine and cosmetic?
- (A) Fenugreek
(B) Cumin
(C) Kalonji
(D) Dill
98. In which tree spice "Pipping" is done?
- (A) All spice
(B) Nut meg
(C) Cinnamon
(D) Clove
99. An essential oil containing high carvone content can be obtained from:
- (A) Dill
(B) Asgard
(C) Guggal
(D) Henbane
100. Trashing is an important cultural operation in:
- (A) Cardamom
(B) Cinnamon
(C) Clove
(D) Saffron
101. Band of flowers or foliage intertwined into a ring is known as:
- (A) Button hole
(B) Wreath
(C) Vani
(D) Corsage
102. The process of artificial colouring of flowers is known as:
- (A) Bleaching
(B) Gulroban
(C) Potpourri
(D) Tinting

103. Which among the following is a richest source of lutein ?
- (A) Marigold
(B) Rose
(C) Chrysanthemum
(D) Gladiolus
104. ICAR-Directorate of Floricultural Research is located at :
- (A) ICAR-DFR, New Delhi
(B) ICAR-DFR, Anand
(C) ICAR-DFR, Pune
(D) ICAR-DFR, Bangalore
105. Which among the following shrub is called "Glory of the Garden" ?
- (A) Hydrangea
(B) Forsythia
(C) Bougainvillea
(D) Rhododendron
106. In which form Chrysanthemum flowers are trained to give the effect of waterfall ?
- (A) Bush form
(B) Coniform
(C) Fan form
(D) Cascade form
107. In which art of training, evergreen plants are trained to different shape ?
- (A) Topiary
(B) Arch
(C) Terrace
(D) Pergola
108. *Baradari* is a main feature of :
- (A) Mughal garden
(B) English garden
(C) Japanese Garden
(D) French Garden
109. The scientific name of 'Juhi' is :
- (A) *Jasminum sambac*
(B) *Jasminum rrandiflorum*
(C) *Jasminum auriculatum*
(D) *Jasminum multiflorum*
110. Thornless variety of Rose is :
- (A) Blue moon
(B) Crimson glory
(C) Tushar
(D) Suchitra
111. Dormancy of corms/cormels in gladiolus can be broken by storing them at :
- (A) Low temperature
(B) High temperature
(C) High humidity
(D) High moisture

112. Which pinching method is followed for early flower crop in carnation ?
- (A) Pinch-and-a-half
(B) Single pinch
(C) Double pinch
(D) Tripple pinch
113. A perennial plant with several branches arising from the base of plant is known as :
- (A) Bog
(B) Edge
(C) Hedge
(D) Shrub
114. Terrarium is an art of growing plants :
- (A) On terraces
(B) On rocks
(C) In glass container
(D) In water
115. Which of the following is a summer flowering annual ?
- (A) Cosmos
(B) China Aster
(C) Sweet Pea
(D) Calendula
116. The maximum number of orchid species is found in :
- (A) Shillong
(B) Sikkim
(C) West Bengal
(D) Tripura
117. Which rootstock of rose is recommended for coastal areas ?
- (A) *Rosa bourboniana*
(B) *Rosa multiflora*
(C) *Rosa canina*
(D) *Rosa indica*
118. Cut flower species other than the major cut flowers are referred to as :
- (A) Plug plant
(B) Rentals
(C) Traditional flowers
(D) Speciality flowers
119. Which ornamental crop is an indicator plant for fluoride pollution ?
- (A) Chrysanthemum
(B) Tuberose
(C) Gladiolus
(D) Cosmos
120. Which state excels in cut flower production ?
- (A) Karnataka
(B) Tamilnadu
(C) West Bengal
(D) Shillong
121. Seed Act was enacted during the year :
- (A) 1956
(B) 1966
(C) 1976
(D) 1986

122. Structure used for protecting young plants from cold temperature are known as :
- (A) Cloches
(B) Flax
(C) Drop cloth
(D) Blankets
123. Which hormone is known as juvenile hormone ?
- (A) Auxin
(B) Ethylene
(C) Gibberellin
(D) Cytokinin
124. Which egg parasite is used for controlling fruit borer in tomato ?
- (A) *Apanteles plutellae*
(B) *Bracon spp.*
(C) *Trichogramma spp.*
(D) *Perbaea orbata*
125. Which orientation of poly house ensures maximum hours of sunlight ?
- (A) North-South
(B) South-East
(C) North-East
(D) East-West
126. Which cucurbit varieties are preferred for growing in polyhouse ?
- (A) Monoecious
(B) Dioecious
(C) Gynoecious
(D) Endromonoecious
127. Low volume high value cash crop can be obtained :
- (A) Glass house cultivation
(B) Plug tray production
(C) Net house cultivation
(D) Protected cultivation
128. Which trap crop is recommended for Broccoli ?
- (A) Marigold
(B) Tube rose
(C) Chrysanthemum
(D) Gladiolus
129. Which is a safe recommended method for ripening of fruits ?
- (A) Calcium carbide
(B) Ethylene
(C) Acetylene gas
(D) Smoke chambers
130. Which is a safe recommended method for ripening of fruits ?
- (A) Calcium carbide
(B) Ethylene
(C) Acetylene gas
(D) Smoke chambers

131. Which nutrient plays important role in cell division and elongation ?
- (A) Nitrogen
(B) Phosphorus
(C) Potassium
(D) Calcium
132. On the basis of shape, fullness of cheeks is a maturity indices of :
- (A) Mango
(B) Banana
(C) Pineapple
(D) Litchi
133. Application of fertilizer and other nutrients through drip irrigation is known as :
- (A) Biofortification
(B) Pulsing
(C) Fertigation
(D) Micro irrigation
134. Which growth hormone is used for parthenocarpic fruit development ?
- (A) IBA
(B) NAA
(C) Cytokinin
(D) Gibberellin
135. Which crop is considered as "Gold mine" of wasteland ?
- (A) Bael
(B) Ber
(C) Cashew nut
(D) Aonla
136. Internationally recognized system for reducing the risk of safety hazard in crops is :
- (A) HACCP
(B) QAFS
(C) GAP
(D) FLAFSR
137. Matting row system of training is practiced in :
- (A) Tea
(B) Coffee
(C) Saffron
(D) Strawberry
138. The critical stage of crop-weed completion in cauliflower :
- (A) 5-10 DAS/DAP
(B) 15-20 DAS/DAP
(C) 30-45 DAS/DAP
(D) 60-70 DAS/DAP
139. The recommended spacing is in meadow orcharding of guava is :
- (A) 1m × 1m
(B) 1m × 2m
(C) 2m × 1m
(D) 2m × 3m

140. Tapping is a maturity indices for :
- (A) Watermelon
 - (B) Muskmelon
 - (C) Cabbage
 - (D) Cucumber
141. Drip irrigation scheduling for different soil type in potato is optimum at :
- (A) 5-10 mm Cumulative Pan Evap.
 - (B) 15-25 mm Cumulative Pan Evap.
 - (C) 30-55 mm Cumulative Pan Evap.
 - (D) 40-50 mm Cumulative Pan Evap.
142. Recommended isolation distance for the production of foundation seed of Onion is :
- (A) 250 meters
 - (B) 500 meters
 - (C) 750 meters
 - (D) 1000 meters
143. The seeds, which remain viable at relatively high moisture content are called as :
- (A) Orthodox seeds
 - (B) Recalcitrant seeds
 - (C) Pure seeds
 - (D) Genuine seeds
144. Which leaf in pineapple is sampled for nutrient analysis ?
- (A) A Leaf
 - (B) B Leaf
 - (C) C Leaf
 - (D) D Leaf
145. In which system of training trees are trained to form V shape ?
- (A) Spindle bush
 - (B) Tatura Trellis
 - (C) Vertical Centre
 - (D) Vertical Axis
146. "AGMARK" is related with :
- (A) Packaging
 - (B) Processing
 - (C) Purity and Quality
 - (D) Retail Price
147. Through which biological agent Parthenium can be controlled ?
- (A) *Cactoblastis cactorum*
 - (B) *Octoma scabripennis*
 - (C) *Dactylopius indicus*
 - (D) *Zygogramma biocolorata*
148. Which nutrient is recommended to be applied in split doses ?
- (A) Nitrogen
 - (B) Phosphorus
 - (C) Potassium
 - (D) Calcium

149. Which organism decomposes organic matter at a faster rate ?
- (A) *Glomus*
(B) *Azotobacter*
(C) *Trichoderma*
(D) *Basidiomycetes*
150. The index tissue for analysis of cashew is :
- (A) 2nd leaf from tip of mature branches
(B) 4th leaf from tip of mature branches
(C) 6th leaf from tip of mature branches
(D) 8th leaf from tip of mature branches
151. Indian Meteorological Department was established during the year :
- (A) 1875
(B) 1925
(C) 1935
(D) 1945
152. The Headquarters of the Indian Meteorological Department (IMD) is located in :
- (A) Pune
(B) Shimla
(C) Allahabad
(D) Delhi
153. As per the Planning Commission the number of agro-climatic zone in India are :
- (A) 15
(B) 20
(C) 25
(D) 30
154. Odisha have been classified into how many agro-climatic zones ?
- (A) 05
(B) 10
(C) 15
(D) 20
155. Major parts of Koraput district of Odisha falls under which agro-climatic zone ?
- (A) Western Undulating Zone
(B) North Central Plateau
(C) Eastern Ghat Highland
(D) North Western Plateau
156. The clay fractions of red soil of Orissa is dominated by :
- (A) Gibbsite and Goethite
(B) Smectites and Gibbsite
(C) Kaolinites and Illites
(D) Goethite and Hematite

157. The clay size as per the classification of International Society of Soil Science is :
- (A) < 2 microns
 (B) 2-20 microns
 (C) 20-200 microns
 (D) >200 microns
158. Which soil needs liming for effective and efficient fertilizer use ?
- (A) Acid soils
 (B) Saline soils
 (C) Alkaline soils
 (D) Saline-sodic soils
159. Accumulation of excessive Na^+ , Ca^{++} or Mg^{++} with Cl^- or SO_4^- in soil results in :
- (A) Acidic soils
 (B) Saline soils
 (C) Sodic soils
 (D) Sandy soils
160. Which nutrient is involved in the movement of photosynthates in plant system ?
- (A) Nitrogen
 (B) Phosphorus
 (C) Potassium
 (D) Calcium
161. The soil and water conservation measure for fruit trees grown on steep slope is :
- (A) Bench Terraces
 (B) Conservation Bench
 (C) Gully Control
 (D) Half Moon Terraces
162. Soil conservation measure recommended for areas with 10% slope and >800 mm rainfall :
- (A) Contour bunds
 (B) Graded bunds
 (C) Bench terraces
 (D) Grassed waterways
163. Deposition of soil load in the lower most reaches of the catchment by water erosion is the :
- (A) First stage of soil erosion
 (B) Second stage of soil erosion
 (C) Third stage of soil erosion
 (D) Fourth stage of soil erosion
164. Which antitranspirant reduces water loss through stomatal closing ?
- (A) Phenyl mercuric acetate
 (B) Kaolin
 (C) Hexadecanol
 (D) Cycocel

165. The mathematical derivation for recommending irrigation by Pan Evaporation Method is :
- (A) E/Pan-IW
(B) IW/Pan-E
(C) Pan/IW-E
(D) Pan-E/IW
166. Which among the following is an example of obligate weed ?
- (A) *Cuscuta reflexa*
(B) *Chenopodium album*
(C) *Argemone mexicana*
(D) *Euphorbia hirta*
167. Removal of weeds with their roots and rhizome through mechanical force is known as :
- (A) Chilling
(B) Chaining
(C) Spudding
(D) Dredging
168. Which growth regulator is also used as a herbicide ?
- (A) 2, 4-D
(B) 2, 4, 5-T
(C) Cytokinin
(D) ABA
169. ICAR-Directorate of Weed Research is located at :
- (A) Orissa
(B) Jagdalpur
(C) Raipur
(D) Jabalpur
170. A product has 40% acid equivalent (a.e.). To apply 2 kg a.e./ha, what will be the quantity of formulation required ?
- (A) 2.5 kg/ha
(B) 5.0 kg/ha
(C) 7.5 kg/ha
(D) 10.0 kg/ha
171. The formulae for Aridity index is :
- (A) AE/PET
(B) $P\text{-}PET/PET \times 100$
(C) $WD/PET \times 100$
(D) $PET/AE \times 100$
172. Plants first line of defense against abiotic stress is in its :
- (A) Bud
(B) Leave
(C) Stem
(D) Root
173. Which mango rootstock is recommended for drought prone areas ?
- (A) *Mangifera caloneura*
(B) *Mangifera gedebe*
(C) *Mangifera zeylanica*
(D) *Mangifera odorata*

174. Xeric character is related to :
- (A) Shallow root system
 (B) Enlarged leaf area
 (C) Sunken stomata
 (D) Profused vegetative growth
175. The estimated area under dryland and rainfed farming in India is approximately :
- (A) 27%
 (B) 47%
 (C) 67%
 (D) 87%
176. The natural resources (Soil, Water, Solar radiation) can be efficiently utilized in :
- (A) Shifting cultivation
 (B) Fruit based cropping systems
 (C) Alley cropping
 (D) Relay cropping
177. When three or more crops with different morphology are grown with coconut it is known as :
- (A) High Density Plantation
 (B) Subsistence Farming
 (C) Mixed Cropping
 (D) Multistorey Cropping
178. The harmful effect of litter fall of over storey crops on lower storey crops is known as :
- (A) Allelopathy
 (B) Allelospoly
 (C) Antagonism
 (D) Tropism
179. Growing of grasses in the inter space of fruit tree species is known as :
- (A) Horti-Agri System
 (B) Horti-Silvi System
 (C) Horti-Pastoral System
 (D) Horti-Agri-Pastoral System
180. In which farming there is used of information and technology based systems ?
- (A) Mixed farming
 (B) Intensive farming
 (C) Precision farming
 (D) Dry Agriculture
181. Dormancy imposed by factors outside the embryo is known as :
- (A) Exogenous dormancy
 (B) Endogenous dormancy
 (C) Double dormancy
 (D) Quisence
182. Which crop losses dormancy during dry storage ?
- (A) Chenopodium
 (B) Tomato
 (C) Cucumber
 (D) Mustard

183. Real value of seed usually preferred for sowing purpose should be :
- (A) <50%
 - (B) <70%
 - (C) 50-70%
 - (D) >70%
184. Impurity percentage of seed is referred to as :
- (A) Dockage
 - (B) Utility percentage
 - (C) Real value
 - (D) Tempering
185. Scarification is one of the techniques to break :
- (A) Double dormancy
 - (B) Endogenous dormancy
 - (C) Exogenous dormancy
 - (D) Secondary dormancy
186. The benefit cost ratio of horticultural crops is calculated by the formulae :
- (A) $\text{Gross Return}/\text{Total Cost}$
 - (B) $\text{Gross Return} - \text{Total Cost}$
 - (C) $\text{Total Cost}/\text{Gross Return}$
 - (D) $\text{Gross Return} - \text{Total Cost}/\text{Total Cost}$
187. Which agency is involved in enhancing export of processed agricultural products ?
- (A) DMI
 - (B) TRIFED
 - (C) NAFED
 - (D) APEDA
188. In which farming income from a single product is less than 50 percent ?
- (A) Specialised farming
 - (B) Diversified farming
 - (C) Rainfed farming
 - (D) Sole farming
189. Which kind of budgeting would you advise to a new farm planner ?
- (A) Zero budgeting
 - (B) Enterprise budgeting
 - (C) Partial budgeting
 - (D) Complete budgeting
190. According to law of diminishing return the economically relevant zone is :
- (A) Zone I
 - (B) Zone II
 - (C) Zone III
 - (D) Zone IV
191. To find the average height of plants we should work out the :
- (A) Total
 - (B) Mean
 - (C) Median
 - (D) Mode
192. In a frequency distribution of a large number of values, the observation of mode is :
- (A) Largest
 - (B) Smallest
 - (C) With maximum frequency
 - (D) With minimum frequency

193. Probability of any event is a number lying between :
- (A) 0 – 1
(B) 1 – 5
(C) 5 – 10
(D) 10 – 15
194. Correlation coefficient range between :
- (A) $-\alpha$ to $+\alpha$
(B) 0 to 1
(C) -1 to $+1$
(D) 0 to α
195. Logarithmic transformation is used to stabilise :
- (A) Poisson variate
(B) Sample variance
(C) Binomial variate
(D) Correlation coefficient of variation
196. Tree banding is used for the control of:
- (A) *Drosicha mangiferae*
(B) *Batocera rufomaculata*
(C) *Clumetia transversa*
(D) *Eublemma versicolo*
197. Which antibiotic is effective against gram positive and gram negative bacteria ?
- (A) Cycloheximide
(B) Streptomycin
(C) Griseofulvin
(D) Aureofungin
198. Chemical that is beneficial to releaser and not favourable to receiver is known as :
- (A) Allomones
(B) Kairomome
(C) Allelochemicals
(D) Buprofezin
199. Which of the following insecticide belong to Neonicotinoid group ?
- (A) Sevin
(B) Nuvacron
(C) Rogor
(D) Confidor
200. The capacity of high volume spray is :
- (A) >100 ℓ /ha
(B) >200 ℓ /ha
(C) >300 ℓ /ha
(D) >400 ℓ /ha



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