

(To be filled up by the candidate by **blue/black ball-point pen**)

Roll No.

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Roll No.

(Write the digits in words)

Serial No. of Answer Sheet

Day and Date

(Signature of Invigilator)

INSTRUCTIONS TO CANDIDATES

(Use only **blue/black ball-point pen** in the space above and on both sides of the Answer Sheet)

1. Within 10 minutes of the issue of the Question Booklet, check the Question Booklet to ensure that it contains all the pages in correct sequence and that no page/question is missing. In case of faulty Question Booklet bring it to the notice of the Superintendent/Invigilators immediately to obtain a fresh Question Booklet.
2. Do not bring any loose paper, written or blank, inside the Examination Hall *except the Admit Card without its envelope.*
3. A separate Answer Sheet is given. *It should not be folded or mutilated. A second Answer Sheet shall not be provided. Only the Answer Sheet will be evaluated.*
4. Write your **Roll Number and Serial Number of the Answer Sheet by pen** in the space provided above.
5. *On the front page of the Answer Sheet, write by pen your Roll Number in the space provided at the top, and by darkening the circles at the bottom. Also, wherever applicable, write the Question Booklet Number and the Set Number in appropriate places.*
6. No overwriting is allowed in the entries of Roll No., Question Booklet No. and Set No. (if any) on OMR sheet and Roll No. and OMR sheet No. on the Question Booklet.
7. Any changes in the aforesaid entries is to be verified by the invigilator, otherwise it will be taken as unfair means.
8. Each question in this Question Booklet is followed by four alternative answers. *For each question, you are to record the correct option on the Answer Sheet by darkening the appropriate circle in the corresponding row of the Answer Sheet, by pen as mentioned in the guidelines given on the first page of the Answer Sheet.*
9. For each question, darken only one circle on the Answer Sheet. If you darken more than one circle or darken a circle partially, the answer will be treated as incorrect.
10. *Note that the answer once filled in ink cannot be changed.* If you do not wish to attempt a question, leave all the circles in the corresponding row blank (such question will be awarded zero marks).
11. For rough work, use the inner back page of the title cover and the blank page at the end of this Question Booklet.
12. Deposit *only the OMR Answer Sheet* at the end of the Test.
13. You are not permitted to leave the Examination Hall until the end of the Test.
14. If a candidate attempts to use any form of unfair means, he/she shall be liable to such punishment as the University may determine and impose on him/her.

[उपर्युक्त निर्देश हिन्दी में अन्तिम आवरण-पृष्ठ पर दिये गये हैं ।]

Total No. of Printed Pages : 14

15P/300/17

No. of Questions : 120

Time : 2 Hours]

[Full Marks : 360

Note : (1) Attempt as many questions as you can. Each question carries 3 (three) marks. *One mark will be deducted for each incorrect answer. Zero mark will be awarded for each unattempted question.*

(2) If more than one alternative answers seem to be approximate to the correct answer, choose the closest one.

1. The branch which deals with the production and post harvest management of fruits, vegetables & ornamentals is known as :

- (1) Silviculture (2) Agriculture (3) Permaculture (4) Horticulture

2. The parents of Mango hybrids Amrapalli & Mallika are :

- (1) Neelum; Alphonso (2) Banganpalli; Dashehari
(3) Neelum; Dashehari (4) Langra; Neelum

3. The right stage of papain extraction in papaya is:

- (1) At full maturity stage (2) At half maturity stage
(3) At full ripening stage (4) At fruit set stage

4. The best planting material for Pineapple is :

- (1) Suckers (2) Slips
(3) Crowns (4) Seeds

5. Which of the following causes citrus decline ?

- (1) Tristeza (2) Xyloporosis
(3) Citrus Psylla (4) Citrus canker

6. Ascorbic acid content in Guava is maximum in :

- (1) Core (2) Peel (3) Pulp (4) Seed

P.T.O.

7. "Marcottage" is a type of vegetative propagation commonly known as :
(1) Air layering (2) Grafting
(3) Mound layering (4) Budding
8. The TSS of a fruit is measured by :
(1) Tensiometer (2) Autoclave (3) Refractometer (4) Gel meter
9. Choke throat in Banana is due to :
(1) High temperature (2) High humidity
(3) Low temperature (4) Low humidity
10. Zero energy cool chamber requires :
(1) Very low electric energy (2) Moderate electric energy
(3) High electric energy (4) No electric energy
11. "Pineapple" is a variety of :
(1) Mango (2) Pomegranate (3) Sweet Orange (4) Custard apple
12. Which of the following is a good source of Vitamin C ?
(1) Apple (2) Mango (3) Aonla (4) Pineapple
13. The following crop is known as "Tree of Eternal Bliss" :
(1) Cashewnut (2) Arecanut (3) Walnut (4) Coconut
14. Which of the following crops is referred as "Food of God" ?
(1) Cocoa (2) Coffee (3) Coconut (4) Cashewnut
15. Name the vegetable which is consumed as a fruit :
(1) Brinjal (2) Pumpkin (3) Ivy gourd (4) Watermelon
16. Green leafy vegetables are rich source of :
(1) Citric acid (2) Malic acid (3) Folic acid (4) Ascorbic acid
17. Alkaloid (Aroma) containing compound presence in onion is :
(1) Allyl propyl disulphide (2) Dimethyl disulphide
(3) Diallyl disulphide (4) Iso thiocynite

18. ICMR recommendation for consumption of vegetables/capita/day of an adult person is around :
- (1) 150g (2) 300g (3) 250g (4) 400g
19. Tomato leaf curl Virus is transmitted by :
- (1) Thrips (2) Aphids (3) White fly (4) Honeybee
20. Which of the following is a stem vegetable ?
- (1) Carrot (2) Knolkhol (3) Sweet Potato (4) Radish
21. "Palam Samridhi" is a known variety of :
- (1) Knolkhol (2) Cabbage (3) Broccoli (4) Cauliflower
22. "Cassava" is native of :
- (1) Indonesia (2) Africa (3) Brazil (4) India
23. "Pusa Anupam" is a cross between Pusa Purple Cluster and :
- (1) Pusa Kranti (2) Hyderpur long
(3) Pusapurple long (4) Utkal Tarini
24. Indian Institute of Vegetable Research was established in the year :
- (1) 1999 (2) 1975 (3) 1971 (4) 1976
25. Whiptail of Cauliflower resulted due to deficiency of :
- (1) Sodium (2) Nitrogen (3) Molybdenum (4) Potassium
26. Greening of Potato tubers is due to :
- (1) High temperature (2) Exposure to sunlight
(3) Excessive irrigation (4) Low temperature
27. Bursting of Cabbage heads may take place due to :
- (1) High temperature
(2) Continuous moisture supply
(3) Sudden rains after dry spell at head maturity
(4) Low temperature

28. Edible part of "Yam" is :
 (1) Root (2) Stem (3) Fruit (4) Leaf
29. Best stage for application of growth regulators to induce female flowers in cucurbits is :
 (1) 6-7 leaf stage (2) 8-9 leaf stage
 (3) 3-4 leaf stage (4) Fruiting stage
30. Acridity in "Colocasia" is due to :
 (1) Potassium (2) Calcium oxalate
 (3) Sulphur (4) Iodine
31. Insulin is extracted from the tuber of :
 (1) Broccoli (2) Potato
 (3) Sweet potato (4) Jerusalem Artichoke
32. "Saur Kraut" is a value added product prepared from the following vegetable :
 (1) Carrot (2) Cabbage
 (3) Cauliflower (4) Cucumber
33. Dormancy is a problem associated with planting materials of :
 (1) Chrysanthemum (2) Jasmine
 (3) Gladiolus (4) Tube rose
34. It is used as rootstock for budding in "Rose" :
 (1) *Rosa multiflora* (2) *Rosa hybrida*
 (3) *Rosa foetida* (4) *Rosa gallica*
35. It is suitable for making topiary :
 (1) *Lagerstroemia indica* (2) *Murraya exotica*
 (3) *Calliandra haematocephala* (4) *Hibiscus mutabilis*
36. If one irrigation is available for Wheat crop, it is advisable to apply at :
 (1) CRI (2) Late tillering
 (3) Late jointing (4) Flowering
37. Quality protein in "Maize" is characterized by high content of :
 (1) Lysine and Leucine (2) Lysine and isoleucine
 (3) Leucine and isoleucine (4) Lysine and tryptophan

38. When bee activity is low in sunflower field, supplemental hand pollination is done on alternate days for two weeks during :
- (1) 1-4 PM (2) 3-6 PM (3) 5-7 AM (4) 8-11 AM
39. "SSI" is popular in :
- (1) Sugarbeet (2) Sugarcane (3) Soyabean (4) Sunflower
40. The material toxic to bollworms in Bt-Cotton is :
- (1) Alpha terthienyl (2) BOAA
(3) Cry 1 Ac protein (4) CRT-1
41. Computation of "Weed control efficiency" is based on :
- (1) Crop dry weight (2) Weed dry weight
(3) Herbicide dose (4) Crop yield
42. The nozzles suitable for soil application of herbicides are :
- (1) Hollow cone and Solid cone (2) Flood jet and flat fan
(3) Solid cone and Triple action (4) Triple action
43. Which of the following herbicides is a total killer ?
- (1) 2, 4-D (2) Glyphosate
(3) Pendimethalin (4) Butachlor
44. The first herbicide group discovered was :
- (1) Phenoxyacetics (2) Triazines
(3) Sulfonylurea (4) Carbamates
45. Most tolerant crop to saline water irrigation is :
- (1) Barley (2) Oats (3) Gram (4) Pea
46. The ratio of water stored in the root zone of the plant to the water delivered to the field is called :
- (1) Conveyance efficiency (2) Storage efficiency
(3) Application efficiency (4) Distribution efficiency
47. "Tensiometer" is most suitable for :
- (1) Clayey soil (2) Silty clay soil
(3) Sandy loam soil (4) Clay loam soil

48. "Trickle irrigation" is recommended for :
- (1) Mango (2) Coriander (3) Greens (4) Radish
49. Soil crusting is a problem in :
- (1) Vertisol (2) Alfisol (3) Inceptisol (4) Aridisol
50. When crop strips are laid out at right angle to the natural slope of the land, the cropping system is known as :
- (1) Contour strip cropping (2) Field strip cropping
(3) Wind strip cropping (4) Buffer strip cropping
51. Deliberate integration of woody perennials with herbaceous crops and/or animals in space or time on the same land management unit is known as :
- (1) TIMFIB system (2) Silvi-pasture
(3) Agroforestry (4) Ley farming
52. Which institution is responsible for medium range weather forecasting in India ?
- (1) IMD (2) IITM
(3) AICRP on Agro meteorology (4) NCMRWF
53. Precision farming emphasizes on :
- (1) Proper choice of experimental design
(2) Variability assessment and management
(3) Use of organic inputs
(4) Use of less inputs
54. National Research Centre for Rapeseed and Mustard is located at :
- (1) Kanpur (2) Hisar (3) Bharatpur (4) Varanasi
55. Sum total of genes in a species is called :
- (1) Genetic diversity (2) Genetic variability
(3) Gene pool (4) Gene Bank
56. Cross pollination is associated with :
- (1) Cleistogamy (2) Chasmogamy
(3) Dichogamy (4) None of the above

57. Which of the following is an alkaloid derived from plant that induces chromosome doubling ?
 (1) Colchicines (2) Carmine (3) Orcein (4) EMS
58. Physical basis of heredity is explained due to the location of genes on :
 (1) Chromosome (2) Ribosome (3) Lysosome (4) Peroxisome
59. A diploid individual with one extra chromosome is called :
 (1) Triploid (2) Trisomic (3) Monoploid (4) Monosomic
60. Who gave the term Genetics ?
 (1) W. L. Johannes (2) W. Bateson (3) R. C. Punnett (4) G. J. Mendel
61. Soils rich in clay show wide cracks on drying is :
 (1) Kaolinite (2) Vermiculite
 (3) Montmorillonite (4) Vertisol
62. Availability of P is more in soil having pH :
 (1) 4.5-5.5 (2) 6.5-7.5 (3) 8.5-9.5 (4) 7.5-8.5
63. Potassium in soil mostly moves through the process of :
 (1) Diffusion (2) Mass flow
 (3) Root Interception (4) Absorption
64. Root development in plants is stimulated by :
 (1) N (2) P (3) K (4) S
65. Rosetting of leaves is due to deficiency of :
 (1) Zn (2) Cu (3) Mn (4) Mo
66. Under field condition Tensiometer can work up to :
 (1) 0.1 bar (2) 0.8 bar (3) 1.5 bar (4) 0.0 bar
67. The most common indicator plant for boron deficiency in soil is :
 (1) Rice (2) Maize (3) Wheat (4) Sunflower

68. A common amendment used for sodic soil reclamation is :
 (1) Gypsum (2) Sawdust (3) Lime (4) FYM
69. The material used for reclamation of acid soil is :
 (1) Calcium Carbonate (2) Calcium Sulphate
 (3) Iron Sulphate (4) None of these
70. Organic N in soil constitutes about % of the total N.
 (1) 50 (2) 25 (3) 75 (4) 98
71. The instrument used for measurement of soil compaction :
 (1) Tensiometer (2) Penetrometer
 (3) Psychrometer (4) Compactometer
72. If water held in soil at 1/3 bar the soil is at its :
 (1) Saturation point (2) Field capacity
 (3) Wilting point (4) Hygroscopic point
73. Which governs the solubility and availability of nutrients in the soil ?
 (1) Temperature (2) Aeration
 (3) pH (4) Porosity
74. Removal of top fertile soil by wind or water is called :
 (1) Siltation (2) Soil erosion
 (3) Weathering of soil (4) Leaching
75. The term "Quality Seed" was conceived as early as :
 (1) 1887 (2) 1877 (3) 1778 (4) 1787
76. The geographical source or place of origin from which a given lot of seeds for plants collected is known as :
 (1) Provincial origin (2) Geographical origin
 (3) Geological origin (4) Provenance
77. Seed production area or seed stands have been developed in :
 (1) Rhododendron (2) Sal (3) Sissoo (4) Teak
78. The tree seed certification began as early as in 1928 in :
 (1) USA (2) U. K. (3) USSR (4) UAE

79. Virus free plant can be produced through :
- (1) Tissue culture (2) Meristem culture
(3) Anther culture (4) Protoplast culture
80. Which sterilant solution is not used for *in vitro* plant cell culture ?
- (1) Mercuric chloride (2) Ceradix
(3) Teepol (4) Sodium hypochloride
81. The process by which the DNA of the nucleus passes information to mRNA is called :
- (1) Translocation (2) Transcription
(3) Translation (4) Transportation
82. Tea belongs to the family :
- (1) Lauraceae (2) Arecaceae (3) Rubiaceae (4) Camelliaceae
83. Commercial Rubber is obtained from :
- (1) *Ficus elastica* (2) *Castiela elastica*
(3) *Hevea brasiliensis* (4) *Ficus religiosa*
84. "San Roman" variety of Coffee is characterized by :
- (1) Dwarf stature (2) Leaf spot resistance
(3) Tall stature (4) Rust resistance
85. Oil palm yields highest oil (t/ha) among all oil seed crops :
- (1) 6-8 (2) 2-3 (3) 4-5 (4) 9-10
86. "CNLS" is obtained during the processing of :
- (1) Oil palm (2) Cinnamon
(3) Camphor (4) Cashewnut
87. Best quality paper can be had from the leaves of :
- (1) Coconut (2) Oil palm (3) Agave (4) Cardamom
88. The foundation of present day Forestry Administration in India were laid by :
- (1) Gibson (2) Conolly
(3) Mc Clelland (4) Brandis

89. In ancient India, the only king who took effort to look after the forest of his kingdom was :
 (1) Dharmapal (2) Puru
 (3) Chandragupt Maurya (4) Dasharatha
90. ICFRE was established in the year :
 (1) 1986 (2) 1991 (3) 1982 (4) 1906
91. Animals come under Schedule - III is known as Big Games, e. g. :
 (1) Chinkara (2) Hare (3) Wild Yak (4) Black Buck
92. Area protected for managing ecosystem conservation and recreation is :
 (1) Sanctuary (2) National Park
 (3) Protected Forest (4) Reserve Forest
93. NRC on Agroforestry is located in :
 (1) Dehradun (2) Jhansi (3) Bhopal (4) Jabalpur
94. The bark of *Anthocephalus indicus* is used as :
 (1) Skin medicine (2) Tonic
 (3) Anthelmintic (4) Antipyretic
95. *Adina cordifolia* belongs to the family :
 (1) Mimosaceae (2) Euphorbiaceae
 (3) Rubiaceae (4) Lauraceae
96. The common name of *Terminalia bellerica* is :
 (1) Harida (2) Ashoka (3) Baheda (4) Arjuna
97. The botanical name of "Sandal Wood" tree is :
 (1) *Pterocarpus marsupium* (2) *Santalum acuminatum*
 (3) *Santalum album* (4) *Shorea robusta*
98. Three drops of rose oil thrice a day is useful for the treatment of :
 (1) Gall stones (2) Liver ailments
 (3) Stomach cancer (4) Dysentery
99. Dormancy due to low temperature is termed as :
 (1) Hibernation (2) Quiescence
 (3) Aestivation (4) Athermopause

100. Pest population at which control measure has to be initiated is :
 (1) EIL (2) ETL (3) GEP (4) EL
101. "Trichogamma" is an :
 (1) Egg parasitoid (2) Larval parasitoid
 (3) Egg-larval parasitoid (4) Pupa parasitoid
102. Which of the following is a systemic insecticide ?
 (1) Triazophos (2) Imidacloprid
 (3) Deltamethrin (4) Fenobicarb
103. Mining and skeletonization of cabbage leaves is caused by :
 (1) Leaf webber (2) Aphids
 (3) Leaf worm (4) Diamondback moth
104. Rat guard is used in storage structure to avoid :
 (1) Pusa bin (2) Concrete bin
 (3) Kisan Kothi (4) Bamboo bin
105. The first Indian Entomologist to test efficacy of Neem product on locust is :
 (1) T. N. Anantha Krishnan (2) S. Pradhan
 (3) K. K. Nayar (4) Abdul Kareem
106. The father of the host plant resistance is :
 (1) T. B. Fletcher (2) M. S. Mani
 (3) R. H. Painter (4) V. A. Dyck
107. *Helicoverpa armigera* is controlled by :
 (1) Ha NPV (2) SL NPV
 (3) *Bracon hebetor* (4) *Oryctes rhinocerus*
108. The term, "IPM" was coined by :
 (1) Geier and Clark (2) Muller
 (3) Chapman (4) Smith
109. The first American Lay Journalist raised slogan against use of toxic pesticides was :
 (1) V. A. Dyck (2) Rachel Carson
 (3) R. L. Chapman (4) K. M. Smith

110. "The Eriophyid Mite" attack in coconut can be controlled by the use of :
(1) Dipel (2) Neemazol (3) Ha NPV (4) Halt 5% WP
111. The Yellow Vein Mosaic disease of okra is caused by the pathogen :
(1) Fungi (2) Bacteria (3) Virus (4) Algae
112. Bordeaux mixture contains :
(1) Copper carbonate (2) $CuSO_4$
(3) Blue copper (4) Copper oxychloride
113. Anthracnose and Die-back of Chilli is caused by :
(1) Curvularia (2) Colletotrichum
(3) Alternaria (4) Phytophthora
114. "Quarantine" is one of the methods of :
(1) Avoidance (2) Exclusion (3) Eradication (4) Protection
115. The important antibiotic used for control of bacterial diseases of plants is :
(1) Carbendazim (2) Streptomycin sulphate
(3) Sulphex (4) Cartap
116. "Mancozeb" belongs to the group :
(1) Organic mercurial (2) Organic sulphur
(3) Copper (4) Quinone
117. "Metalaxyl" is a :
(1) Copper fungicides (2) Systemic fungicides
(3) Benzene fungicides (4) Carbamate
118. Common seed treating chemical is :
(1) Copper (2) Alcohol (3) Sulphur (4) Carbendazim
119. *Fusarium oxysporum* causes disease in banana.
(1) Moko (2) Panama wilt (3) Sigatoka (4) Bunchy top
120. Water dispersal of pathogen is called :
(1) Anthropochory (2) Zoochory (3) Hydrochory (4) Anemochory

अभ्यर्थियों के लिए निर्देश

(इस पुस्तिका के प्रथम आवरण-पृष्ठ पर तथा उत्तर-पत्र के दोनों पृष्ठों पर केवल नीली/काली बाल-प्वाइंट पेन से ही लिखें)

1. प्रश्न-पुस्तिका मिलने के 10 मिनट के अन्दर ही देख लें कि प्रश्न-पुस्तिका में सभी पृष्ठ मौजूद हैं और कोई प्रश्न छूटा नहीं है। प्रश्न-पुस्तिका दोषयुक्त पाये जाने पर इसकी सूचना तत्काल कक्ष निरीक्षक को देकर सम्पूर्ण प्रश्नपत्र की दूसरी प्रश्न-पुस्तिका प्राप्त कर लें।
2. परीक्षा भवन में लिफाफा रहित प्रवेश-पत्र के अतिरिक्त, लिखा या सादा कोई भी खुला कागज साथ में न लायें।
3. उत्तर-पत्र अलग से दिया गया है। इसे न तो मोड़ें और न ही विकृत करें। दूसरा उत्तर-पत्र नहीं दिया जायेगा। केवल उत्तर-पत्र का ही मूल्यांकन किया जायेगा।
4. अपना अनुक्रमांक तथा उत्तर-पत्र का क्रमांक प्रथम आवरण-पृष्ठ पर पेन से निर्धारित स्थान पर लिखें।
5. उत्तर-पत्र के प्रथम पृष्ठ पर पेन से अपना अनुक्रमांक निर्धारित स्थान पर लिखें तथा नीचे दिये वृत्तों को गाढ़ा कर दें। जहाँ-जहाँ आवश्यक हो वहाँ प्रश्न-पुस्तिका का क्रमांक तथा सेट का नम्बर उचित स्थानों पर लिखें।
6. ओ० एम० आर० पत्र पर अनुक्रमांक संख्या, प्रश्न-पुस्तिका संख्या व सेट संख्या (यदि कोई हो) तथा प्रश्न-पुस्तिका पर अनुक्रमांक संख्या और ओ० एम० आर० पत्र संख्या की प्रविष्टियों में उपरिलेखन की अनुमति नहीं है।
7. उपर्युक्त प्रविष्टियों में कोई भी परिवर्तन कक्ष निरीक्षक द्वारा प्रमाणित होना चाहिये अन्यथा यह एक अनुचित साधन का प्रयोग माना जायेगा।
8. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार वैकल्पिक उत्तर दिये गये हैं। प्रत्येक प्रश्न के वैकल्पिक उत्तर के लिये आपको उत्तर-पत्र की सम्बन्धित पंक्ति के सामने दिये गये वृत्त को उत्तर-पत्र के प्रथम पृष्ठ पर दिये गये निर्देशों के अनुसार पेन से गाढ़ा करना है।
9. प्रत्येक प्रश्न के उत्तर के लिये केवल एक ही वृत्त को गाढ़ा करें। एक से अधिक वृत्तों को गाढ़ा करने पर अथवा एक वृत्त को अपूर्ण भरने पर वह उत्तर गलत माना जायेगा।
10. ध्यान दें कि एक बार स्याही द्वारा अंकित उत्तर बदला नहीं जा सकता है। यदि आप किसी प्रश्न का उत्तर नहीं देना चाहते हैं, तो सम्बन्धित पंक्ति के सामने दिये गये सभी वृत्तों को खाली छोड़ दें। ऐसे प्रश्नों पर शून्य अंक दिये जायेंगे।
11. रफ कार्य के लिये इस प्रश्न-पुस्तिका के मुखपृष्ठ के अंदर वाला पृष्ठ तथा अंतिम खाली पृष्ठ का प्रयोग करें।
12. परीक्षा के उपरान्त केवल ओ० एम० आर० उत्तर-पत्र ही परीक्षा भवन में जमा करें।
13. परीक्षा समाप्त होने से पहले परीक्षा भवन से बाहर जाने की अनुमति नहीं होगी।
14. यदि कोई अभ्यर्थी परीक्षा में अनुचित साधनों का प्रयोग करता है, तो वह विश्वविद्यालय द्वारा निर्धारित दंड का/की भागी होगा/होगी।