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Question Booklet Alpha Code

A

Question Booklet Sl. No.

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Total Number of Questions : 100

Time : 90 Minutes

Maximum Marks : 100

INSTRUCTIONS TO CANDIDATES

1. The Question Paper will be given in the form of a Question Booklet. There will be four versions of Question Booklets with Question Booklet Alpha Code viz. **A, B, C & D**.
2. The Question Booklet Alpha Code will be printed on the top left margin of the facing sheet of the Question Booklet.
3. The Question Booklet Alpha Code allotted to you will be noted in your seating position in the Examination Hall.
4. If you get a Question Booklet where the alpha code does not match to the allotted alpha code in the seating position, please draw the attention of the Invigilator **IMMEDIATELY**.
5. The Question Booklet Serial Number is printed on the top right margin of the facing sheet. If your Question Booklet is un-numbered, please get it replaced by new Question Booklet with same alpha code.
6. The Question Booklet will be sealed at the middle of the right margin. Candidate should not open the Question Booklet, until the indication is given to start answering.
7. Immediately after the commencement of the examination, the candidate should check that the Question Booklet supplied to him/her contains all the 100 questions in serial order. The Question Booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete booklet with same alpha code. This is most important.
8. A blank sheet of paper is attached to the Question Booklet. This may be used for rough work.
9. **Please read carefully all the instructions on the reverse of the Answer Sheet before marking your answers.**
10. Each question is provided with four choices **(A), (B), (C)** and **(D)** having one correct answer. Choose the correct answer and darken the bubble corresponding to the question number using Blue or Black Ball Point Pen in the OMR Answer Sheet.
11. **Each correct answer carries 1 mark and for each wrong answer 1/3 mark will be deducted. No negative mark for unattended questions.**
12. No candidate will be allowed to leave the examination hall till the end of the session and without handing over his/her Answer Sheet to the Invigilator. Candidates should ensure that the Invigilator has verified all the entries in the Register Number Coding Sheet and that the Invigilator has affixed his/her signature in the space provided.
13. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the Examination will result in the disqualification of the candidate.

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1. Number of micronutrients essential for plant growth as per essentiality criteria is
A) 7 B) 8 C) 6 D) 9
2. A post emergence herbicide recommended for the selective killing of sedges and dicot weeds in transplanted rice is
A) Bispyribac sodium B) Cyhalofop butyl + Penoxsulam
C) Fenoxaprop-p-ethyl D) Ethoxy sulfuron
3. Percentage of boron in Borax ($\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$) is
A) 11% B) 15% C) 20% D) 7%
4. Quantity of bispyribac sodium [Nominee gold 10 SC] needed per acre if recommendation is 0.03 kg ai/ha is
A) 300 ml B) 200 ml C) 250 ml D) 120 ml
5. An essential plant nutrient immobile in soil and mobile inside plants is
A) Potassium B) Sulphur C) Phosphorus D) Calcium
6. As per the classification of Central Soil Salinity Research Institute, Karnal an irrigation water with electrical conductivity _____ is suitable for irrigation.
A) <1.5 dS/m B) <2.5 dS/m C) <5 dS/m D) <4 dS/m
7. Kerala soils are said to be Magnesium deficient if the soil test value is
A) <200 ppm B) <120 ppm C) <300 ppm D) <250 ppm
8. Number of Agro Ecological Management Units [AEMU] in Kerala as per National Bureau of Soil Survey and Land Use Planning.
A) 15 B) 20 C) 13 D) 23
9. Nano urea recommendation to crops as per IFFCO is
A) 6 – 8 ml B) 5 – 10 ml C) 2 – 4 ml D) 5 – 7 ml
10. What will be the depth of irrigation if IW/CPE ratio is 0.75 with a CPE of 6 mm ?
A) 6.25 mm B) 4.5 mm C) 8.0 mm D) 5.75 mm
11. Who first used the term nanotechnology and when ?
A) Rechar Feynman, 1959 B) Nario Taniguchi, 1974
C) Eric Drexler, 1986 D) Sumio Lijima, 1991
12. What is grapheme ?
A) a new material made from carbon nanotubes
B) thin film made from fullerenes
C) a software tool made to measure and graphically represent nano particles
D) a one atom thick sheet of carbon

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13. Multi Spectral Scanner (MSS) was on board on which satellite ?
A) IRS – 1A B) NOAA – 18 C) SPOT – 1 D) Landsat – 1
14. There are two Survey of India 1 : 50,000 toposheets with 15'×15' angular coverage, one from Jammu and another from Kerala. Which of the following statement is true ?
A) Both the toposheets will cover exactly same size of area
B) The toposheet from Jammu will cover a large area than that of the Kerala
C) The toposheet from Kerala will cover a large area than that of the Jammu
D) Projection will affect the size of area coverage
15. Calculate the percentage pore space in a soil with a bulk density of 1.3 Mg/m³ and particle density of 2.6 Mg/m³.
A) 45 B) 48 C) 50 D) 52
16. In a soil plant system, water and nutrient rise due to capillary action. If suddenly the acceleration due to gravity is reduced to half, the capillary rise will be
A) Double B) Half C) Remain same D) Becomes zero
17. SMP buffer is used in
A) Lime requirement B) Gypsum requirement
C) Phosphate potential D) Lime potential
18. The coordination number of Al⁺³ ion in Phyllosilicate mineral is
A) Eight B) Six C) Three D) One
19. Rank the following moisture regimes below from driest to wettest
A) udic, aquic, aridic B) aquic, udic, aridic
C) xeric, udic, aquic D) udic, xeric, aquic
20. What are the six master horizons in the order which you will find them in the soil, from top to bottom ?
A) O, E, T, A, P, C B) A, B, C, E, O, R
C) O, A, B, E, C, R D) O, A, E, B, C, R
21. Which among the following statements regarding IPM are correct ?
i. Management is initiated when the increasing population of a pest crosses ETL.
ii. Insecticides are never used in IPM.
iii. Management is initiated as soon as the damage by a pest is observed.
iv. IPM aims to keep the population of pests below EIL.
A) i and ii B) ii and iii C) iii and iv D) i and iv
22. Intra specific competition between parasitoids occurs in
i. Super parasitism
ii. Multiple parasitism
iii. Gregarious parasitism
iv. Solitary parasitism
A) i only B) ii only C) both ii and iv D) both i and ii

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23. Which among the following deleteriously affect pest management employing insecticides ?
- Insecticide resistance
 - Plant resistance
 - Pest resurgence
 - Pest replacement
- A) i, ii and iii B) ii, iii and iv C) i, iii and iv D) All of the above
24. Act/Acts based on the provisions of which the entry of exotic pests to India is checked.
- The Insecticides Act, 1968
 - The Destructive Insects and Pests Act, 1914
 - The Environment (Protection) Act, 1986.
- A) i only B) ii only C) iii only D) Both i and iii
25. Identify the neonicotinoid insecticides from among the following.
- Azadiractin
 - Imidacloprid
 - Flubendiamide
 - Thiamethoxam
- A) Both i and ii B) Both ii and iii C) Both i and iv D) Both ii and iv
26. Read the following statements about insects and choose the option having all true statements.
- Nerve cord is ventral in position.
 - Excretion of nitrogenous wastes is mediated by malpighian tubules.
 - Heart is dorsal in position.
 - Haemolymph transport oxygen.
- A) i, ii and iii B) ii, iii and iv C) i, ii and iv D) All of the above
27. Which of the following are used as rodenticides ?
- Zinc phosphide
 - Zinc phosphate
 - Warfarin
 - Dimilin.
- A) Both i and ii B) Both ii and iii C) Both i and iii D) Both ii and iv
28. The bioagents recommended for the management of coconut rhinoceros beetle at breeding sites are
- Trichogramma chelonis*
 - Oryctes virus (OrNV)
 - Metarrhizium anisopliae var major*
- A) Both i and ii B) Both i and iii C) Both ii and iii D) All of the above

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29. Select the incorrect statement about management of rice pests from the following.
- A) Late transplantation during first crop rice reduce gall midge infestation.
 - B) Avoiding overlapping cultivation reduce rice bug damage.
 - C) Draining away water from the fields controls rice case worm.
 - D) Flooding the field is helpful for the management of rice swarming caterpillar.
30. A technique used to reduce resistance build up in target pests against Bt transgenic cotton
- A) Maintenance of refugia crop
 - B) Application of insecticides at regular intervals
 - C) Setting up of insect traps
 - D) Release of biocontrol agents
31. Producers of mycotoxin patulin is
- i. *Penicillium expansum* and *Aspergillus clavatus*
 - ii. *Fusarium moniliformae* and *Aspergillus parasiticus*
 - iii. *Chaetomium* and *Bipolaris*
 - iv. *Stachbotrys chartarum*
- A) i only B) i and iii C) ii and iii D) iii and iv
32. Dikaryotic spores of *Puccinia graminis tritici* is
- i. Aeciospores
 - ii. Uredospores
 - iii. Teliospores
 - iv. Basidiospores
- A) i and ii B) ii and iii C) i, ii and iii D) i, ii, iii and iv
33. Diseases caused by fastidious phloem inhabiting bacteria is
- A) Pierce disease of grapes and citrus variegated chlorosis
 - B) Citrus greening and bunchy top of papaya
 - C) Aster yellows, lethal yellowing
 - D) Citrus stubborn corn stunt
34. Disease due to deficiency of Boron is
- A) Citrus rosette and Yellow streak of corn
 - B) Sand drown of tobacco and Bronzing in citrus
 - C) Pahala blight of sugarcane and Gray speck of oats
 - D) Heart rot of sugarcane and internal cork of apples
35. Non enveloped (+)ss RNA viruses is
- A) Cauliflower mosaic virus and Maize streak virus
 - B) Potato virus X and tobacco mosaic virus
 - C) Tomato spotted wilt virus and lettuce necrotic yellow
 - D) All of the above

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43. Consider a diploid and purely self pollinating crop. F_1 Hybrid is generated in that crop from two genetically divergent inbred parents. Assume that crossing over is prevented in the F_1 hybrid by using some technology and selfing practiced in F_1 as usual except for crossing over. What will be the genetic constitution of resultant generation ?
- comprise homozygous types similar as inbred parents
 - comprise heterozygous types similar as parents
 - comprise heterozygous types similar as F_1 generation
 - comprise homozygous types similar as F_1 generation
- A) I only B) III only C) II and III D) I and III
44. Genetic composition of multiline variety in wheat and gene pyramided variety in rice is
- homozygous and homogenous in both rice and wheat
 - heterozygous and heterogenous in both rice and wheat
 - homozygous and homogenous in rice; homozygous and heterogenous in wheat
 - homozygous and homogenous in wheat; homozygous and heterogenous in rice
45. Choose the correct statement or combination of only correct statements regarding synthetics.
- It is suitable in cross-pollinated crops and lines with high SCA (Specific Combining Ability) are used for production of synthetics.
 - Syn1 seeds obtained by random mating of Syn0 lines and Syn1 seeds given to farmers for cultivation.
 - Syn2 seeds obtained by selfing of Syn1 lines.
 - Syn2 seeds are generally not used for commercial cultivation.
- A) I, II and III B) I and III C) I, II, III and IV D) None
46. Select the correct combination of statements. When many genes are controlling a particular trait, F_2 generation of a cross from inbred parents.
- May not achieve 3 : 1 ratio because law of independent assortment is not followed.
 - Express properties of binomial distribution.
 - Forms bell shaped curve with mean, median and mode are equal.
 - Extreme phenotypes will be rare in the population.
- A) I, II and III B) II and III C) III and IV D) I, II and IV
47. In heterosis breeding, for production of hybrids
- Cross combinations with high SCA are selected.
 - Inbred lines with high GCA are selected.
 - Genetically divergent parents are selected.
 - Genetically similar parents with superior performance are selected.
- A) I and III B) II and IV C) I and IV D) II and III

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48. Which of the following statement and its reason are correct ?

Statement – I : Seeds obtained from F_1 , hybrid of sexually reproducing crops should not be reused for cultivation.

Reason for Statement – I : Due to segregation, genetic constitution will be changed in next generation.

Statement – II : Seeds obtained from hybrid variety of sexually reproducing crops could be reused for cultivation.

Reason for Statement – II : Since hybrid variety is stabilized and will be in homozygous condition, seeds could be again used if we are preventing chances of cross pollination with other varieties and mechanical mixing.

- i. Statement – I and its reason is correct.
- ii. Statement – I is correct but its reason is wrong.
- iii. Statement – II and its reason is correct.
- iv. Statement – II is correct but its reason is wrong.
- v. Statement – II is wrong.

A) i and iii B) i and v C) ii and iii D) ii and iv

49. Assume that we are generating Doubled Haploids (DH) from anther culture.

Anthers were collected from a flower in a plant belonged to F_1 generation obtained from cross between two genetically divergent inbreds. What will be the genetic constitution of DH population and genetic constitution of F_1 population from which flowers were taken ?

- A) Homozygous and homogenous in DH; Heterozygous and homogenous in F_1
- B) Heterozygous and heterogenous in DHs; Heterozygous and heterogenous in F_1
- C) Homozygous and heterogenous in DH; Heterozygous and homogenous in F_1
- D) Heterozygous and homogenous in both DH and F_1

50. Which statement combination is correct ?

- I. GI status given to agricultural products only in India.
- II. Darjeeling tea is the first agricultural product that got GI status in India.
- III. Patents are not granted to crop varieties/hybrids in India.

A) I, II and III B) II and III C) I and III D) I and II

51. As per The Seeds Act, 1966, any person aggrieved by a decision of a certification agency under Section 9 or 10, may prefer an appeal to appellate authority within _____ from the date on which the decision is communicated to him and on payment of such fees as may be prescribed, prefer an appeal to such authority as may be specified by the State Government unless the appeal is entertained by the appellate authority on some circumstances.

A) 20 days B) 30 days C) 45 days D) 60 days

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52. Castor hybrids in India are being produced by utilising
A) Cytoplasmic male sterility B) Self-incompatibility
C) Hand emasculation and pollination D) Pistillateness of the seed parent
53. Indian Minimum Seed Certification Standards are published by
A) Central Seed Committee B) State Seed Certification Agencies
C) Central Seed Certification Board D) Central Seed Testing Laboratory
54. A seed lot shall be eligible for extension of the validity period of certified seed is
A) For initial nine months only
B) For one year only
C) For two years only
D) As long as it conforms to the prescribed seed standards
55. Provisions under Section 6 of The Seeds Act, 1966 pertains to
A) Power to notify kinds or varieties of seeds
B) Powers to specify minimum limits of germination and purity
C) Grant of certificate by certification agency
D) Revocation of certificate
56. In hybrid seed production involving cytoplasmic male sterile lines, a plant of the 'B' line in the female row (male sterile 'A' line) is called as a
A) Pollen shedder B) Shedding tassel
C) Off type D) Objectionable weed plant
57. Registration of varieties to offer for sale of seeds is necessary if
A) Seeds Act, 1966 B) Seed Rules, 1968
C) Seeds (Control) Order, 1983 D) New Seed Bill, 2004
58. Designated seed borne disease in brinjal/egg plant is
A) Phomopsis blight B) Ascochyta blight
C) Ashy stem blight D) Early blight
59. Inter-cropping is applicable to oil seed and pulse crops for the production of
A) Foundation seed only B) Certified seed only
C) Foundation and certified seed D) Breeder, foundation and certified seed
60. Every licence granted under the Seeds (Control) Order, 1983 shall unless previously suspended or cancelled, remain valid for _____ from the date of its issue.
A) One year B) Two years C) Three years D) Four years
61. Most important species of anthurium commercially cultivated in India
A) *Anthurium crystallinum* B) *Anthurium andreanum*
C) *Anthurium digitatum* D) *Anthurium clarinervium*

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69. Which of the following produces aggregate fruits ?
A) Fig B) Breadfruit C) Custard apple D) Mulberry
70. Which of the following statements are correct with respect to plant propagation ?
I. Cuttings taken from female trees root better than female trees.
II. High carbohydrate with low N level will aid easy rooting.
III. Semi hardwood cuttings are also known as greenwood cuttings.
IV. Treatment with synthetic auxins at appropriate concentration results in improved rooting.
A) I and II are correct B) II and IV are correct
C) I, II and IV are correct D) All are correct
71. Match the following and choose the right answer :
i. Chilli a. Allyl propyl disulphide
ii. Onion b. Trigonellin
iii. Garlic c. Capsaicin
iv. Fenugreek d. Diallyl disulphide
A) i – c, ii – d, iii – a, iv – b B) i – b, ii – d, iii – a, iv – c
C) i – c, ii – a, iii – d, iv – b D) i – a, ii – b, iii – c, iv – d
72. Isolation distance to be kept in production of certified seeds in amaranthus is
A) 800 m B) 400 m C) 200 m D) 100 m
73. Which of the following statements on brinjal varieties are true ?
i. Surya, Swetha and Haritha are bacterial wilt resistant varieties.
ii. Haritha is bacterial wilt resistant but Surya and Swetha are not resistant to bacterial wilt.
iii. Surya is purple fruited and Swetha and Haritha are green fruited.
iv. Surya, Swetha and Haritha are high yielding but susceptible to bacterial wilt.
A) i B) iii and iv C) ii D) i and iii
74. Choose the correct match on harvesting stage of tomato based on use.
i. Pink stage a. Distant market
ii. Mature green stage b. Canning and pickling
iii. Full ripe stage c. Home or table purpose
iv. Ripe stage d. Local market
A) i – a, ii – d, iii – b, iv – c B) i – b, ii – a, iii – d, iv – c
C) i – d, ii – a, iii – b, iv – c D) i – b, ii – a, iii – c, iv – d

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75. Select the correct statement.
- Snake gourd, pointed gourd and ivy gourd are monoecious in nature.
 - Snake gourd is monoecious but pointed gourd and ivy gourd are dioecious.
 - Ivy gourd is dioecious but snake gourd and pointed gourd are monoecious.
 - Snake gourd, Ivy gourd and pointed gourd are dioecious.
- A) iii B) ii C) Both ii and iii D) None of the above
76. Blossom end rot of tomato is due to
- A) Fungi B) Bacteria
C) Deficiency of potassium D) Deficiency of calcium
77. Select the correct match of the following.
- Winged bean
 - Sword bean
 - Jack bean
 - Cluster bean
- Canavalia ensiformis*
 - Canavalia gladiata*
 - Cyamopsis tetragonoloba*
 - Psophocarpus tetragonolobus*
- A) i – d, ii – a, iii – b, iv – c B) i – d, ii – b, iii – a, iv – c
C) i – c, ii – b, iii – a, iv – d D) i – b, ii – a, iii – d, iv – c
78. Chilli is a
- A) Day neutral plant B) Long day plant
C) Short day plant D) None of the above
79. Choose the incorrect statement.
- Tomato is a self pollinated crop but bitter gourd is cross pollinated crop.
 - Cowpea is a self pollinated crop but bhindi is an often cross pollinated crop.
 - Tomato and cowpea are not self pollinated crops.
 - Snake gourd and bitter gourd are cross pollinated crops.
- A) iv B) iii C) i D) All are incorrect
80. Seed production of cabbage is done through
- A) Seed to seed method
B) Head to seed method
C) Both seed to seed and head to seed method
D) None of the above
81. In differentiated pricing, companies often adjust the product price according to
- A) Product B) Location C) Customer D) All of the above
82. The concept of consumer's surplus was first introduced by
- A) Adam Smith B) Pigou
C) Alfred Marshall D) None of the above

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83. Utility analysis or Marshallian approach of consumer's behaviour is often called as
A) Ordinal approach
B) Indifference curve
C) Cardinal approach
D) None of the above
84. Social costs are also called as
A) Private costs
B) Externalities
C) Explicit costs
D) None of the above
85. Geographical market segmentation is a sub-set of
A) Demographic market segmentation
B) Firmographic market segmentation
C) Behavioural segmentation
D) Psychographic segmentation
86. _____ is the capacity of a good to command other things in exchange.
A) Price
B) Value
C) Maximum retail price
D) None of the above
87. A product pricing strategy by which a firm charges the highest initial price that customers will pay and then lowers it over time
A) Product penetration
B) Price skimming
C) Product mix
D) None of the above
88. Companies that have patents or extensive research and development costs such as pharmaceutical companies are considered as
A) Natural Monopolies
B) Monopolistic
C) Price Monopoly
D) Public Monopoly
89. The demand for a good means
A) Desire to buy
B) Willingness to purchase
C) Ability to pay for the good
D) All of the above
90. What is the meaning of the term economists use "*ceteris paribus*" ?
A) All the variables are held constant
B) All the other independent variables affecting the dependent variable are held constant
C) Both of the above
D) None of these
91. Which of the following is not a group formation stage ?
A) Alarming
B) Storming
C) Norming
D) Performing

A

92. The autonomous body registered under Societies Act to implement extension schemes at district level
 A) NABARD B) KVK C) SAMETI D) ATMA
93. The 'Panchayati Raj System' was implemented based on
 A) Hanumantha Rao Committee B) GMF Enquiry Committee
 C) Balwant Rai Mehta Committee D) Ashok Mehta Committee
94. The Entrepreneurship Development Institute of India is located at
 A) New Delhi B) Ahmedabad C) Hyderabad D) Bangalore
95. The planning commission was replaced by _____ in the year 2015.
 A) Five year plans B) RKVY
 C) NITI Ayog D) NATP
96. DARE stands for
 A) Development of Agricultural Research and Employment
 B) Department of Agriculture and Rural Entrepreneurship
 C) District Agency for Rural Employment
 D) Department of Agricultural Research and Education
97. Which of the following are the mandatory activities of KVK ?
 i. OFT
 ii. FLD
 iii. PTD
 A) Only (i and iii) B) Only (i and ii)
 C) Only (ii and iii) D) All the above (i, ii and iii)
98. IVLP is the acronym of
 A) Institution Village Linkage Program
 B) Indian Village Livelihood Program
 C) Integrated Veterinary and Livestock Program
 D) Intensive Village Literacy Program
99. _____ is a powerful PRA technique to understand relationship between different institutes and people's perception of their usefulness.
 A) Resource mapping B) Venn diagram
 C) Matrix ranking D) Trend analysis
100. The program implemented in 1979 by ICAR as part of its Golden Jubilee celebrations
 A) National Demonstration Project B) Operational Research Project
 C) Lab to Land Programme D) Krishi Vigyan Kendra

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Space for Rough Work

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