

सूचना

(1) सदर प्रश्नपुस्तिकेत 200 अनिवार्य प्रश्न आहेत. उमेदवारांनी प्रश्नांची उत्तरे लिहिण्यास सुरुवात करण्यापूर्वी या प्रश्नपुस्तिकेत सर्व प्रश्न आहेत किंवा नाहीत याची खात्री करून घ्यावी. असा तसेच अन्य काही दोष आढळल्यास ही प्रश्नपुस्तिका समवेक्षकांकडून लगेच बदलून घ्यावी.

परीक्षा-क्रमांक									
	केंद्राची संकेताक्षरे								शेवटचा अंक

(2) आपला परीक्षा-क्रमांक ह्या चौकोनांत न विसरता बॉलपेनने लिहावा.

(3) वर छापलेला प्रश्नपुस्तिका क्रमांक तुमच्या उत्तरपत्रिकेवर विशिष्ट जागी उत्तरपत्रिकेवरील सूचनेप्रमाणे न विसरता नमूद करावा.

(4) या प्रश्नपुस्तिकेतील प्रत्येक प्रश्नाला 4 पर्यायी उत्तरे सुचविली असून त्यांना 1, 2, 3 आणि 4 असे क्रमांक दिलेले आहेत. त्या चार उत्तरांपैकी सर्वात योग्य उत्तराचा क्रमांक उत्तरपत्रिकेवरील सूचनेप्रमाणे तुमच्या उत्तरपत्रिकेवर नमूद करावा. अशा प्रकारे उत्तरपत्रिकेवर उत्तरक्रमांक नमूद करताना तो संबंधित प्रश्नक्रमांकासमोर छयांकित करून दर्शविला जाईल याची काळजी घ्यावी. ह्याकरिता फक्त काळ्या शाईचे बॉलपेन वापरावे, पेन्सिल वा शाईचे पेन वापरू नये.

(5) सर्व प्रश्नांना समान गुण आहेत. यास्तव सर्व प्रश्नांची उत्तरे द्यावीत. घाईमुळे चुका होणार नाहीत याची दक्षता घेऊनच शक्य तितक्या वेगाने प्रश्न सोडवावेत. क्रमाने प्रश्न सोडविणे श्रेयस्कर आहे पण एखादा प्रश्न कठीण वाटल्यास त्यावर वेळ न घालविता पुढील प्रश्नाकडे वळावे. अशा प्रकारे शेवटच्या प्रश्नापर्यंत पोहोचल्यानंतर वेळ शिल्लक राहिल्यास कठीण म्हणून वगळलेल्या प्रश्नांकडे परतणे सोईस्कर ठरेल.

(6) उत्तरपत्रिकेत एकदा नमूद केलेले उत्तर खोडता येणार नाही. नमूद केलेले उत्तर खोडून नव्याने उत्तर दिल्यास ते तपासले जाणार नाही.

(7) प्रस्तुत परीक्षेच्या उत्तरपत्रिकांचे मूल्यांकन करताना उमेदवारांच्या उत्तरपत्रिकेतील योग्य उत्तरांनाच गुण दिले जातील. तसेच “उमेदवाराने वस्तुनिष्ठ बहुपर्यायी स्वरूपाच्या प्रश्नांची अचूक उत्तरेच उत्तरपत्रिकेत नमूद करावीत. अन्यथा त्यांच्या उत्तरपत्रिकेत सोडविलेल्या प्रत्येक चार चुकीच्या उत्तरांसाठी एका प्रश्नाचे गुण वजा करण्यात येतील”.

ताकीद

ह्या प्रश्नपत्रिकेसाठी आयोगाने विहित केलेली वेळ संपेपर्यंत ही प्रश्नपुस्तिका आयोगाची मालमत्ता असून ती परीक्षाकक्षात उमेदवाराला परीक्षेसाठी वापरण्यास देण्यात येत आहे. ही वेळ संपेपर्यंत सदर प्रश्नपुस्तिकेची प्रत/प्रती, किंवा सदर प्रश्नपुस्तिकेतील काही आशय कोणत्याही स्वरूपात प्रत्यक्ष वा अप्रत्यक्षपणे कोणत्याही व्यक्तीस पुरविणे, तसेच प्रसिद्ध करणे हा गुन्हा असून अशी कृती करणाऱ्या व्यक्तीवर शासनाने जारी केलेल्या “परीक्षांमध्ये होणाऱ्या गैरप्रकारांना प्रतिबंध करण्याबाबतचा अधिनियम-82” यातील तरतुदीनुसार तसेच प्रचलित कायद्याच्या तरतुदीनुसार कारवाई करण्यात येईल व दोषी व्यक्ती कमाल एक वर्षाच्या कारावासाच्या आणि/किंवा रुपये एक हजार रकमेच्या दंडाच्या शिक्षेस पात्र होईल.

तसेच ह्या प्रश्नपत्रिकेसाठी विहित केलेली वेळ संपण्याआधी ही प्रश्नपुस्तिका अनधिकृतपणे बाळगणे हा सुद्धा गुन्हा असून तसे करणारी व्यक्ती आयोगाच्या कर्मचारीवृंदापैकी, तसेच परीक्षेच्या पर्यवेक्षकीयवृंदापैकी असली तरीही अशा व्यक्तीविरुद्ध उक्त अधिनियमानुसार कारवाई करण्यात येईल व दोषी व्यक्ती शिक्षेस पात्र होईल.

पर्यवेक्षकांच्या सूचनेविना हे सील उघडू नये

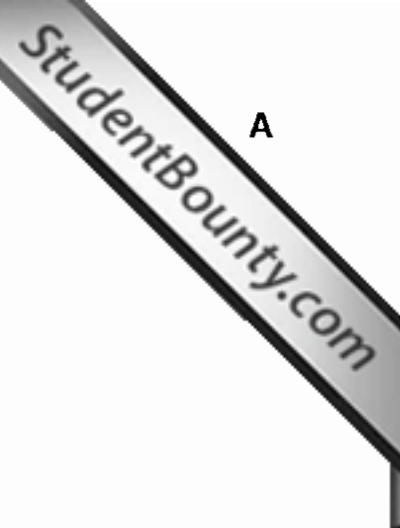
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- (8) प्रश्नपुस्तिकेमध्ये विहित केलेल्या विशिष्ट जागीच कच्चे काम (रफ वर्क) करावे. प्रश्नपुस्तिकेव्यतिरिक्त उत्तरपत्रिकेवर वा इतर कागदावर कच्चे काम केल्यास ते कॉपी करण्याच्या उद्देशाने केले आहे, असे मानले जाईल व त्यानुसार उमेदवारावर शासनाने जारी केलेल्या “परीक्षांमध्ये होणाऱ्या गैरप्रकारांना प्रतिबंध करण्याबाबतचे अधिनियम-82” यातील तरतुदीनुसार कारवाई करण्यात येईल व दोषी व्यक्ती कमाल एक वर्षाच्या कारावासाच्या आणि/किंवा रुपये एक हजार रकमेच्या दंडाच्या शिक्षेस पात्र होईल.
- (9) सदर प्रश्नपत्रिकेसाठी आयोगाने विहित केलेली वेळ संपल्यानंतर उमेदवाराला ही प्रश्नपुस्तिका स्वतः बरोबर परीक्षाकक्षाबाहेर घेऊन जाण्यास परवानगी आहे. मात्र परीक्षाकक्षाबाहेर जाण्यापूर्वी उमेदवाराने आपल्या उत्तरपत्रिकेचा भाग - 1 समवेक्षकाकडे न विसरता परत करणे आवश्यक आहे.

नमुना प्रश्न

प्र. क्र. 201. The Catch varies inversely with the size of the :

- (1) nozzle (2) droplet (3) obstruction (4) sprayer

ह्या प्रश्नाचे योग्य उत्तर “(3) obstruction” हे आहे. त्यामुळे या प्रश्नाचे उत्तर “(3)” होईल. आता खालीलप्रमाणे प्र. क्र. 201 समोरील उत्तर-क्रमांक “③” चा वर्तुळ स खालीलप्रमाणे पूर्णपणे छायांकित करून दाखविणे आवश्यक आहे.

प्र. क्र. 201. ① ② ● ④

अशा पद्धतीने प्रस्तुत प्रश्नपुस्तिकेतील प्रत्येक प्रश्नाचा तुमचा उत्तरक्रमांक हा तुम्हाला स्वतंत्ररीत्या पुरविलेल्या उत्तरपत्रिकेवरील त्या त्या प्रश्नक्रमांकासमोरील संबंधित वर्तुळ पूर्णपणे छायांकित करून दाखवावा. ह्याकरिता फक्त काळ्या शाईचे बॉलपेन वापरावे, पेन्सिल वा शाईचे पेन वापरू नये.

पर्यवेक्षकांच्या सूचनेविना हे पृष्ठ उलटू नये

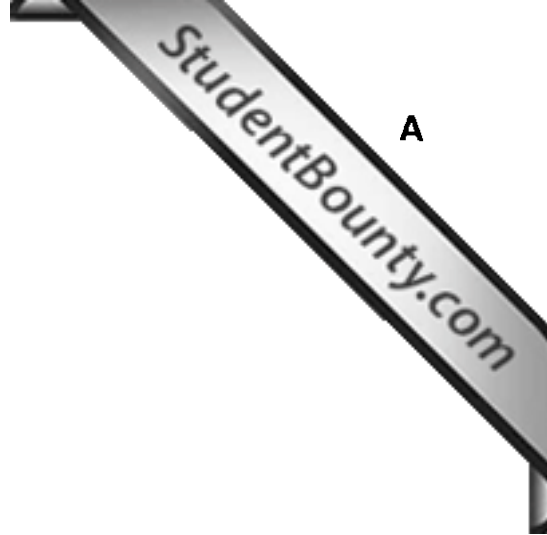
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1. What is the name of phenomenon of presence of two or more embryos within a
- | | |
|-----------------------|-------------------|
| (1) Parthenocarpy | (2) Polyembryony |
| (3) Sternospermocarpy | (4) Fertilization |

2. The xylem and phloem in dicot roots are
- | | |
|--------------|--------------|
| (1) Tetrarch | (2) Diarch |
| (3) Hexarch | (4) Polyarch |

3. What is the terminology for division of cytoplasm ?
- | | |
|------------------|-------------------------|
| (1) Karyokinesis | (2) Equational division |
| (3) Cytokinesis | (4) None of the above |

4. Which is the term used for the yellow pigment that is precursor of Vitamin A and gives colour to plant parts, such as orange fruit ?
- | | |
|-----------------|-----------------|
| (1) Xanthophyll | (2) Carotene |
| (3) Chlorophyll | (4) Anthocyanin |

5. Which of the following statements is false ?
- (1) a gene is a linear sequence of nucleotides
 - (2) genes control the synthesis of protein
 - (3) one gene one enzyme hypothesis was proposed by Lenderberg and Koverberg
 - (4) sickle cell anemia has lethal effect in homozygous condition

6. Who discovered the mutagenic action of 'X' rays in barley and maize ?
- | | |
|-------------|---------------|
| (1) Muller | (2) Stadler |
| (3) Devries | (4) Blackslee |

7. What is the term used for a phase, when chromosomes move in opposite directions from the equatorial region ?
- | | |
|--------------|-----------------|
| (1) Prophase | (2) Metaphase |
| (3) Anaphase | (4) Cytokinesis |

8. The phenotypic ratio of supplementary factor is
- | | |
|------------|-------------------|
| (1) 9 : 7 | (2) 9 : 3 : 4 |
| (3) 13 : 3 | (4) 9 : 3 : 3 : 1 |

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9. How many codons are present in genetic code ?

- (1) 64 (2) 16 (3) 46 (4) 61
-

10. In cytoplasmic organelles which is the component that is the seat of protein synthesis, respiration and generation of high power ATP ?

- (1) Plastid (2) Centrosome
(3) Golgi complex (4) Mitochondria
-

11. The Black Pepper is pollinated by

- (1) Wind (2) Insect (3) Water (4) Animals
-

12. What is the name for one seeded fruit of rice or maize grain ?

- (1) Berry (2) Pepo (3) Siliqua (4) Caryopsis
-

13. An organism derived from the union of gametes of dissimilar genetic constitution is called as

- (1) Homozygote (2) Heterozygote
(3) Multiplezygote (4) Hybrid
-

14. Heterosis is commercially exploited in

- (1) Cross-pollinated crops
(2) Often cross pollinated crops
(3) Self pollinated crops
(4) Vegetatively propagated crops
-

15. The YVM resistant variety of Okra developed by pure line selection, collected from a local variety of Bihar is

- (1) Pusa Kranti (2) Parabani Kranti
(3) Pusa Phalguni (4) Both 1 and 2
-

16. Three or more forms of genes occupying a single locus on the same chromosome, are called as

- (1) ISO alleles
(2) Recessive alleles
(3) Dominant alleles
(4) Multiple alleles
-

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17. NP 836-a mutant wheat variety is developed from

- (1) Sanora 64 (2) NP 830 (3) NP 890 (4) NP 799

18. Name the country where the heterosis in rice was commercially exploited for the first time.

- (1) India (2) China (3) Korea (4) Pakistan

19. Which term is used for a breeding method in which asexually propagated plants are selected on their visual morphological traits ?

- (1) Mass selection (2) Clonal selection
(3) Performance selection (4) Hybridization

20. Cross between cytoplasmic male sterile and cytoplasmic male fertile produces

- (1) Sterile F_1
(2) Fertile and sterile in 1:1 ratio
(3) Fertile F_1
(4) None of the above

21. Which is the naturally occurring auxin in plants ?

- (1) NAA (2) 2, 4, 5-T (3) IAA (4) 2, 4-D

22. Which is correct term for the mechanism in which plant cannot set seed when self pollinated with normal functional pollen and ovules, even though it can set seed when cross pollinated ?

- (1) Self compatibility (2) Self fruitfulness
(3) Self in compatibility (4) Dichogamy

23. Photosynthesis is a

- (1) Catabolic process
(2) Anabolic process
(3) Exothermic process
(4) Exergonic process

24. Which is the acquisition on hastening ability to flower by chilling treatment ?

- (1) Photoperiodism (2) Vegetation
(3) Vernalization (4) Germination

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25. Which is the correct term used for a progeny of a foundation seed which is produced under specific standard, approved and certified by certifying agency and designed to maintain genetic identity and purity ?
- (1) Foundation seed (2) Breeder's seed
(3) Registered seed (4) Commercial seed
-
26. Which of the following brings about cell elongation alongwith longitudinal axis in plants ?
- (1) Auxins (2) Cytokines
(3) Gibberellins (4) None of these
-
27. Which is not a short day plant ?
- (1) Potato (2) Soyabean (3) Maize (4) Sugarcane
-
28. Which is the specific term used for the process by which water vapour is released in to atmosphere through the stomatal openings found on leaves and stems ?
- (1) Respiration (2) Photosynthesis
(3) Translocation (4) Transpiration
-
29. The vernalization process requires _____ % of normal oxygen.
- (1) 2.0 (2) 0.2 (3) 0.02 (4) None of these
-
30. Which element is essential for IAA synthesis ?
- (1) Iron (2) Calcium (3) Zinc (4) Chlorine
-
31. Ripening of fruits is associated with release of _____ growth regulator.
- (1) Auxin (2) Gibberellins
(3) Cytokines (4) Ethelene
-
32. Which of the following plants is useful for controlling indoor pollution ?
- (1) Peace Lily (2) English Ivy
(3) Chrysanthemum (4) All of these
-
33. What is the name of the earth region, where ecosystem operates ?
- (1) Atmosphere (2) Hydrosphere
(3) Lithosphere (4) Biosphere

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34. The science of raising forest crops, methods of raising tree crops, their growth and aftercare upto final harvesting is called as
- (1) Silviculture (2) Sericulture
(3) Forest ecology (4) Silviculture system
-
35. The Nanda Devi Biosphere Reserve is in
- (1) Rajasthan (2) Uttar Pradesh
(3) Madhya Pradesh (4) Assam
-
36. Who demonstrated the totipotency of plant cells by invitro techniques ?
- (1) Hanning (2) Laibach
(3) Haberlandt (4) Biffen
-
37. Bamboo [*Dendrocalamus strictus*] is mainly used in _____ industry on a large scale.
- (1) Furniture
(2) Aquicultural implements
(3) Paper and pulp
(4) Toys and art pieces
-
38. _____ was the first scientist to isolate bio-chemical mutant from haploid cell suspension which was treated with Ethyl methyl sulphate.
- (1) Carlson (2) Hoge (3) Burton (4) Nujeki
-
39. What is the hybrid protoplast produced by fusion between one/more protoplasts of each of the two species is called as
- (1) Homocaryons (2) Fusogen
(3) Heterokaryons (4) None of these
-
40. A piece of tissue obtained from a part of plant of interest to be used in tissue culture is called as
- (1) Meristem (2) Embryoculture
(3) Explant (4) Callus culture
-
41. *Citrus jambiri* is the scientific name of
- (1) Rangpur lime (2) Rough lemon
(3) Acid lime (4) Jamun

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42. Which is the polyembryonic and dwarfing rootstock in Mango ?

- (1) Olour (2) Totapuri
(3) Bombay Green (4) Vanraj
-

43. Name the branch of Horticulture which includes garden designing

- (1) Pomology
(2) Olericulture
(3) Floriculture and landscaping
(4) Post Harvest Technology
-

44. What is the botanical name of Khirni ?

- (1) *Acharus zapota*
(2) *Manilkara hexandra*
(3) *Psidium guajava*
(4) None of the above
-

45. Which is the best variety for high density planting in papaya ?

- (1) Pusa Delicious (2) Pusa Nanha
(3) CO.2 (4) CO.6
-

46. Name the planting system for hilly slopes and undulating lands for orchard establishment.

- (1) Square system (2) Contour system
(3) Hexagonal system (4) Quincunx system
-

47. In which crop closing of persistent calyx is a typical indication of harvest maturity ?

- (1) Guava (2) Sapota
(3) Banana (4) Pomegranate
-

48. Which is the leading physiological disorder in Mango ?

- (1) Whip-tail (2) Malformation
(3) Little leaf (4) Granulation
-

49. Phule Arakta is the improved variety of

- (1) Annona (2) Mango
(3) Pomegranate (4) Aonla
-

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50. Lalit variety of guava is developed at

- | | |
|-----------------------|--------------------|
| (1) MPKV, Rahuri | (2) IHR, Bengaluru |
| (3) Dr. BSKKV, Dapoli | (4) CISH, Lucknow |

51. Kagzi lime is commercially propagated by

- | | |
|--------------|--------------|
| (1) Seeds | (2) Budding |
| (3) Cuttings | (4) Layering |

52. Which fruit crop is popularly known as Indian Jujube ?

- | | |
|-----------|---------------|
| (1) Jamun | (2) Jackfruit |
| (3) Ber | (4) Guava |

53. The "Amrapali", hybrid variety of mango was developed through the cross between

- | | |
|--------------------------|--------------------------|
| (1) Neelum and Dashehari | (2) Dashehari and Neelum |
| (3) Alphonso and Neelum | (4) Neelum and Alphonso |

54. Which of following is the non-climacteric fruit ?

- | | |
|------------|------------|
| (1) Mango | (2) Apple |
| (3) Banana | (4) Papaya |

55. Name the plant growth regulator used commercially for berry development in grape.

- | | |
|-------------|---------------------|
| (1) Cycocel | (2) NAA |
| (3) 6.BA | (4) GA ₃ |

56. *Momordica dioica* is the scientific name of

- | | |
|------------------|------------------|
| (1) Bitter gourd | (2) Sweet gourd |
| (3) Spine gourd | (4) Sponge gourd |

57. The pungency and flavour in onion is due to

- | | |
|-----------------------------|--------------------------|
| (1) Diallyl disulphide | (2) Oxalic acid |
| (3) Allyl propyl disulphide | (4) Dimethyl trisulphide |

58. Which compound in broccoli is effective in prevention of cancer ?

- | | |
|--------------|---------------|
| (1) Allicin | (2) Indoles |
| (3) Cheratin | (4) Diosgenin |

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59. Name the physiological disorder caused due to deficiency of molybdenum in cauliflower.

- (1) Blindness (2) Ricyness
(3) Whip tail (4) Buttoning
-

60. Which is the burning problem in Okra ?

- (1) Leaf curl virus (2) Spotted wilt virus
(3) Yellow vein mosaic (4) Little leaf
-

61. The blossom end rot in tomato is caused due to deficiency of

- (1) Nitrogen (2) Molybdenum
(3) Potassium (4) Calcium
-

62. According to dietitians, per day per capita consumption of vegetable should be

- (1) 400 gm (2) 200 gm
(3) 300 gm (4) 100 gm
-

63. Pungency in chilli is due to the principle compound

- (1) Allyl (2) Capsicin
(3) Solanin (4) Oxalates
-

64. Phule Green Gold is the improved variety of

- (1) Ridge gourd (2) Smooth gourd
(3) Cucumber (4) Bitter gourd
-

65. Diamond Back Moth is a serious pest of

- (1) Bottle gourd (2) Tomato
(3) Cabbage (4) Peas
-

66. Which of following cut flower is grown on largest area for long stem production ?

- (1) Anthurium (2) Rose
(3) Gladiolus (4) Orchid
-

67. Which is the rootstock used for commercial propagation of rose through shield budding ?

- (1) *Rosa rugosa* (2) *Rosa laxa*
(3) *Rosa indica var Odorata* (4) *Rosa damascina*
-

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68. Which of the following species of *Jasminum* has highly scented yellow flowers?

- (1) *Jasminum sambac* (2) *J. Panniculatum*
(3) *J. humile* (4) *J. officinale*
-

69. Which is the informal type of garden design ?

- (1) Mughal Garden (2) English Garden
(3) Italian Garden (4) French Garden
-

70. *Gladiolus* is propagated by

- (1) Bulb (2) Tuber
(3) Rhizome (4) Corm
-

71. Name the precursor of natural auxin

- (1) Tryptophan (2) Zeatine
(3) 2,4-D (4) Morphactine
-

72. Which growth regulator is commercially used to minimise spreading losses during onion storage ?

- (1) 2,4,5-T (2) MH-40
(3) IAA (4) NAA
-

73. Name the variety of onion suitable for dehydration

- (1) N-53 (2) Pusa Red
(3) Pusa White Round (4) Baswant 780
-

74. Name the agency involved in export of horticultural produce from India

- (1) NHM (2) NHB
(3) APEDA (4) HOPCOMS
-

75. What does the minimum processing includes ?

- (1) Grading and sorting
(2) Pasteurization
(3) Cooking and heating
(4) Straining
-

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76. For making good jelly from fruits like guava or woodapple they should be rich in

- (1) Citric acid
- (2) Pectin
- (3) Fructose
- (4) Aroma

77. Marmalade is prepared from

- (1) Citrus
- (2) Guava
- (3) Pineapple
- (4) Mango

78. Why the pre-cooling is carried out in fruits ?

- (1) Removal of external heat
- (2) To reduce decay
- (3) Removal of internal and field heat
- (4) None of these

79. Treatment of cut flower after harvesting with low concentration of sugar is called

- (1) Hardening
- (2) Loading
- (3) Pulsing
- (4) None of these

80. Cidar wine is prepared from _____ fruit.

- (1) Grape
- (2) Pineapple
- (3) Apple
- (4) Strawberry

81. Wing bearing thoracic segments are collectively called as

- (1) Mesothorax
- (2) Pterothorax
- (3) Prothorax
- (4) Metanotum

82. Which of the following is the predator of mealy bug ?

- (1) *Trichogramma*
- (2) *Zygogramma*
- (3) *Cryptolaemus*
- (4) *Crotogonus*

83. Which part of the sprayer breaks the spray solution into fine droplets ?

- (1) Agitator
- (2) Pump
- (3) Nozzle
- (4) Lance

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84. *Othreis Fullonica* is a pest that damages citrus fruits in its _____ stage.

- | | |
|-----------------|------------------|
| (1) Egg stage | (2) Larval stage |
| (3) Pupal stage | (4) Adult stage |

85. Economic threshold level is always

- (1) Higher than economic injury level
- (2) Lower than economic injury level
- (3) Equal to the economic injury level
- (4) None of the above

86. *Contarinia sorghicola* is a pest of

- | | |
|-------------|---------------|
| (1) Citrus | (2) Sunflower |
| (3) Sorghum | (4) Sesamum |

87. Diflubenzuron is a

- | | |
|--------------------------------|----------------------|
| (1) Fumigant | (2) Soil insecticide |
| (3) Chitin Synthesis inhibitor | (4) Seed dresser |

88. In bird scarer the chemical used to produce acetylene gas is

- | | |
|-----------------------|---------------------|
| (1) Calcium chloride | (2) Calcium carbide |
| (3) Calcium carbonate | (4) Sodium chloride |

89. Juvenile hormone is produced by

- (1) Prothoracic glands
- (2) Neuro secretory cells of brain
- (3) Corpora allata
- (4) Corpora cardiaca

90. Grassy stunt disease of rice is transmitted by

- | | |
|-----------------------|----------------|
| (1) Aphids | (2) Thrips |
| (3) Brown Planthopper | (4) Gundhi bug |

91. In preying mantid fore legs are modified as

- | | |
|---------------|----------------|
| (1) Cursorial | (2) Scansorial |
| (3) Raptorial | (4) Foragial |

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92. The insect control by sterilization was first conceived by
(1) Paul Muller (2) E. F. Knipling
(3) R. H. Painter (4) C. V. Riley
-
93. The time required for half of insecticide residues to react and kill 50 per cent of the insect population is referred as
(1) LD₅₀ (2) RL₅₀
(3) LD₁₀₀ (4) RL₁₀₀
-
94. Insect nervous system originates from
(1) Endoderm (2) Ectoderm
(3) Mesoderm (4) None of the above
-
95. What is the particle size of the Granular insecticides ?
(1) 0.25 to 2.4 mm (2) 0.10 to 0.15 mm
(3) 2.5 to 5.0 mm (4) None of the above
-
96. Drying of silk cocoon prior to moth emergence is referred as
(1) Reeling (2) Testing
(3) Stifling (4) None of the above
-
97. The insecticidal property of DDT was discovered by
(1) Othmar Zeidler (2) Paul Muller
(3) Michael Faraday (4) Kurt Alder
-
98. Helping to establish itself as an imported species in a new environment is referred to as
(1) Transportation
(2) Colonisation
(3) Exploration
(4) None of the above
-
99. Which is the site of oviposition of mango fruit ?
(1) On leaves
(2) On soil
(3) Under the rind of ripening fruits
(4) None of the above

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100. Respiration in insect takes place through a system of internal tubes known as

- (1) Tormac (2) Tracheae
(3) Tarsomere (4) None of the above

101. Who developed the first microscope ?

- (1) Leeuwenhoek (2) Prevost
(3) Michili (4) Tillet

102. The microorganisms obtaining their food from dead organic matter are referred to as

- (1) Pathogens (2) Parasites
(3) Saprophytes (4) Obligate parasites

103. In which one of the following plant diseases the phenomenon of polymorphism is observed ?

- (1) Rust diseases of wheat
(2) Wilt diseases fur
(3) Smut diseases jowar
(4) Root rot diseases of cotton

104. The science which deals with the study of epidemics and factors affecting the epidemics is referred to as

- (1) Mycology (2) Epidemiology
(3) Bacteriology (4) Virology

105. Which one of the following is an example for necrotic type of symptoms ?

- (1) Tikka disease of groundnut
(2) Yellow vein mosaic of bhendi
(3) Powdery mildew of pea
(4) Leaf curl of chilli

106. Rust of linseed is caused by

- (1) *Puccinia lini*
(2) *Melampsora lini*
(3) *Uromyces lini*
(4) *Urocystis lini*

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107. Fungal pathogens of wilt diseases are

- (1) Seed borne
- (2) Soil borne
- (3) Water borne
- (4) Air borne

108. The most studied and stable plant virus in nature is

- (1) Tobacco mosaic virus
- (2) Bean mosaic virus
- (3) Papaya mosaic virus
- (4) Citrus exocortis virus

109. Stem rust of wheat is caused by

- (1) *Ustilago tritici*
- (2) *Puccinia graminis*
- (3) *Puccinia striiformis*
- (4) *Puccinia glumarum*

110. 'Khaira' disease of rice is caused due to

- (1) Boron deficiency
- (2) Zinc deficiency
- (3) Manganese deficiency
- (4) Brick-kiln fumes

111. *Striga* SPP, the common phanerogamic plant parasite is also known as

- (1) Dodder
- (2) Witchweed
- (3) Broomrape
- (4) Banda

112. The study of cause of the disease is termed as

- (1) Epidemiology
- (2) Mycology
- (3) Etiology
- (4) Phycology

113. Late leaf spot of groundnut is caused by

- (1) *Cercospora arachidicola*
- (2) *Mycosphaerella arachidicola*
- (3) *Puccinia arachidis*
- (4) *Phaeoisariopsis personata*

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114. Soybean rust is caused by

- (1) *Puccinia helianthi* (2) *Uromyces vignae*
(3) *Phakopsora pachyrhiza* (4) *Uromyces appendiculatus*

115. Head Quarter of the Plant Protection Quarantine and Storage Organisation is located at

- (1) Coimbatore (2) Cuttack
(3) Faridabad (4) Hyderabad

116. Causal organism of downey mildew of grape is

- (1) *Elsinoe ampelina*
(2) *Plasmopara viticola*
(3) *Uncinula necator*
(4) *Xanthomonas campestris*

117. Aflatoxin is produced by the fungus

- (1) *Penicillium notatum* (2) *Trichoderma viridae*
(3) *Aspergillus flavus* (4) *Albugo candida*

118. First plant parasitic nematode *Anguina tritici* was described by

- (1) Needham 1743 (2) Garret 1965
(3) Borellus 1956 (4) Leeuwenhoek 1675

119. In the decomposition of organic matter, cellulose is attacked by

- (1) Trichoderma and Aspergillus
(2) Ganoderma and Psalliotia
(3) Albugo and Puccinia
(4) Pythium and Microphomina

120. Which one of the following is an organic sulphur fungicide ?

- (1) Formaldehyde (2) Zineb
(3) PCNB (4) Vapam

121. Anomie is a term used to describe failure of

- (1) Class system (2) Values
(3) Norms (4) Social organisation

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122. A person's caste status is determined by his
(1) Birth (2) Power
(3) Social relations (4) Job performance
-
123. A three tier system of democratic decentralisation was recommended in
(1) 1960 (2) 1956
(3) 1958 (4) 1957
-
124. In India ICAR launched world bank funded project for agricultural development in the year 1998 was
(1) NATP (2) NARP
(3) NAEP (4) NREP
-
125. Land to man ratio is higher in
(1) Metropolitan city (2) Rural area
(3) Urban area (4) Semiurban area
-
126. _____ is the type of leader who receives specialized training in the job by which he earns his livelihood.
(1) Authoritarian leader (2) Professional leader
(3) Laissez-Faire leader (4) Lay leader
-
127. It is the competency in using knowledge efficacy
(1) Attitude (2) Skill
(3) Knowledge (4) Motivation
-
128. Process of determining the extent to which objectives have been attained is termed as
(1) Assessment (2) Validation
(3) Examination (4) Evaluation
-
129. It is goal directed and satisfying behaviour. It influences a person to do a thing in a certain way
(1) Learning
(2) Teaching
(3) Motivation
(4) Interest

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130. The fundamental objective of extension education is
- (1) To analyse the people's work
 - (2) Not to develop people culturally
 - (3) To develop rural people economically, socially and culturally
 - (4) None of the above
-
131. Who is there at the center of learning situation/process ?
- (1) Subject matter
 - (2) Teacher
 - (3) Method of teaching
 - (4) Learner
-
132. An Extension Worker, while extending scientific information and knowledge to the farmers, uses
- (1) Meeting and lectures
 - (2) Organise demonstration
 - (3) Distribution of Agril Literature
 - (4) All the above
-
133. _____ motivation produces a stronger and more permanent response.
- (1) Extrinsic
 - (2) Intrinsic
 - (3) External
 - (4) None of the above
-
134. The expression of the end towards which our efforts are directed
- (1) Objectives
 - (2) Needs
 - (3) Goal
 - (4) Principles
-
135. According to Shanon-Weaver (1949) the elements of communication are
- (1) Source, Encoder, Signal, Decoder and Destination
 - (2) Communicator, Message, Channel, Treatment, Audience and Response
 - (3) Source, Transmitter, Signal Receiver and Destination
 - (4) Speaker, Speech and Audience

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136. The basic elements of behaviour are
- (1) Knowledge, attitudes and skill
 - (2) Only knowledge and skill
 - (3) Skill and attitude
 - (4) Skill and beliefs
-
137. It means a course of procedures, something that occurs in a series of actions or events leading to the desired ends
- (1) Process
 - (2) Teaching
 - (3) Communication
 - (4) Learning
-
138. A statement of situation, objectives, problems and solution is a
- (1) Programme
 - (2) Plan of work
 - (3) Project
 - (4) Calender of work
-
139. The cheapest and fastest electronic mass media suitable for communication in remote and hilly area is
- (1) Telephone
 - (2) Motion picture
 - (3) Radio
 - (4) Extension literature
-
140. Which one of the following is not a step in teaching ?
- (1) Attention
 - (2) Desire
 - (3) Action
 - (4) Motivation
-
141. Decision to make full use of an innovation is known as
- (1) Interest
 - (2) Desire
 - (3) Adoption
 - (4) Satisfaction
-
142. Which of the following is the most effective extension teaching method ?
- (1) Method demonstration
 - (2) Result demonstration
 - (3) Office calls
 - (4) Study tours
-
143. Which one of the following projectors works on indirect projection principle ?
- (1) Slide projector
 - (2) 16 mm projector
 - (3) Opaque projector
 - (4) Overhead projector

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144. Which of the following is not true ?

- (1) Programme planning is a continuous process
- (2) Programme planning is a teaching process
- (3) Programme planning has permance with flexibility
- (4) Programme planning is a non-coordinating process

145. Name the evaluation done simultaneously while the programme is running

- (1) Concurrent evaluation
- (2) Expost evaluation
- (3) External evaluation
- (4) Internal evaluation

146. It is the process of consciously choosing courses of action from the available alternatives and integrating them for the purpose of achieving desirable objectives

- (1) Evaluation
- (2) Decision making
- (3) Monitoring
- (4) Planning

147. In SWOT analysis 'T' stands for

- | | |
|-------------|----------|
| (1) Tenure | (2) Test |
| (3) Threats | (4) Time |

148. The first KVK was established in 1974 at

- | | |
|---------------|----------------|
| (1) Nagpur | (2) Ludhiana |
| (3) Nilokheri | (4) Pondichery |

149. _____ is the information that sender of a message receives from the receiver.

- | | |
|--------------|---------------|
| (1) Fidelity | (2) Feedback |
| (3) Instinct | (4) Treatment |

150. Which of the following is an example of mass communication ?

- (1) Radio
- (2) T.V.
- (3) Newspapers
- (4) All of these

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151. The peculiarities of land as a factor of production are that, it is
- (1) Limited in supply
 - (2) Permanent
 - (3) Completely immobile
 - (4) All of the above
-
152. Current growth rate of agriculture in India is
- (1) 1 percent
 - (2) 4 percent
 - (3) 2.5 percent
 - (4) 7 percent
-
153. When the total utility is at its maximum, marginal utility is
- (1) negative and declining
 - (2) negative and increasing
 - (3) zero
 - (4) positive and declining
-
154. A farm with land holding size ranging between 1 and 2 hectors is called a
- (1) small farm
 - (2) semi-medium farm
 - (3) medium farm
 - (4) marginal farm
-
155. Sex ratio of females to males in Indian population is closer to
- (1) 0.93 : 1.00
 - (2) 0.83 : 1.00
 - (3) 0.73 : 1.00
 - (4) 0.63 : 1.00
-
156. Which of the following is the list of properties of business alongwith their values at a specific date ?
- (1) Farm inventory
 - (2) Farm cash accounts
 - (3) Supplementary financial account
 - (4) Non farm income records
-
157. Based on the rainfall, climate and soil characteristics the planning commission has divided the country into
- (1) 12
 - (2) 15
 - (3) 18
 - (4) 21

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158. The term 'operation flood' is related with

- (1) crop production
- (2) oilseed production
- (3) cotton production
- (4) dairy development

159. Which agency purchases cotton under the monopoly procurement of cotton scheme ?

- (1) NAFED
- (2) APEDA
- (3) Government of Maharashtra
- (4) FCI

160. The term 'operational holding' refers to the

- (1) Land area owned by a farmer
- (2) Cropped area cultivated by a farmer
- (3) Land area leased out-by a farmer
- (4) Land area leased in by a farmer

161. An Apex Co-operative Bank is situated at the

- (1) District level
- (2) Village level
- (3) Tensil level
- (4) State capital

162. The procurement prices are announced by the Government of India on the recommendations of the CACP.

- (1) Before start of sowing season of the crop
- (2) Before the harvest season of the crop
- (3) After the harvest of the crop
- (4) None of these

163. The fixed cost

- (1) declines with the increase in level of production
- (2) increases with increase in level of production
- (3) remains constant eventhough there is increase in the level of production
- (4) none of the above

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164. Which of the following serves as a shock absorber in the economy and provides defence mechanism against widely fluctuating price level ?

- (1) MSP
- (2) Procurement price
- (3) Bufferstock
- (4) Issue price

165. Which one of the following operates in livestock market ?

- (1) Merchant middleman
- (2) Commission agent
- (3) Broker
- (4) Facilitative middleman

166. Production function indicates the relationship between

- (1) two inputs
- (2) two outputs
- (3) input and output
- (4) none of the above

167. In which of the following stages of production function, the maximum profit is obtained in the production of a commodity ?

- (1) Stage I
- (2) Stage II
- (3) Stage III
- (4) Stage I and II

168. When a change in price brings about exactly proportionate change in the quantity demanded, the demand is said to be

- (1) Unitary elastic
- (2) Relatively elastic demand
- (3) Perfectly inelastic demand
- (4) Relatively inelastic demand

169. A loan taken for a period of 6 to 18 months is a

- (1) short term loan
- (2) medium term loan
- (3) long term loan
- (4) none of these

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170. In the first stage of production function

- (1) $MP > AP$ (2) $AP > MP$
(3) $AP = MP$ (4) $MP = 0$

171. Buffalo belongs to _____ species of animal.

- (1) *Bos taurus*
(2) *Bos indicus*
(3) *Bos bubalis*
(4) *Capra hircus*

172. Which of the following is not a milch breed of cattle ?

- (1) Sahiwal
(2) Tharparkar
(3) Gir
(4) Haryana

173. For identification marks, in which process several small holes are punched with a die ?

- (1) Tattooing
(2) Tagging
(3) Branding
(4) Notching

174. In Poultry which system is confined to the house entirely with no access to land outside and is adopted where land is limited ?

- (1) Extensive system
(2) Folding unit system
(3) Loose housing system
(4) Intensive system

175. The practice of breeding sire of a given breed to non-descript females and their offspring for generation to generation is known as

- (1) Grading up
(2) Hybrid vigour
(3) Inbreeding
(4) Species Hybridization

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176. The birth of first embryo transfer calf in cattle in India was reported in 1986 by

- (1) NDRI KARNAL
 - (2) IVRI Izzat Nagar
 - (3) AndhrapradeshAgricultural University Tirupati
 - (4) Indian Agricultural Research Institute (IARI) New Delhi
-

177. Development of fertilized ovum takes place in

- (1) Oviduct
 - (2) Uterus
 - (3) Cervix
 - (4) Ovaries
-

178. What is the oestrus period of a cow ?

- (1) 12-14 hrs
 - (2) 1-2 hrs
 - (3) 4-5 days
 - (4) 2-3 days
-

179. Poor quality silage contains

- (1) Higher acetic acid
 - (2) Higher butyric acid
 - (3) Higher propionic acid
 - (4) Lower butyric acid
-

180. Which fodder crop is the best crop for hay making ?

- (1) Maize
 - (2) Hybrid Napier
 - (3) Green oat
 - (4) Sorghum
-

181. Higher Temperature Short Time (HTST) method of pasteurization of milk refers to heating every particle of milk at the temperature of _____ followed by immediate cooling to 5° C or below

- (1) 72° C for atleast 15 seconds
 - (2) 63°C for atleast 30 minutes
 - (3) 115°C for atleast 3 – 15 minutes
 - (4) 135 – 150°C for 1 – 5 seconds
-

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182. Colostrum, the secretion after calving contains more amount of

- (1) Protein
- (2) Fat
- (3) Lactose
- (4) Water

183. What is the maximum limit for sugar in Ice-Cream as per ISI specification ?

- (1) 40%
- (2) 8%
- (3) 10%
- (4) 15%

184. _____ is used for detection of total solids in milk.

- (1) Refractive index
- (2) Reichster's scale
- (3) Richmond's formula
- (4) Valenta test

185. The boiling point of milk is

- (1) 100° C
- (2) 100.17° C
- (3) 101° C
- (4) 99.7° C

186. Which of the following reagent/chemical is used for detection of bicarbonate as adulterant in milk ?

- (1) Rosalic acid
- (2) Resorcinol
- (3) Resins
- (4) Iodine

187. The average specific gravity of cow milk ranges (at 60°f) from

- (1) 1.028 – 1.030
- (2) 1.032 – 1.035
- (3) 1.035 – 1.037
- (4) 0.93 – 0.95

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XRM**30****188.** Fat percentage in Ghee is

- (1) 99.5 (2) 90.0
(3) 85.0 (4) 80.0
-

189. On an average to obtain 1 ml of milk, how much volume of blood needs to be circulated in mammary glands of a cow ?

- (1) 500 litre (2) 500 ml
(3) 10 ml (4) 10 litre
-

190. During which milking operation the comparative bacterial load is maximum in milk ?

- (1) Stripping
(2) Middle milk
(3) Fore milk
(4) None of the above
-

191. Parboiling of rice results into

- (1) Higher vitamin content than milled rice
(2) Higher mineral content than milled rice
(3) Better cooking quality than milled rice
(4) All of these
-

192. Large quantities of meat and meat products are stored, distributed and marketed in

- (1) Frozen form
(2) Fresh form
(3) Cooked form
(4) Dry form
-

193. Most innovative food preservation technique of 21st Century is

- (1) Aseptic packing
(2) Hurdle technology
(3) Irradiation
(4) Pascalization
-

194. Egg shell consists of _____ percent of calcium carbonate.

- (1) 94 (2) 80
(3) 60 (4) 100
-

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195. The maximum limit of incorporation of common salt in butter is ?

- (1) 0.5%
- (2) 1.0%
- (3) 5.0%
- (4) 2.5%

196. Addition of little more sugar than recommended level in jelly preparation leads to formation of

- (1) Cloudy jelly
- (2) Tough jelly
- (3) Syrupy jelly
- (4) Perfect jelly

197. Concentration process that exposes food to 100° C or higher temperatures for a prolonged period cause

- (1) Flavour change
- (2) Nutritional properties change
- (3) Darkening of colour
- (4) All of the above

198. The maximum limit for bacterial count (per g) for edible casein as per ISI specification 1965 is (IS : 1165).

- (1) 1 lakh/g
- (2) 50,000/g
- (3) 2,00,000/g
- (4) 100/g

199. Breakdown of protein by the action of micro-organisms is known as

- (1) Rancidity
- (2) Souring
- (3) Proteolysis or peptonization
- (4) Sweet curdling

200. The rancidity caused by formation of free fatty acids is called as

- (1) Oxidative rancidity
- (2) Reduction rancidity
- (3) Hydrolytic rancidity
- (4) None of these

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