फूड बुकलेट नंबर

(1) सदर प्रश्नपत्रिकेत 200 अनिवार्य प्रश्न आहेत. उमेदवारांनी प्रश्नांची उत्तरे हिंदीमाध्यम सुरूवात करण्यापूर्वी प्रश्नपत्रिकेत सर्व प्रश्न आहेत किंवा नाहीत याची खात्री करून याॅव्ही. असा तसेच अन्य काही दोष आढळून ता हा प्रश्नपत्रिका समवेशकोणतं लोण्यास संबंध बदलून याॅव्ही.

(2) आपल्या परीक्षा-क्रमांक हा चौकोणातन न विसरता बांधलेलेल्या विभागात, (3) क छापालेख प्रश्नपत्रिका क्रमांक तुमच्या उत्तरसूचक विभागात जाणी उत्तरसूचकात्तील सुचीथ्रांप्रमाणे न विसरता नयरूत करणे.

(4) या प्रश्नपत्रिकेतील प्रश्न 4 पदार्थ उपर सुचिभिंदू अंशानुसार त्यांना 1, 2, 3, 4 असे क्रमांक दिलेले आहेत. त्याचा उत्तरप्रेक्षिक प्रश्नपत्रिकेतील सुचीथ्रांप्रमाणे तुमच्या उत्तरप्रेक्षिकात नयरूत करणे. अशा प्रकारे उत्तरप्रेक्षिका उत्तरक्रमांक नयरूत करता ती संबंधित प्रश्नपत्रिकाकमार्गे छापालेख करून दर्शिले आहेत याची कार्यक्रमे याॅव्ही. हाकरत्ना प्रविष्ट कृत्यांच्या शाऱ्येचे बॉलेमेन वापरून, पेसिले या शाऱे पे वापरू नयरूत.

(5) सर्व प्रश्नांची समय गुण आहेत. याॅव्ही सर्व प्रश्नांची उत्तरे प्रकाशाय. चाहतांज इतर वाक्याची उत्तरे हातात. पाचतुरे बुका होणार नाहीत याची देखी; अने देखी तिल्या वेळात असे प्रश्न प्रश्नांनी याॅव्ही प्रश्नांनी तयार करुन वापरचे. अशा प्रकारे सेवत्या प्रश्नपत्रिकेत पोहोचलेल्यांत सेवा फूडलेल्या याॅव्ही म्हणून वागलेल्या प्रश्नांनी पत्ते देऊक करून तयार करा.

(6) उत्तरप्रेक्षिका एकत्र नयरूत कॅसेटेले उपर खोडून येणार नाही. नयरूत कॅसेटेले उपर खोडून नयरूत विचारण्यास तर पंचातले जाणार नाही.

(7) प्रश्न परीक्षा-उत्तरप्रेक्षित व्हूफ्रचक्कांना कार्यालयात उत्तरप्रेक्षित तैयार उत्तरांतरांतर गुण दिले जाताच, तसेच १६४ असे प्रश्न वापरने या याची साखे उत्तर असे उत्तर प्रेक्षित नयरूत करावी. अयोग्य नाकामुखी उत्तरप्रेक्षित सोबत इमेल वापरून, तसेच चौकोणने उत्तर प्रेक्षित एक गुणाच्या याॅव्ही करावी.

ताकावीद
हा प्रश्नपत्रिकेतील आयोगांनी विभागी केलेली वेळ संपर्कसंधी हा प्रश्नपत्रिका आयोगांची मात्रता असून ती पर्याप्तता उपेक्षित पूर्ण करणारे वापरणारा याॅव्ही. ही वेळ प्रश्नसंधी रस्ते प्रश्नपत्रिकेतील काही आधारांक वृत्तीक विश्लेषणाच्या तद्दशनांसाठी वापरणारी उत्तरांतरांतर गुण दिले जातात, तसेच १६४ असे प्रश्न वापरने या याची साखे उत्तर असे उत्तर प्रेक्षित नयरूत करावी. अयोग्य नाकामुखी उत्तरप्रेक्षित सोबत इमेल वापरून, तसेच चौकोणने उत्तर प्रेक्षित एक गुणाच्या याॅव्ही करावी.
कच्च्हा कामासाळेजागा / SPACE FOR ROUGH WORK
1. The concept of linkage was demonstrated by:
   (1) Morgan  (2) Watson and Crick  (3) Kornberg  (4) Franklin

2. Amongst the following given options one is earliest commonly used cloning vector. State that option.
   (1) SV\textsubscript{40}  (2) Cosmid  (3) pBR322  (4) Transposons

3. The example of C\textsubscript{3} plant is:
   (1) Sugarcane  (2) Maize  (3) Barley  (4) None of them

4. In hybridization programme selection of parents is done on the basis of:
   (1) Heritability  (2) Genetic advance  (3) Combining ability  (4) All of the above

5. The induction of symptom of vitrification during micropropagation could be traced by presence of:
   (1) Water soaked, translucent leaves  (2) Bud necrosis  (3) Milky white suspension on media  (4) Browning of media

6. Any measurable or distinctive characteristic or trait possessed by an organism is called as:
   (1) Phenotype  (2) Genotype  (3) Both Phenotype and Genotype  (4) None of them

7. The world's first pigeon pea hybrid released by ICRISAT is:
   (1) ICPH - 1  (2) ICPH - 8  (3) ICPH - 10  (4) ICPH - 4

8. The plants which grow best in sunlight, but can grow fairly well under shade are called:
   (1) Mesophytes  (2) Sciophytes  (3) Facultative sciophytes  (4) Facultative heliophytes
9. Marshy plants are also called as:
   (1) Helophytes  (2) Mesophytes  (3) Xerophytes  (4) Hydrophytes

10. The acid rain is the combination of:
    (1) \( \text{H}_2\text{SO}_4 \) and \( \text{HNO}_3 \)  (2) \( \text{HCl} \) and \( \text{H}_2\text{SO}_4 \)
    (3) \( \text{HNO}_3 \) and \( \text{HCl} \)  (4) None of the above

11. For induction of callus, the growth regulator used is:
    (1) Indole acetic acid
    (2) Naphthalene acetic acid
    (3) 2,4-Dichloro-phenoxyacetic acid
    (4) None of them

12. The period between mitotic cycles is termed as:
    (1) Interphase  (2) Prophase  (3) Metaphase  (4) Telophase

13. NP 4, 6, 12 are examples of pure line varieties developed in the following crop:
    (1) Rice  (2) Oat  (3) Bajra  (4) Wheat

14. The somaclonal variant of the \textit{Brassica juncea} variety \textit{Varun} has been released for commercial cultivation as
    (1) Ono  (2) Pindar  (3) Bio-13  (4) Pusa Jai Kisan

15. The calculated force per unit area required to stop osmosis is called:
    (1) Osmotic potential  (2) Turgor pressure
    (3) Osmotic pressure  (4) Wall pressure

16. Visible spectrum of light for photosynthesis lies between the wavelength:
    (1) 400 - 600 nm  (2) 400 - 700 nm  (3) 400 - 500 nm  (4) 410 - 550 nm

17. The example of micronutrient required by the plant is:
    (1) Mo and Zn  (2) Cu and Fe  (3) B and Mn  (4) All of them
18. The Nuclear Polyhedrosis virus acts as bio pesticide for the protection of crop:
(1) Rice  (2) Tomato  (3) Cotton  (4) Tobacco

19. Mendel's basic study of inheritance involved the seven contrasting characters of pea namely seed shape, seed coat colour, pod colour, pod shape, cotyledon colour, length of stem and the seventh character missing in this statement is:
(1) Pod weight  (2) Number of pods  (3) Position of flowers  (4) Pod length

20. The intensity of seed sampling should be maintained in accordance to the rules described by:
(1) ISTA  (2) ISST  (3) NSC  (4) UPOV

21. An organelle present in animal cells but rarely present in plants:
(1) Nucleolus  (2) Centriole  (3) Vacuole  (4) Mitochondrion

22. Transgenic tomato plant confers the resistance against the pest:
(1) Manduca sexta  (2) Heliothis armigera  (3) Bruchus bettle  (4) Spodoptera litura

23. The loosely arranged mass of parenchyma in hyathodes is known as:
(1) Stomata  (2) Zylium  (3) Epithem  (4) None of them

24. In citrus, virus free plants can be obtained by the following technique:
(1) Seed culture  (2) Cell culture  (3) Nucellus culture  (4) Bud culture

25. Golden rice helps to overcome deficiency of:
(1) Vitamin - E  (2) Vitamin - D  (3) Vitamin - A  (4) Vitamin - K

26. The components that make up the structural aspects of an ecosystem include:
(1) Inorganic compounds  (2) Organic compounds  (3) Climatic regimes  (4) All of them

कञ्च्या कामासैत्री जागा /SPACE FOR ROUGH WORK
27. Choose the example of day neutral plant:
   (1) Tomato  (2) Cucumber  (3) Cotton  (4) All of them

28. The longer arm of chromosome is called as:
   (1) p arm  (2) q arm  (3) r arm  (4) s arm

29. The plant *Elaeocarpus sphaericus* basically spread in Himalayan mountain range contain the alkaloid:
   (1) Rudrakine  (2) Scopaletin  (3) Bergnin  (4) Artemetin

30. Amongst the statements given below one is incorrect about photorespiration. Select that incorrect statement.
   (1) It involves peroxisomes, vacuoles, cytoplasm.
   (2) Hydrogen peroxide is formed.
   (3) NADH₂ is oxidised to NAD⁺.
   (4) It is not essential for survival of organism.

31. Mendel carried out experiments on:
   (1) Pea  (2) Hawk weed  (3) Honey Bee  (4) All of them

32. Involucre type of bracts in flower is not observed in one of the following mentioned crop:
   (1) Sunflower  (2) Marigold  (3) Cosmos  (4) Strawberry

33. Suppose 'q' is the number of selected plants and 'n' is the total number of plants in the original population then the selection intensity is:
   (1) \(qn \times 100\)  (2) \(\frac{n}{q} \times 100\)  (3) \(\frac{q}{n} \times 100\)  (4) \((q + n) \times 100\)

34. One of the statement given below about synthetic variety is incorrect. Select the incorrect statement.
   (1) Synthetic variety can be grown 4 - 5 years without reduction in yield potential.
   (2) Synthetic variety constitute polymorphic and stable population.
   (3) These varieties are maintained by cross pollination.
   (4) Synthetic variety has heterogenous population.
35. The self pollinated species do not show inbreeding depression because:
   (1) They have heterozygous balance.
   (2) They have homozygous balance.
   (3) They have excessive recessivity.
   (4) They have high level of parental purity.

36. The method of developing the variety wherein segregating population is handled and a record of parent-offspring relationship is kept is known as:
   (1) Bulk method
   (2) Back cross method
   (3) Mass selection method
   (4) Pedigree method

37. Artificial ripening of banana is induced by:
   (1) Cytokinin
   (2) NAA
   (3) Ethylene
   (4) Auxin

38. In plants, the conversion of fats into carbohydrates involves three organelles namely glyoxysomes, mitochondria and third one is:
   (1) Oleosome
   (2) Peroxisome
   (3) Vacuole
   (4) Endoplasmic reticulum

39. At the end of Karyokinesis and during which phase chromosome decondensation is observed?
   (1) Prophase
   (2) Metaphase
   (3) Anaphase
   (4) Telophase

40. A close correspondence between gene sequence and enzyme sequence in metabolic pathway is lacking in:
   (1) Prokaryotes
   (2) Prokaryotes and Eukaryotes
   (3) Eukaryotes
   (4) None of these

41. Which of the following is a chitin synthesis inhibitor insecticide?
   (1) Imidacloprid
   (2) Diflubenzuron
   (3) Abamectin
   (4) Cypermethrin

42. Which type of mouth part present in thrips?
   (1) Raspaging and Sucking
   (2) Chewing and lapping
   (3) Piercing and Sucking
   (4) None of the above
43. The efforts to increase population of natural enemies either by propagation and release or by environmental manipulation is known as ________:
   (1) Conservation  (2) Importation  (3) Augmentation  (4) Introduction

44. Which of the following insect-pests is the internal feeder of stored grains?
   (1) Sitotroga Cerealella Oliv.  (2) Trogoderma granarium Everts

45. An abnormal increase in pest population or damage following insecticide application often far exceeding the economic injury level is referred as ________.
   (1) Saturation  (2) Resurgence  (3) Resistance  (4) Secondary Pest Outbreak

46. Which of the following is used to attract melon fruit fly?
   (1) Methyl engenol  (2) Cuelure  (3) Trimedlure  (4) None of the above

47. Dichlorovos comes under ________ group of insecticide.
   (1) Organo - Chlorine  (2) Neo Nicotinoid  (3) Carbamate  (4) Organo Phosphate

48. Which of the following insecticides belong to organophosphates?
   (1) Malathion  (2) Parathion  (3) Dichlorovos  (4) All of the above

49. In Switzerland, the sterile male technique was successfully demonstrated against which insect pest?
   (1) Cochliomyia Hominivorax  (2) Ceratitis Capitata
   (3) Bactocera Cucmbitae  (4) Melolontha Vulgaris

50. In Honey bee mouth parts, which parts are modified to form a lapping tongue?
   (1) Labrum and Labium  (2) Mandibles and Labium  (3) Labium and Maxilla  (4) Maxilla and Labrum
51. Which of the following statements is correct?
   (1) The insecticide does not produce any mutation in insects
   (2) The insect resistance to insecticides is a preadaptive phenomenon
   (3) In insect populations resistant and susceptible strains are already present
   (4) All of the above

52. Domestic Quarantine Act to prevent spread of disease and pest within state was passed for first time in India during 1919 under name ________.
   (1) National Food Safety and Standard Act
   (2) Madras Agril. Pest and Disease Act in 1919
   (3) Plant Quarantine Act

53. Destructive Insect and Pest Act was enforced during year ________.
   (1) 1912  (2) 1914  (3) 1918  (4) 1930

54. Enzyme-inhibition method is widely adopted for detecting insecticide residue in which of the following insecticides:
   (1) Chlorinated Hydrocarbons and Arsenic
   (2) Organophosphates and Carbamates
   (3) Nicotine and Pyrethrum
   (4) None of them

55. Which of the following insect-pests feeds on developing grains of Sorghum?
   (1) Atherigona soccata (Rond.)  (2) Chilo partellus (Swinhoe)
   (3) Contarinia sorglicola (Coq.)  (4) Marasmia trapezalis (Guen.)

56. In which of the following insect, leg is involved in silk production:
   (1) Embiid  (2) Ant lion  (3) Silk Moth  (4) All of them

57. Mandibles are wanting (absent) in ________ type of mouth part in Housefly.
   (1) Chewing and biting  (2) Sucking type
   (3) Chewing and lapping  (4) Sponging type
58. Which of the following term is used to describe the state of an insect when it shows no sign of life and metabolic activities are brought reversibly to a standstill:

(1) Cryptobiosis (2) Cryptonephry (3) Diapause (4) Hybernation

59. Gram pod borer, *Helicoverpa armigera* is ________ pest.

(1) Polyphagous (2) Oligophagous (3) Monophagous (4) None of above

60. ________ plant is defined as one that has had foreign genetic material purposefully introduced and stably incorporated in the plant genome through means other than those that occurs naturally in environment.

(1) Resistant (2) Susceptible (3) Transgenic (4) None of above

61. Solar heat treatment of wheat seed for the control of loose smut was developed by one of the following scientist.

(1) K.C. Mehta (2) J.C. Luthra (3) E.J. Butler (4) J.F. Dastur

62. Parasitic flowering plants (phanerogams) live semiparasitically on stem of other living plants and can cause losses on mango tree.

(1) Dodder (2) (*Loranthus*) *Dendrophthoeae* (3) Broom rapes (4) Witchweed

63. Select the name of pathogen/s causing root rot of cotton:

(1) *Rhizoctonia bataticola* (2) *Rhizoctonia solani* (3) (1) and (2) (4) *Sclerotium rolfsii*

64. What is the mode of action of “green chemicals” in plant disease management?

(1) Systemic (2) Contact (3) Antisporulent (4) The host defense inducing
65. Match the following:

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Agrobacterium (i)</td>
<td>Gram+ve, None or Polar flagella</td>
</tr>
<tr>
<td>(b) Clavibacter (ii)</td>
<td>Gram+ve, non flagellate</td>
</tr>
<tr>
<td>(c) Streptomyces (iii)</td>
<td>Gram-ve, non flagellate</td>
</tr>
<tr>
<td>(d) Xylella (iv)</td>
<td>Gram-ve Peritrichous flagella</td>
</tr>
</tbody>
</table>

(i) (iv) (i) (ii) (iii)        
(2) (i) (ii) (iii) (iv)        
(3) (ii) (iii) (iv) (i)        
(4) (iii) (iv) (i) (ii)        

66. Select the name of the pathogen responsible for Bacterial blight of paddy.

(1) Xanthomonas oryzae cocola  (2) Xanthomonas oryzae  
(3) Xanthomonas compestris      (4) Xanthomonas axonopodis  

67. Wilt of pigeonpea is caused by ________ ________.

(1) Fusarium Oxysporum f.sp. cici  
(2) Fusarium Oxysporum f.sp. Udam  
(3) Fusarium Oxysporum f.sp. Vasinfecet  
(4) Fusarium Oxysporum f.sp. lycopersesi  

68. A plant pathogenic fungus that requires living host cell for its survival is called as ________.

(1) Biohroph  (2) Necrohroph  
(3) Obligate parasite  (4) Biotroph and Obligate parasite  

69. Infective propagules of plant pathogen, which are transferred to plant and cause disease are known as ________.

(1) Inoculum potential  (2) Primary infection  
(3) Inoculum  (4) Secondary infection  

कच्च्या कामासाठी जागा /SPACE FOR ROUGH WORK  
P.T.O.
70. Which of the following pair is mismatched?

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) E.C. Stakman</td>
<td>Hyper sensitive reaction</td>
</tr>
<tr>
<td>(2) Muller and Borger</td>
<td>Phytoalexins</td>
</tr>
<tr>
<td>(3) M.J. Berkley</td>
<td>Nematology</td>
</tr>
<tr>
<td>(4) W.M. Stanley</td>
<td>Crystalisation of plant virus protein</td>
</tr>
</tbody>
</table>

71. Choose the option/s which are the abiotic factors responsible for Black heart disease of potato:

(1) Insufficient availability of oxygen
(2) High temperature
(3) Excess of Nitrogen
(4) (1) and (2)

72. From the following facts which is not true in relation to Bordeaux mixture.

(1) Investigated by Millardet
(2) Used against powdery mildew of grape
(3) Mixture of copper sulphate and hydrated lime
(4) Cupric hydroxide is toxic principle

73. Bawden and Pirie in 1936 proved one of the following:

(1) TMV nucleic acid free from protein coat can cause infection
(2) TMV was nucleoproteinous in nature
(3) TMV was crystallized
(4) TMV was seen with electron microscope

74. In India domestic plant quarantine measures are enforced against:

(1) Bunchy top and mosaic of banana and wart of potato
(2) Paddy Blast and Crown gall of apple
(3) Late and early blight of potato
(4) Leaf rust of coffee and Golden nematode of potato
75. Which of the following pair is correct?
   (1) Exclusion - Isolation in time and space
   (2) Avoidence - Chemical seed treatment
   (3) Eradication - Plant quarantine
   (4) Protection - Spraying of Chemicals

76. Structures formed in Basidiomycota are:
   (1) Dolipere septum and clamp connections
   (2) Croziers and ascogenous hyphae
   (3) Perithecia and Cleistothecia
   (4) Plasmodium and oogonium

77. *Fungus* *splancotheca* *sorghului* causes.
   (1) Loose smut of sorghum
   (2) Head smut of sorghum
   (3) Grain smut of sorghum
   (4) Long smut of sorghum

78. Which fungicides effectively control powdery mildew disease in plants?
   (1) Copper oxychloride
   (2) Sulphur
   (3) Dinocap
   (4) (2) and (3)

79. Which of the fungal pathogen is responsible for Damping off of vegetable seedlings?
   (1) Oidium spp.
   (2) Pythium spp.
   (3) Plasmodora spp.
   (4) Peronospora spp.

80. Choose the correct name of disease and pathogen related to great Bengal famine in India.
   (1) Ergot rye - Claviceps spp.
   (2) Brown spot of rice - Drechslera oryzae
   (3) Blast of rice - Pyricularia oryzae
   (4) Southern corn leaf blight - Bipolaris maydis

81. Which of the following is non-climacteric fruit?
   (1) Sapota
   (2) Mango
   (3) Sweet Orange
   (4) Banana

कच्च्या कामासाठी जाणा /SPACE FOR ROUGH WORK
82. Black neck in ketchups is caused due to presence of:
   (1) Acetic acid
   (2) Enzymes
   (3) Iron
   (4) Microorganisms

83. Syrup should contain _______ per cent acidity.
   (1) 0.5 - 0.6
   (2) 0.75 - 1.0
   (3) 1.0 - 1.25
   (4) 1.3 - 1.5

84. Sapota takes about _______ months from anthesis to maturity of fruits depending on variety and climate.
   (1) 3½ - 4½
   (2) 4½ - 5½
   (3) 7½ - 10½
   (4) 11½ - 12½

85. Lakshaganga is a hybrid of which crop?
   (1) Areca nut
   (2) Coconut
   (3) Cashew nut
   (4) None of these

86. 'Metaxenia' observed in which of following crops?
   (1) Root crops
   (2) Tuber crops
   (3) Cucurbits
   (4) Bulb crops

87. Alcohol test in jelly preparation is done to determine the content of:
   (1) Alcohol
   (2) Pectin
   (3) Vitamins
   (4) Enzymes

88. In breeding of mango, for evolution of new varieties, the hybrids are first raised from which method of propagation?
   (1) Soft wood grafting
   (2) Simple layering
   (3) Seed
   (4) Budding

89. Rose variety 'Abhisarika' is the mutant of _______ variety.
   (1) Gladiator
   (2) Kiss of fire
   (3) Raktagandha
   (4) Dr. B.P. Pal

90. Kotapak and kalipak are prepared from _______ fruits.
   (1) Areca nut
   (2) Coconut
   (3) Cashew nut
   (4) None of these

91. In kitchen garden perennial vegetables like drumstick, curry leaf and bilimbi should be allotted to _______ of the garden.
   (1) Centre
   (2) Any place
   (3) One side
   (4) Centre and middle part
92. Central Potato Research Institute (CPRI) is located at ______.  
(1) Agra (2) Varanashi (3) Shimla (4) New Delhi

93. Cloudy or foggy jellies are due to ______.  
(1) Over-cooking (2) Over-cooling (3) Faulty pouring (4) All of these

94. Pinching is an important operation in the successful production of quality flowers of ______.  
(1) Tuberose (2) Anthurium (3) Carnation (4) Marigold

95. Phalaenopsis orchids are also called as ______ orchids.  
(1) Scorpion (2) Moth (3) Dancing girl (4) None of these

96. Suckers emerging from the fruit stalk above the soil surface in pineapple are called as ______.  
(1) Slips (2) Ground suckers (3) Crown suckers (4) Sword suckers

97. Agriculture and Processed Food Products Export Development Authority (APEDA) is located in ______.  
(1) Mumbai (2) New Delhi (3) Kolkata (4) Chennai

98. Brine concentration for canning of vegetables is ______ per cent.  
(1) 1 - 3 (2) 3 - 5 (3) 5 - 6 (4) 6 - 8

99. Excellent quality of guava fruits are obtained from ______ flowering.  
(1) Hasta bahar (2) Mrig bahar (3) Ambia bahar (4) Both Mrig and Hasta bahar

100. In marmalade about ______ shredded peels should be added during cooking.  
(1) 32 g (2) 42 g (3) 52 g (4) 62 g

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101. Which plant growth regulator is used for degreening in fruits?
   (1) Gibberellins  (2) Cytokinins  (3) Abscisic acid  (4) Ethylene

102. Which of the following is the variety of multiplier onion?
   (1) Agrifound Red  (2) Agrifound Dark Red  
   (3) Agrifound Light Red  (4) Agrifound Rose

103. Pickling is the result of fermentation by _______ acid forming bacteria.
   (1) Lactic acid  (2) Acetic acid  (3) Saccharomyces  (4) None of these

104. Leaf curl disease of Chilli is transmitted by ________.
   (1) Thrips  (2) Aphids  (3) Whiteflies  (4) None of these

105. In which of the following fruit crop secondary growth in stem as well as in root is absent:
   (1) Mango  (2) Cashew nut  (3) Coconut  (4) None of these

106. Highly phylloxera and drought resistant rootstock used in grape is:
   (1) Drg Ridge  (2) St. George  
   (3) Salt Creek  (4) Solonis X Othello

107. Which variety of mandarin is commercially grown in North-eastern states?
   (1) Nagpur  (2) Coorg  (3) Khasi  (4) Kinnow

108. Which flower crop is also called as Transvaal Daisy?
   (1) Orchid  (2) Anthurium  (3) Gerbera  (4) Carnation

109. Which of the following storage structure is based on principle of evaporative cooling system?
   (1) Refrigerator  (2) Zero energy cool-chamber  
   (3) Cold storage  (4) CA storage
110. Which of the following cultivars of ber is late in North India?
   (1) Gola (2) Umran (3) Kaithali (4) Mundia

111. Lycopene is responsible for red colour in tomato and develop best at _______ temperature.
   (1) 30 to 35°C (2) Above 40°C (3) Below 10°C (4) 21 to 24°C

112. Pusa Rituraj is a bushy and prolific bearer variety of ________.
   (1) Garden pea (2) Cowpea (3) Indian bean (4) French bean

113. Which of the following is tropical humid region fruit crop?
   (1) Banana (2) Grape (3) Pomegranate (4) Acid Lime

114. Black tip is a physiological disorder of:
   (1) Grape (2) Mango (3) Fig (4) Guava

115. Preventing flower drop and increasing fruit set two sprays of ______ at 30 and 45 days of sowing in yard long bean:
   (1) Cycocal (2) Maleic hydrazide (3) NAA (4) Abscisic acid

116. Deficiency of nitrogen in cauliflower cause ________.
   (1) Browning (2) Whiptail (3) Buttoning (4) Blindness

117. In Mango to get dwarfing effect ______ rootstock is used.
   (1) Olour (2) Bappakai (3) Vellaikulumban (4) Local

118. In grapes, for quick dipping for 10 seconds before planting the cuttings are dipped in IBA solution of ______ ppm.
   (1) 500 (2) 1000 (3) 1500 (4) 2000
119. Which of the following is a self-pollinated crop?

(1) Onion  (2) Tomato  (3) Cucumber  (4) Cabbage

120. Which variety of cabbage is resistant to black rot?

(1) Pusa Mukta  (2) Golden acre  (3) Pride of India  (4) Pusa Drumhead

121. The first step in programme planning is:

(1) Collection of facts  (2) Identification of problem  (3) Analysis of situation  (4) Determination of objectives and goal

122. The family where a man marries more than one wife is called as:

(1) Polygynous family  (2) Polyandrous family  (3) Patrilocal family  (4) Matrilocal family

123. Agril-clinics serve the farming community by which services?

(a) Advisory services  (b) Technology assessment and refinement  (c) Information services

(1) (a) only  (2) (a) and (c)  (3) (b) and (c)  (4) (a), (b) and (c)

124. Programme planning is _______ process.

(1) Educational process  (2) Co-ordinating process  (3) Evaluating process  (4) All of the above

125. Which of the following degree of evaluation is not informal type?

(1) Casual every day  (2) Self Checking  (3) Do it yourself  (4) Extension Studies
126. The most commonly used method in market Surveys and opinion polls is ________.

(1) Area sampling  (2) Quota sampling
(3) Cluster sampling  (4) Systematic sampling

127. “An approach starts with the assumption that the complex process of rural transformation must begin with changes in the rural people themselves” is called ________.

(1) Extension approach  (2) Co-operative self-help approach
(3) Training approach  (4) Integrated Development Approach

128. The informal social pressure acts more as a means of social control in rural areas due to ________.

(1) Personal and Informal contacts  (2) Small size of land holding
(3) Heterogeneity of rural communities  (4) All (1), (2) and (3)

129. Never do anything that you get someone to do for you is a principle of ________.

(1) Participation  (2) Leadership
(3) Cooperation  (4) Cultural Change

130. The process of determining the extent to which one has been able to attain the objectives is called as ________.

(1) Criticism  (2) Evaluation  (3) Participation  (4) None of these

131. The normal level of IQ for a child is ________.

(1) 110 - 120  (2) 90 - 110  (3) 120 - 140  (4) 80 - 90
132. A learning situation is a condition or environment in which following elements necessary for promoting learning are:

(1) Instructor and learner
(2) Subject matter and Teaching material
(3) Physical facilities
(4) All of the above

133. _______ education combines both adult education and informal education.

(1) Technical
(2) Health
(3) Extension
(4) Physical

134. In Extension system the programme planning process is ________.

(a) An educational process
(b) A coordinating process
(c) An evaluating process

Which of the statements given above is/are correct?

(1) (a) only
(2) (b) only
(3) (c) only
(4) (a), (b) and (c)

135. _______ should be in written form and shall indicate who shall do what job.

(1) Calendar of operation
(2) Plan of Work
(3) Project
(4) Plan

136. _______ is a collection of two or more individuals in reciprocal communication and interaction with each other.

(1) Category
(2) Aggregation
(3) Social group
(4) Mob

137. _______ is the capacity of solving problems by using past experience adjusting with new things and understanding abstract things by using symbols.

(1) Intelligence
(2) Personality
(3) Attitude
(4) Culture

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138. Which attribute of innovation may not deter its adoption provided it has more relative advantage _________.
   (1) Observability (2) Trialability (3) Compatibility (4) Complexity

139. ________ is one of the methods of training of local leaders, wherein, the audience may be divided into smaller units for shorter period.
   (1) Buzz groups (2) Panel (3) Forum (4) Symposium

140. ________ is the science of rural society.
   (1) Groups (2) Psychology (3) Religion (4) Rural sociology

141. The Communication Model “Sender → Encoder → Channel → Decoder – Receiver” is given by _________.
   (1) Shannon-Weaver Model (2) Berlo’s Model (3) Westley and Mclean Model (4) Leagan’s Model

142. According to principle of ________, extension work must be carried out in harmony with the cultural pattern of the people.
   (1) Cultural difference (2) Cultural change (3) Gross roots (4) Interest and needs

143. Extension Education Philosophy is based on the hypothesis that:
   (a) Rural people are intelligent
   (b) Rural people are not interested in obtaining new information
   (c) Rural people have desire to utilize the information for their welfare

Which of the statements given above is/are correct?
   (1) (a) only (2) (a) and (b) (3) (a) and (c) (4) (a), (b) and (c)
144. The higher level of education and intelligence of the audience is required to understand and absorb the information in case of _______.

(1) Poster  (2) Model  (3) Diagram  (4) Specimen

145. _______ is a social unit or human grouping deliberately constructed to seek specific goals.

(1) Organization  (2) Programme Planning  (3) Extension Administration  (4) None of the above

146. “Verbal communication through a telephone with additional capacity for tele-writing to tele-copying” is called as _______.

(1) Video conferencing  (2) Audio conferencing  (3) Computer conferencing  (4) E-mail

147. To develop leadership among people and help them in organizing group to solve their problem is one of the objectives of:

(1) Extension Education  (2) Leadership  (3) Community Development  (4) Teaching Method

148. _______ are the device used to create situation in which communication can take place between the instructor and the learner.

(1) Teaching Method  (2) Learning Situation  (3) Educational Psychology  (4) Administration

149. Example of primary group is _______.

(1) Farmer Union  (2) Co-Operative Society  (3) The Village Community  (4) Trade Union

150. Expression of the ends towards which our efforts are directed is known as _______.

(1) Problems  (2) Objectives  (3) Solutions  (4) Projects
151. During 2004, the GOI appointed national commission on farmers under Chairmanship of
an eminent agricultural scientist.

(1) Dr. M.S. Swaminathan (2) Dr. Abhijit Sen
(3) Dr. S.S. Acharya (4) Dr. S.L. Guru

152. India has target for production of foodgrains during the year 2014-15 was ______ Million Tonnes.

(1) 261 (2) 251 (3) 271 (4) 281

153. A farm on which no single product or source of income equals as much as 50 percent of the total receipt is called ________.

(1) Specialized Farm (2) Mixed Farm
(3) Diversified Farm (4) Ranching

154. A farm on which 50% or more receipts are derived from one enterprise is known _______ farm.

(1) Mixed (2) Specialised (3) Ranching (4) Mechanised

155. The tests that can be applied to study the economic viability of a scheme or investment activity are as follows:

(a) Character (b) Capital
(c) Capacity (d) Common Sense

Answer options:
(1) Only (a), (b) and (c) (2) Only (a) and (b)
(3) Only (b), (c) and (d) (4) All (a), (b), (c) and (d)

156. Who was the Chairman of ‘Export and Import Policies and Procedures’ appointed by the Government of India in the year 1977?

(1) Mr. Mudliar (2) Mr. V.P. Singh
(3) Mr. P.E. Alexander (4) Mr. Kamal Nath
157. The produce in different lots is mixed and then sold as one lot is known as _________.
   (1) Moghum Sale Method    (2) Hatha System
   (3) Open Auction Method    (4) Dara Sale Method

158. As per agricultural census 2010-11, the average size of operational holding in Maharashtra was ________ hectares.
   (1) 1.15    (2) 1.44    (3) 1.57    (4) 1.28

159. ________ indicates the proportion of variable in the dependent variable accounted for, by independent variable.
   (1) $R^2$    (2) t-test    (3) F-test    (4) SE

160. ________ margins refers to the difference between the prices prevailing at successive stage of marketing at a given point of time.
   (1) Concurrent    (2) Lagged
   (3) Both (1) and (2)    (4) None of these

161. AGMARK is a quality certification mark under the Central Agricultural Produce [Grading and Marketing] Act ________.
   (1) 1930    (2) 1932    (3) 1937    (4) 1938

162. Production function indicates the relationship between:
   (1) two inputs    (2) two outputs
   (3) input and output    (4) None of these

163. The National Income measure by ________ method, gives the net domestic product at factor cost classified by industrial origin.
   (1) Output    (2) Income    (3) Expenditure    (4) None of these
164. The First Five-Year Plan draft outline was issued by the planning commission in the year 

(1) 1947  (2) 1948  (3) 1950  (4) 1951

165. The Minimum Support Price of Paddy is ₹ ________ during the year 2015-16.

(1) 1310  (2) 1410  (3) 1250  (4) 1520

166. A farm with land holding size ranging between one to two hectares is called as:

(1) Small farm  (2) Semi-medium farm
(3) Medium farm  (4) Marginal farm

167. The Agricultural Finance Corporation (AFC) was promoted by the Indian Bank’s Association, which was incorporated on 10th April ________ under the Indian company’s Act.

(1) 1968  (2) 1969  (3) 1966  (4) 1967

168. ________ is the excess of what we are prepared to pay over what we are actually pay for a commodity.

(1) Surplus Payment  (2) Consumer’s Surplus
(3) Marketed Surplus  (4) Marketable Surplus

169. The Agro Economic Research (AER) Scheme initiated in ________ is a network of 15 AER Centres which conduct certain research studies in the field of Agricultural Economy.

(1) 1964-65  (2) 1959-60  (3) 1954-55  (4) 1968-69

170. Property that is pledged to secure a loan is ________.

(1) Mortgage  (2) Key loan
(3) Collateral Security  (4) Personal Security

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171. Conventional barns of Cattle housing are also called as:
(1) Stanchion barns  (2) Deshi barn
(3) Tail to tail barns  (4) Head to head barns

172. The chemical used for dehorning in calf is:
(1) caustic lime  (2) caustic soda
(3) caustic ash  (4) none of the above

173. Gross energy value of protein is:
(1) 5.56 kcal/g  (2) 6.56 kcal/g
(3) 5.65 kcal/g  (4) 6.65 kcal/g

174. Which are the types of out breeding system?
(a) out crossing  
(b) line breeding  
(c) species hybridization
Answer options:
(1) Only (a)  (2) Only (b)  (3) (a) and (b)  (4) (a) and (c)

175. The common methods for semen collection in bull for artificial insemination are:
(1) Artificial cervix and magnetic field
(2) Artificial vagina and Electro ejaculation
(3) Cervical vaginal cord and emasculation
(4) Artificial cervix and emasculation

176. Which housing system is preferred for poultry production where small floor space is available?
(1) Deep litter system  (2) Free range system
(3) Semi-intensive system  (4) Battery system
177. The method of mating animals of wider degrees of relationship promotes uniform character and harmful characters are not developed quickly is called as:

(1) Close breeding  (2) Line breeding
(3) Out breeding  (4) Cross breeding

178. Match the following well defined Buffalo breeds on the basis of region.

(a) Tarai  (i) Uttar Pradesh
(b) Godavari  (ii) Andhra Pradesh
(c) Pandarpuri  (iii) Central India
(d) Toda  (iv) South India

(a) (b) (c) (d)
(1) (i) (ii) (iii) (iv)
(2) (ii) (iii) (iv) (i)
(3) (iii) (i) (ii) (iv)
(4) (iv) (ii) (i) (iii)

179. The home tract of malvi breed of cattle is:

(1) Gwalior Region of M.P.  (2) Marvar Region of Rajasthan
(3) Malabar Region of South India  (4) Mawal Region of U.P.

180. For sexing of day old chicks following method is commonly used:

(1) Vent method  (2) Benchman method
(3) Abomasum technique  (4) Candling method

181. The secretory tissue of mammary gland consists of numerous tiny chambers called as:

(1) Cistern  (2) Ligament  (3) Alveoli  (4) Canals

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182. NDDB was established in which year?
   (1) 1971  (2) 1960  (3) 1965  (4) 1975

183. Which are the hormones essential for maintenance of Lactation:
   (a) Prolactin   (b) STH   (c) ACTH   (d) TSH
   Answer options:
   (1) (a) and (c) only  (2) (b) and (d) only
   (3) None of the above  (4) All of the above

184. What are whey proteins or serum proteins in the milk?
   (1) α lactalbumin   (2) β lactoglobulin
   (3) Both (1) and (2)  (4) None of the above

185. True milk fats are formed by:
   (1) Combination of glycerine with fatty acids.
   (2) Combination of glycerine with aldehydes.
   (3) Combination of ketones with aldehydes.
   (4) Combination of aldehydes with fatty acids.

186. Sterilization of utensils and equipments is done by using:
   (a) Chlorine gas
   (b) Sodium bicarbonate
   (c) Steam at 15 lbs Pressure
   Answer options:
   (1) (a) only  (2) (a) and (c) only  (3) (b) and (c) only  (4) (a), (b) and (c)
187. NDDB initiated “Operation Flood Programme” in 1970-71 with certain objectives as under:

(a) Organising the dairy co-operatives at the village level.
(b) Providing the Physical and Institutional infrastructure for milk procurement, processing and marketing.
(c) Production enhancement services and establishment of city dairies.

Which of the above statements is/are correct:

(1) (a) only
(2) (b) and (c) only
(3) (a) and (c) only
(4) (a), (b) and (c)

188. HANSA test is useful for detection of:

(1) Cow milk with buffalo milk
(2) Cow milk with cream or butter
(3) Cow milk with whey
(4) Cow milk with skim milk

189. Which of the following diets depresses the milk fat content?

(a) High concentrate ration
(b) High roughage ration
(c) Finely ground hay

Answer options:

(1) (a) only
(2) (b) only
(3) (a) and (c) only
(4) (a), (b) and (c)

190. Prolactin functions as:

(1) Secretary cell proliferation during late lactation.
(2) Secretary cell proliferation during early lactation.
(3) Synthesizer of lactose.
(4) Maintaining the pregnancy.
191. Vitamin B₆, essential to all forms of life is also known as:
   (1) Nicotinic acid  (2) Riboflavin  
   (3) Pyridoxine  (4) Pantothenic acid

192. Which one of the following toxins produced by Clostridium Botulinum does not cause
toxicity to human beings so far?
   (1) Type A  (2) Type C  (3) Type F  (4) Type B

193. Red/bloody bread spoilage is due to _______ organism.
   (1) Serratia marcescens  (2) Bacillus Licheniformis  
   (3) Rhizopus nigricans  (4) Penicillium expansum

194. Under FSSA 2006 the proprietary food means an article of food for which ________.
   (a) Standards have not been specified and is not unsafe.
   (b) It does not contain any of the foods and ingredients prohibited under this act and
       regulations made there under.
   (c) Standards have been specified and is not unsafe.
   (d) None of the above

   Answer options:
   (1) (a)  (2) (b) and (c)  (3) (a) and (b)  (4) (d)

195. Which of the Vitamin under B-Complex is most sensitive to SO₂, a common food
preservative chemical?
   (1) Thiamine  (2) Riboflavin  (3) Niacin  (4) Folic acid

196. The enzymes used in chill-proofing of beers and production of plant protein hydrolysates
are:
   (1) Pectinases  (2) Celluloses  (3) Proteases  (4) Glycosidases
197. The natural emulsifier Lecithin is derived from ________.
   (1) Corn  (2) Rapeseed  (3) Soybean  (4) All of the above

198. The additive used in preservation and coloration of meat products is:
   (1) Calcium Propionate  (2) Cyclamates  (3) Butylated Hydroxytoluene  (4) Sodium Nitrate and Nitrite

199. The Maillard reaction denotes a group of many complex reactions between ________.
   (a) Nitrogenous Compounds and Sugars.
   (b) Nitrogenous Compounds and Organic acids.
   (c) Sugars and Organic acids.
   (d) Among Organic acids themselves.
   **Answer options:**
   (1) (a) (2) (b) and (c) (3) (d) (4) All of the above

200. Biobased biodegradable packaging polymer like polylactic acid can be made into ________.
   (1) Films  (2) Coextruded into Laminates  (3) Thermoformed  (4) Molded into bottles

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P.T.O.
Pick out the correct word to fill in the blank:

नमूना प्रश्न

प्र. क्र. 201.  I congratulate you _______ your grand success.

(1) for (2) at
(3) on (4) about

[Hint: (3) 'on' as per the context]

प्र. क्र. 201.  (1) (2) (3) (4)

[Hint: '3' stands for 'on' as per the context]