



कच्च्या कामासाठी जागा /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<sub>40</sub> (2) Cosmid (3) pBR322 (4) Transposons
- 
3. The example of C<sub>3</sub> 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)  $H_2SO_4$  and  $HNO_3$  (2)  $HCl$  and  $H_2SO_4$   
(3)  $HNO_3$  and  $HCl$  (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 *Brassica juncea* variety 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
- 

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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 hydathodes is known as :  
(1) Stomata (2) Zylum (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
-

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 Himalyan 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)  $\text{NADH}_2$  is oxidised to  $\text{NAD}^+$ .  
(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.
- 

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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) Rasping 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  
(3) *Cadra Cautella* W. (4) *Tribolium Castaneum* Herbst.
- 
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
- 

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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
  - (4) East Punjab Agricultural Pests, Diseases and Noxious weeds 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 sorghicola* (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*) *Dendrophthoe*  
(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
- 

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65. Match the following :

A					B				
(a)	Agrobacterium				(i)	Gram+ve, None or Polar flagella			
(b)	Clavibacter				(ii)	Gram+ve, non flagellate			
(c)	Streptomyces				(iii)	Gram-ve, non flagellate			
(d)	Xyllela				(iv)	Gram-ve Peritrichous flagella			
	(a)	(b)	(c)	(d)					
(1)	(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) <i>Xanthamonas oryzae</i>     | (2) <i>Xanthamonas oryzae</i>     |
| (3) <i>Xanthamonas compestris</i> | (4) <i>Xanthamonas axonopodis</i> |

67. Wilt of pigeonpea is caused by \_\_\_\_\_ .

- (1) *Fusarium Oxysporum f.sp. ciceri*
- (2) *Fusarium Oxysporum f.sp. Udam*
- (3) *Fusarium Oxysporum f.sp. Vasinfectum*
- (4) *Fusarium Oxysporum f.sp. lycopersesi*

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

- |                       |                                    |
|-----------------------|------------------------------------|
| (1) Biotroph          | (2) Necrotroph                     |
| (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 |

70. Which of the following pair is mismatched ?

A	B
(1) E.C. Stakman	- Hyper sensitive reaction
(2) Muller and Borger	- Phytoalexins
(3) M.J. Berkley	- Nematology
(4) W.M. Stanley	- Crystallisation of plant virus protein

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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
- 

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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 *sphacelotheca sorghi* 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) *Plasmopara 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
-

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) Arecanut (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) Arecanut (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
- 

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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
-

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
- 

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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) Absciscic 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
- 

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P.T.O.

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
- 

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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
-

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 McClean 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) Grass 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
- 

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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
- 

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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 10<sup>th</sup> 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
-

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    |
- 

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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) Marwar 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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P.T.O.

182. NDDDB 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)  $\alpha$  lactalbumin                      (2)  $\beta$  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)
- 

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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 statement's 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 B<sub>6</sub>, 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 Lichiniformis*  
(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 SO<sub>2</sub>, 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
- 

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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       |
- 

- o O o -

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### सूचना — ( पृष्ठ 1 वरून पुढे.... )

- (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 स्वतःबरोबर परीक्षाकक्षाबाहेर घेऊन जाण्यास परवानगी आहे. मात्र परीक्षा कक्षाबाहेर जाण्यापूर्वी उमेदवाराने आपल्या उत्तरपत्रिकेचा भाग-1 समवेक्षकाकडे न विसरता परत करणे आवश्यक आहे.

### नमुना प्रश्न

Pick out the correct word to fill in the blank :

- प्र. क्र. 201. I congratulate you \_\_\_\_\_ your grand success.  
 (1) for (2) at  
 (3) on (4) about

ह्या प्रश्नाचे योग्य उत्तर "(3) on" असे आहे. त्यामुळे या प्रश्नाचे उत्तर "(3)" होईल, यास्तव खालीलप्रमाणे प्रश्न क्र. 201 समोरील उत्तर-क्रमांक "③" हे वर्तुळ 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.

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