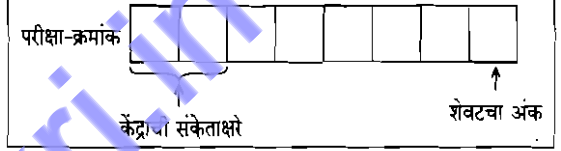


### सूचना

- (1) सदर प्रश्नपुस्तिकेत 100 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.
- (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 त्यापैकी 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 प्रश्न क्रमांकासमोर ठायांकित करून दर्शविला जाईल याची काळजी घ्यावी. ह्याकरिता फक्त काळ्या शाईचे बॉलपेन वापरावे, नुस्त्या वा शाईचे पेन वापरू नये.
- (5) सर्व प्रश्नांना समान गुण आहेत. यास्तव सर्व प्रश्नांचा उत्तर घ्यावा. 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 श्रेयस्कर ठरलं.
- (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 "उमेदवारांना वस्तुस्थितीत बहुपर्यायी स्वरूपाच्या प्रश्नांची दिलेल्या चार उत्तरांपैकी सर्वात योग्य 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 व्यक्तीविरूद्ध उक्त अधिनियमानुसार कारवाई करण्यात येईल व दोषी व्यक्ती शिक्षेस पात्र होईल.

पुढील सूचना प्रश्नपुस्तिकेच्या शेवटच्या पानावर पहा

पर्यवेक्षकांच्या सूचनेप्रमाणे हे सीट उघडू नये

कच्च्या कामासाठी जागा / SPACE FOR ROUGH WORK

[www.govnokri.in](http://www.govnokri.in)

1. A pair of mobile jointed appendages articulated with head in front of or between eyes are called antennae. They are wanting in all
- (1) Collembola (2) Diplura  
(3) Protura (4) Coleoptera
- 
2. Two lateral lobes of Hypopharynx in Apterygota, Larval Ephemeroptera and Dermaptera are called
- (1) Ligula (2) Super Linguae  
(3) Salivarium (4) Labium Hypopharynx
- 
3. The outermost layer of insect cuticle is called
- (1) Exocuticle (2) Endocuticle  
(3) Epicuticle (4) Procuticle
- 
4. In which of the following insects head positions the long axis is horizontal or slightly inclined ventrally and the mouthparts are anterior in position ?
- (1) Hypognathous (2) Prognathous  
(3) Opisthognathous (4) None of the above
- 
5. The internal surface area of the insect midgut is increased by the development of sac-like diverticula known as gastric or enteric caeca. In cockroaches, they are \_\_\_\_\_ in number.
- (1) Two (2) Eight (3) Numerous (4) Absent
- 
6. Which of the following is formed by the fused ganglia of the antennal segment of the head ?
- (1) Deutocerebrum (2) Tritocerebrum  
(3) Protocerebrum (4) None of the above
- 
7. Johnston's organ is a chordotonal organ lying in the \_\_\_\_\_ segment of the antenna.
- (1) First (2) Second (3) Third (4) Terminal

8. Directorate of Plant Protection, Quarantine and Storage is located at  
 (1) New Delhi (2) Faridabad, Haryana  
 (3) Bengaluru (4) Chennai
- 
9. A silk produced by *Antheraea mylitta* is called  
 (1) Tasar silk (2) Muga silk  
 (3) Pure Silk (4) Eri silk
- 
10. 'Systema Naturae' was published during 1758. This contains earlier record of 28 species of Indian insects by scientist  
 (1) Carl Linnaeus (2) J.C. Fabricius  
 (3) J.G. Koenig (4) Maxwell Lefroy
- 
11. In India, the varieties of apple used in diseases resistant breeding against apple scab are  
 (1) Sir Prize and Prima (2) Priscilla and Macfree  
 (3) Coop-12 and Red Free (4) Nova Easygro and Liberty
- 
12. Which statement from the following is **false** in relation to viroids ?  
 (1) It was discovered by Diener.  
 (2) It is naked circular molecule of infectious nucleic acid.  
 (3) The nucleic acid present is double standard DNA.  
 (4) It causes diseases in plants.
- 
13. From the following scientists, who were **not** responsible in proving the role of fungi in the cause of plant disease.  
 a. Micheli and Tillet  
 b. Prevost and Anton de Bary  
 c. Burrill and Smith  
 d. Woronin and Adolf Meyer
- Answer Options :**  
 (1) Only a and b (2) Only c and d  
 (3) Only a and c (4) Only b and d

14. Which of the following pair is correct ?

- | A             | B                               |
|---------------|---------------------------------|
| a. Plasmogamy | I. Union of cytoplasmic content |
| b. Oogonium   | II. Fruiting body of fungus     |
| c. Oospore    | III. Asexual spore              |
| d. Spermatia  | IV. Male structure              |

**Answer Options :**

- (1) Only a
- (2) Only b
- (3) Only a and d
- (4) Only c

---

15. From the following list of toxins produced by fungi, which group of toxin is host specific ?

- (1) Alternaric acid, Zirinol, Alternariol
- (2) Cercosporin, Fusaric acid, Oxalic acid
- (3) ATC-toxin, AB-toxin, AM-toxin
- (4) Tabtoxin, Tentoxin, Pyricularin

---

16. Identify the **mismatch** regarding penetration of pathogen.

- (1) Stomata → *Phytophthora infestans*
- (2) Lenticels → *Spongospora subterranea*
- (3) Nectaries → *Uromyces appendiculates*
- (4) Wounds → *Penicillium expansum*

---

17. The adjuvant material in fungicides which reduces the surface tension of particles is termed as

- |                    |                           |
|--------------------|---------------------------|
| (1) Wetting agents | (2) Spreaders             |
| (3) Adhesives      | (4) Deflocculating agents |

18. Which is the repeating stage of brown rust of wheat in India ?
- Pycnial stage
  - Aecial stage
  - Uredial stage

**Answer Options :**

- Only a
- Only a and b
- Only c
- Only b and c

- 
19. An example of dsDNA virus is

- Cauliflower mosaic virus
- Wound tumor virus
- Maize streak virus
- Cowpea mosaic virus

- 
20. Identify plant pathogen on the basis of following characters :

- Sensitive to tetracycline antibiotics
- Transmission of leaf and plant hoppers
- Acquired by nymph
- Long incubation period

**Answer Options :**

- Bacteria
- Fungi
- Phytoplasma
- Virusoid

---

कच्च्या कामासाठी जागा / SPACE FOR ROUGH WORK

21. If grape is grown under high humid condition, it is observed that
- (1) Vines put forth vegetative growth at the expense of fruiting
  - (2) Berries do not ripe properly
  - (3) Disease incidence is high
  - (4) All of the above
- 
22. Allahabad Surkha is a variety of
- (1) Pomegranate
  - (2) Guava
  - (3) Grape
  - (4) Mango
- 
23. Bael fruit contains which of the following active ingredient ?
- (1) Marmelosin
  - (2) Cucurbitacin
  - (3) Galactomanin
  - (4) Quercetin
- 
24. In which physiological disorder of citrus, the juice sacs become hard and elongated ?
- (1) Greening
  - (2) Decline
  - (3) Granulation
  - (4) None of the above
- 
25. Which of the following is the hybrid variety of mandarin ?
- (1) Coorg mandarin
  - (2) Khasi mandarin
  - (3) Kinnow mandarin
  - (4) Nagpur mandarin

26. 'Sylvia' is the edible podded cultivar of

- |                 |                |
|-----------------|----------------|
| (1) Broad bean  | (2) Garden pea |
| (3) French bean | (4) Lima bean  |

27. The most common method of propagation of ber is

- (1) Chip budding
- (2) I or T budding
- (3) Micro budding
- (4) Shoot-tip grafting

28. Potato is cool season crop and requires

- (1) Long day condition with high temperature for both vegetative and tuber growth.
- (2) Short day condition with low temperature for both vegetative and tuber growth.
- (3) Long day with high temperature for vegetative growth and short day with low temperature for tuber formation.
- (4) Day neutral for both vegetative and tuber growth.

29. Which rose species is widely used for gulkand preparation ?

- (1) *Rosa egianteria*
- (2) *Rosa bourboniana*
- (3) *Rosa involucrata*
- (4) *Rosa clinophylla*

30. *Pusa anupam* is a variety of

- (1) Okra
- (2) Brinjal
- (3) Tomato
- (4) Onion

कच्च्या कामासाठी जागा / SPACE FOR ROUGH WORK



31. The knobs of which crop are harvested by cutting the stem just below it ?
- (1) Cabbage
  - (2) Cauliflower
  - (3) Knol-Khol
  - (4) None of the above
- 
32. Goldenrod (Solidago) is commercially propagated by
- (1) Grafting
  - (2) Budding
  - (3) Suckers
  - (4) Air layers
- 
33. In chrysanthemum, disbudding is a practice of removing immature flower bud to provide
- (1) Small number of large flowers
  - (2) Large number of small flowers
  - (3) Small number of large flowers or large number of small flowers
  - (4) Delayed flowering
- 
34. Corm dormancy in gladiolus is due to accumulation of
- (1) NAA
  - (2) IBA
  - (3) ABA
  - (4) GA
- 
35. Most anthurium blooms are harvested at about \_\_\_\_\_ maturity.
- (1) 1/4
  - (2) 1/2
  - (3) 3/4
  - (4) Full

36. The hormone associated with induction of parthenocarpy is

- (1) GA3 (2) AVG (3) BA (4) CCC

37. In cucumber, foliar application of \_\_\_\_\_ is used for inducing staminate flowers in gynoeocious lines.

- (1) GA3 (2) Silver nitrate  
(3) MAA (4) Both (1) and (2)

38. Certain food products are subjected to cryogenic freezing, means freezing of food products at very low temperature below

- (1) (-) 0°C (2) (-) 30°C (3) (-) 60°C (4) (-) 80°C

39. The total soluble solids (TSS) of fruit squash should be \_\_\_\_\_ percent.

- (1) 10 – 20 (2) 20 – 30 (3) 30 – 40 (4) 40 – 50

40. Fruit firmness is measured by

- (1) Penetrometer (2) Refractometer  
(3) Hardness tester (4) Tenderometer

41. In the broadest sense judging of the value of something is called

- (1) Evaluation (2) Monitoring  
(3) Planning (4) Management

42. According to Ensminger (1962) the philosophy of extension can be expressed in the following lines :

- a. Extension is “helping people to help themselves”.  
b. Extension is “learning by doing”.  
c. Extension is a two-way channel.  
d. Extension is a continuous, educational process.

**Answer Options :**

- (1) Only a and b (2) Only b, c and d  
(3) Only a (4) All of the above

कच्च्या कामासाठी जागा / SPACE FOR ROUGH WORK

43. The process by which an individual, through one's own efforts and abilities changes the behaviour is called

- (1) Teaching (2) Learning  
(3) Communication (4) Social change

44. As per the classification of extension teaching methods, the following are the examples of individual contact methods :

- a. Office call b. Farm and Home visit  
c. Leaflets d. Tours

**Answer Options :**

- (1) Only a and b (2) Only c and d  
(3) Only c (4) All of the above

45. Which of the following determines group life ?

- (1) We feeling (2) Feeling of unity  
(3) Common purpose (4) All of the above

46. Village Panchayat or Gram Panchayat is headed by

- (1) Gram Sevak (2) Gram Sabha  
(3) Sahapati (4) Sarpanch

47. According to Allport (1935), It is a mental state of readiness, organised through experience, exerting a directive and dynamic influence upon the individual's response to all objects and situations with which it is related. It refers to

- (1) Interests (2) Emotions  
(3) Wishes (4) Attitudes

48. Which of the following factors influence the selection of extension teaching methods and aids ?

- (1) Audience (2) Teaching objectives  
(3) Subject matter (4) All of the above

49. Which of the following is an example of instinct ?
- (1) Inspiration from the teacher or extension worker and the method of teaching followed by them to create love for a particular subject.
  - (2) Love of a mother for her child, suckling of a baby.
  - (3) Failure is likely to induce a gloomy, resentful mood.
  - (4) Child afraid of dog.
- 
50. A family in which determination of descent and property inheritance take place along the female line is
- (1) Patrilineal family
  - (2) Matrilineal family
  - (3) Matrilineal family
  - (4) Patrilineal family
- 
51. Which is a special type of communication, where the messages are concerned with new ideas ?
- (1) Diffusion
  - (2) Innovation
  - (3) Learning
  - (4) Teaching
- 
52. The first Chairman of National Planning Committee was
- (1) Dr. Babasaheb Ambedkar
  - (2) Dr. Rajendra Prasad
  - (3) Pt. Jawaharlal Nehru
  - (4) Mahatma Gandhi
- 
53. The communication process according to Schramm (1961) involves
- (1) Communicator – Message – Channel – Treatment – Audience – Response
  - (2) Source – Message – Channel – Receiver – Effects
  - (3) Source – Encoder – Signal – Decoder – Destination
  - (4) Source – Transmitter – Signal – Receiver – Destination
- 
54. The first step in extension programme planning is
- (1) Collect facts
  - (2) Identify problems
  - (3) Develop plan of work
  - (4) Decide an objective

55. Which of the following qualities is/are essential for local leaders ?

- a. Mental ability  
b. Sense of purpose  
c. Love for people  
d. None of the above

**Answer Options :**

- (1) Only a and b  
(2) Only a, b and c  
(3) Only c  
(4) Only d

56. The amount of money available with the private individuals to spend is known as

- (1) Disposable income  
(2) Personal income  
(3) Private income  
(4) National income

57. If Y is a product (output) and X is an input, then MP is equal to

- (1)  $\frac{X}{Y}$   
(2)  $\frac{Y}{X}$   
(3)  $\frac{\Delta X}{\Delta Y}$   
(4)  $\frac{\Delta Y}{\Delta X}$

58. Market \_\_\_\_\_ refers to the market situation that is likely to prevail in the near future.

- (1) News  
(2) Intelligence  
(3) Outlook  
(4) Agent

59. Those middlemen who take title to the product with a view to making a profit on it are called \_\_\_\_\_ middlemen.

- (1) Facilitative  
(2) Merchant  
(3) Speculative  
(4) Agent

60. The Wants-Efforts-\_\_\_\_\_ sums up the subject matter of economics.

- (1) Money  
(2) Satisfaction  
(3) Returns  
(4) None of the above

61. In the 12<sup>th</sup> Five Year Plan (FYP), the percentage of agriculture and allied sectors to total outlays was \_\_\_\_\_ percent.

- (1) 20.5
  - (2) 19.7
  - (3) 17.30
  - (4) 15.00
- 

62. Consumer's \_\_\_\_\_ is what we are prepared to pay minus what we actually pay.

- (1) Behaviour
  - (2) Habit
  - (3) Surplus
  - (4) Willingness
- 

63. The quantity of produce that farmers actually sell in the market is termed as

- (1) Marketable surplus
  - (2) Marketed surplus
  - (3) Consumer's surplus
  - (4) None of the above
- 

64. As on July 2016, the total number of members in the body of WTO were

- (1) 164
  - (2) 154
  - (3) 174
  - (4) 184
- 

65. Under Uruguay Round (UR) agreement in 1994, price support was considered trade distorting and was classified under \_\_\_\_\_ Box subsidies.

- (1) Amber
  - (2) Blue
  - (3) Green
  - (4) Yellow
- 

कच्च्या कामासाठी जागा / SPACE FOR ROUGH WORK

66. Amongst all the vitamins, vitamin \_\_\_\_\_ and vitamin \_\_\_\_\_ are water soluble vitamins and others are fat-soluble.

- (1) A, B
- (2) B, C
- (3) C, D
- (4) D, E

67. Dark stained rod like or rounded bodies visible under microscope in the nucleus of the cell during metaphase stage of cell division is called

- (1) Gene
- (2) Chiasma
- (3) Allel
- (4) Chromosome

68. Which of the following sentences are related to Sangamneri Goats ?

- a. They are found in Ahmadnagar district of Maharashtra.
- b. They are also known as Tellicherry.
- c. They are jet black in colour.
- d. The colour varies from white, black and brown with spots of other colours.

**Answer Options :**

- (1) Only a and b
- (2) Only b and c
- (3) Only a and d
- (4) Only a and c

69. The commonly used energy and protein source in Poultry diets are \_\_\_\_\_ and \_\_\_\_\_ in our country.

- (1) Jowar, Fish meal
  - (2) Maize, Soybean meal
  - (3) Oats, Groundnut meal
  - (4) Rice, Rapeseed meal
- 

70. Commercial layer birds are produced by \_\_\_\_\_, whereas, the commercial broiler birds are produced by \_\_\_\_\_.

- (1) Inbreeding, Mass selection
  - (2) Outbreeding, Strain crossing
  - (3) Cross breeding, Strain crossing
  - (4) Strain crossing, Cross breeding
- 

71. Caprylic acid is

- (1) Essential amino acid
  - (2) Saturated fatty acid
  - (3) Unsaturated fatty acid
  - (4) Fat soluble vitamin
- 

72. The milk is fermented into Dahi with the help of the following bacteria :

- a. *Streptococcus thermophilus*
- b. *Lactobacillus bulgaricus*
- c. *Saccharomyces cerevisiae*
- d. *Aspergillus niger*

Which of the options given above is/are correct ?

- (1) Only a and b
  - (2) Only b, c and d
  - (3) Only a
  - (4) Only a and d
- 

कच्च्या कामासाठी जागा / SPACE FOR ROUGH WORK



73. Which of the following is the practice of breeding sire of a given breed to non-descript female and their offspring for generation after generation ?

- (1) Criss crossing
  - (2) Grading up
  - (3) Top crossing
  - (4) Back crossing
- 

74. Very good quality silage should have pH between

- (1) 3.5 to 4.2
  - (2) 1.5 to 2.5
  - (3) 5.5 to 6.5
  - (4) 4.5 to 4.8
- 

75. The acidity and pH of fresh milk varies with

- a. Breed
- b. Species
- c. Stage of lactation
- d. Health of the animal

Which of the options given above is/are correct ?

- (1) Only a
  - (2) Only b and c
  - (3) Only a and d
  - (4) All of the above
-

76. Sodium nitrate is a/an

- a. Anticaking agent
- b. Antioxidant
- c. Curing agent
- d. Colorant

**Answer Options :**

- (1) Only a
- (2) Only a and b
- (3) Only c
- (4) Only a and d

---

77. Substances added to fats or fat containing foods to retard the oxidative breakdown of fatty acids during storage are known as

- a. Antifoaming agents
- b. Antiaging agents
- c. Antinazing agents
- d. Antioxidants

**Answer Options :**

- (1) Only a and b
- (2) Only b
- (3) Only b and c
- (4) Only d

78. Which of the following is biodegradable plastic ?

- a. Polypropylene
- b. Polyhydroxybutyrate
- c. HDPE
- d. LDPE

**Answer Options :**

- (1) Only a
- (2) Only b
- (3) Only a and c
- (4) Only d

---

79. In preservation of fruits and vegetable products, potassium metabisulphite is used as a stable source of

- (1) Sulphur dioxide
- (2) Carbon dioxide
- (3) Sodium benzoate
- (4) All of the above

---

80. Fruits and vegetables turn brown when bruised or cut due to

- (1) Caramelization
- (2) Enzymatic Browning
- (3) Sulfating
- (4) Dehydration

81. It is maturation of male and female structures of flower in plant at different times to reduce chances of self-fertilization and enhance outcrossing.

- (1) Dichasium (2) Diastase  
(3) Dichogamy (4) Dicliny

82. The interpretation of Mendelian genetics is based on

- a. Frequencies b. Assumptions  
c. Genetic ratios d. Mean values

**Answer Options :**

- (1) Only a and c (2) Only d  
(3) Only a and d (4) Only b

83. DNA is a polymer of

- a. Nucleotides b. Amino acids  
c. Nucleosides d. None of the above

**Answer Options :**

- (1) Only c (2) Only a and b  
(3) Only a and c (4) Only a

84. It is a sequence of three nucleotides that can code for one specific amino acid in a polypeptide chain.

- (1) Codon (2) Anticodon (3) Cistron (4) Cofactor

85. The progeny of single homozygous plant of a self-pollinated species and variation within it is

- (1) Pureline heritable (2) Pureline non-heritable  
(3) Multiline heritable (4) Multiline non-heritable

86. Certified foundation seed is the progeny of breeder seed with which colour tag ?

- (1) White (2) Blue (3) Yellow (4) Brown

87. Manga Bamboo is commercially cultivated in \_\_\_\_\_ district of Maharashtra.

- a. Gondia
- b. Sindhndurg
- c. Nashik
- d. Osmanabad

**Answer Options :**

- (1) Only a
- (2) Only b
- (3) Only a and b
- (4) All of the above

88. Plant variety should have \_\_\_\_\_ eligibility criteria for registration of plant variety under PPVFRA, 2001.

- a. Novel
- b. Unifrom and Stable
- c. Distinct
- d. All of the above

**Answer Options :**

- (1) Only a and b
- (2) Only b and c
- (3) Only c and d
- (4) Only d

89. The total of all the chemical reactions that takes place in an organism is called

- a. Catabolism
- b. Anabolism
- c. Metabolism
- d. None of the above

**Answer Options :**

- (1) Only d
- (2) Only a and c
- (3) Only c
- (4) Only b

90. Light phase of photosynthesis takes place in

- a. Vacuole  
b. Grana  
c. Stroma  
d. None of the above

**Answer Options :**

- (1) Only a  
(2) Only d  
(3) Only b  
(4) Only b and c

91. A stimulated cell will often release calcium ions from its

- a. Nucleus  
b. Mitochondria  
c. Endoplasmic reticulum  
d. Lysosomes

**Answer Options :**

- (1) Only c  
(2) Only d  
(3) Only a and d  
(4) Only c and d

92. Which is the maintainer line used in production of hybrid seeds ?

- (1) A line  
(2) R line  
(3) B line  
(4) P line

93. Which method is useful for recovering virus-free plants from virus-infected plants ?

- (1) Embryo culture  
(2) Pollen culture  
(3) Root culture  
(4) Meristem culture

94. For humans, \_\_\_\_\_ is a statistical tool used to test for possible linkage between two genetic loci.

- a. Chi square  
b. Lod score method  
c. Student test  
d. ANOVA

**Answer Options :**

- (1) Only a and c  
(2) Only b  
(3) Only c and b  
(4) Only d

95. The stomata closed in water stressed plants due to accumulation of ABA is in

- (1) Mesophyll cells  
(2) Subsidiary cells  
(3) Guard cells  
(4) All of the above

कच्च्या कामासाठी जागा / SPACE FOR ROUGH WORK

96. The development of embryo without fertilization is known as

- |                    |             |
|--------------------|-------------|
| a. Apogamy         | b. Adnogamy |
| c. Parthenogenesis | d. Apospory |

**Answer Options :**

- |                  |                     |
|------------------|---------------------|
| (1) Only a and c | (2) Only b          |
| (3) Only a       | (4) Only a, c and d |

97. In photosynthesis, dark reaction or Blackman's reaction is

- (1) Enzymatic and occurs in the absence of light
- (2) Non enzymatic and occurs in the absence of light
- (3) Enzymatic and independent of light
- (4) Non-enzymatic and occurs in the presence of light

98. Desirable linkage can be broken more effectively by

- |                     |                             |
|---------------------|-----------------------------|
| a. Pedigree method  | b. Diallel selective mating |
| c. Backcross method | d. Bulk method              |

**Answer Options :**

- |            |                  |
|------------|------------------|
| (1) Only b | (2) Only a and c |
| (3) Only a | (4) Only c       |

99. Recalcitrant seeds are also known as

- (1) Desiccation tolerant seeds
- (2) Desiccation sensitive seeds
- (3) Orthodox seeds
- (4) Long lived seeds

100. \_\_\_\_\_ is a vector of rice grassy stunt virus.

- |                                      |                                     |
|--------------------------------------|-------------------------------------|
| (1) <i>Nilaparvata lugens</i>        | (2) <i>Leptocorisa acuta</i>        |
| (3) <i>Stenchaetothrips biformis</i> | (4) <i>Cnaphalocrosis medinalis</i> |

## 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 :

**Q.No. 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 सोबत उत्तर-क्रमांक “(3)” हे वर्तुळ पूर्णपणे छायांकित करून दाखविणे आवश्यक आहे.

प्र.क्र. 201. (1) (2) (3) (4)

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

रुचच्या कामासाठी जागा / SPACE FOR ROUGH WORK