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Maharashtra Agricultural Officer (Mains)

**Previous Year Paper
(Agricultural Science &
Tech.) Paper-II 01 Oct, 2022**



महाराष्ट्र रसपत्रित लॉजिस्टिक सेवा (मुख्य) स्पर्धा परीक्षा - 2021

प्रश्नपुस्तिका क्रमांक

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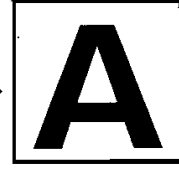
कृषि सेवा (मुख्य) परीक्षा 2021

परीक्षा दि. 09 ऑक्टोबर 2021



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203557

Paper - II

Agricultural Science and Technology

वेळ : 1 (एक) तास

एकूण प्रश्न : 100

एकूण गुण : 200

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. तसेच अन्य काही दोष आढळल्यास ही प्रश्नपुस्तिका समवेक्षकांकडून लगेच बदलून घ्यावी.
 - (2) आपला परीक्षा-क्रमांक ह्या चौकोनांत न विसरता बॉलपेनने लिहावा.
- परीक्षा-क्रमांक

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केंद्राची संकेताक्षरे शेवटचा अंक
- (3) वर छापलेला प्रश्नपुस्तिका क्रमांक तुमच्या उत्तरपत्रिकेवर विशिष्ट जागी उत्तरपत्रिकेवरील सूचनेप्रमाणे न विसरता नमूद करावा.
 - (4) या प्रश्नपुस्तिकेतील प्रत्येक प्रश्नाला 4 पर्यायी उत्तरे सुचविली असून त्यांना 1, 2, 3 आणि 4 असे क्रमांक दिलेले आहेत. त्या चार उत्तरांपैकी सर्वात योग्य उत्तराचा क्रमांक उत्तरपत्रिकेवरील सूचनेप्रमाणे तुमच्या उत्तरपत्रिकेवर नमूद करावा. अशा प्रकारे उत्तरपत्रिकेवर उत्तरक्रमांक नमूद करताना तो संबंधित प्रश्नक्रमांकासमोर छायांकित करून दर्शविला जाईल याची काळजी घ्यावी. ह्याकरिता फक्त काळ्या शाईचे बॉलपेन वापरावे, पेन्सिल वा शाईचे पेन वापरू नये.
 - (5) सर्व प्रश्नांना समान गुण आहेत. यास्तव सर्व प्रश्नांची उत्तरे द्यावीत. घाईमुळे चुका होणार नाहीत याची दक्षता घेऊनच शक्य तितक्या वेगाने प्रश्न सोडवावेत. क्रमाने प्रश्न सोडविणे श्रेयस्कर आहे पण एखादा प्रश्न कठीण वाटल्यास त्यावर वेळ न घालविता पुढील प्रश्नाकडे वळावे. अशा प्रकारे शेवटच्या प्रश्नापर्यंत पोहोचल्यानंतर वेळ शिल्लक राहिल्यास कठीण म्हणून वगळलेल्या प्रश्नांकडे परतणे सोईस्कर ठरेल.
 - (6) उत्तरपत्रिकेत एकदा नमूद केलेले उत्तर खोडता येणार नाही. नमूद केलेले उत्तर खोडून नव्याने उत्तर दिल्यास ते तपासले जाणार नाही. एकापेक्षा जास्त उत्तरे नमूद केल्यास ते उत्तर चुकीचे धरले जाईल व त्या चुकीच्या उत्तराचे गुण वजा केले जातील.
 - (7) प्रस्तुत परीक्षेच्या उत्तरपत्रिकांचे मूल्यांकन करताना उमेदवाराच्या उत्तरपत्रिकेतील योग्य उत्तरांनाच गुण दिले जातील. तसेच “उमेदवाराने वस्तुनिष्ठ बहुपर्यायी स्वरूपाच्या प्रश्नांची दिलेल्या चार उत्तरांपैकी सर्वात योग्य उत्तरेच उत्तरपत्रिकेत नमूद करावीत. अन्यथा त्यांच्या उत्तरपत्रिकेत सोडविलेल्या प्रत्येक चुकीच्या उत्तरांसाठी 25% किंवा 1/4 गुण वजा/कमी 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 कार्यकारीवृंदापैकी, तसेच परीक्षेच्या पर्यवेक्षकीयवृंदापैकी असली तरीही अशा व्यक्तीविरूद्ध उक्त अधिनियमानुसार कारवाई करण्यात येईल व दोषी व्यक्ती शिक्षेस पात्र होईल.

पुढील उरणा प्रश्नपुस्तिकेच्या अंतिम पृष्ठावर पहा

पर्यवेक्षकांच्या सूचनेविना ही सील उघडू नये



कच्च्या कामासाठी जागा / SPACE FOR ROUGH WORK



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1. Match the following :

Group 'A'		Group 'B'	
a.	Reciprocating pump	I.	When flooding may be a hazard
b.	Rotary pump	II.	Requires priming
c.	Centrifugal pump	III.	For pumping lubricating oils
d.	Submersible pump	IV.	Plunger/Piston displacement

Answer options :

	a	b	c	d
(1)	II	III	IV	I
(2)	IV	I	II	III
(3)	IV	III	II	I
(4)	II	I	IV	III

2. Match the followings :

Group 'A'		Group 'B'	
a.	C.E. Ramser	I.	Most remote point in watershed
b.	Thiessen	II.	Sediment load in runoff
c.	Time of concentrate	III.	Rational formula
d.	Coshocton wheel sampler	IV.	Average depth of Rainfall

Answer options :

	a	b	c	d
(1)	IV	III	II	I
(2)	III	IV	I	II
(3)	II	III	IV	I
(4)	III	I	IV	II

3. As compared to green fodder, there is some loss of nutritive value in silage by

- the conversion of sugars into lactic acid
- producing a sour taste
- surface spoilage
- fermentation and seepage

Answer options :

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

कच्चा कामासाठी जागा / SPACE FOR ROUGH WORK

P.T.O.

4. The minimum wind speed of _____ is considered to be useful for working of windmills for agricultural purpose.
- (1) 5 km/hr (2) 10 km/hr (3) 15 km/hr (4) 20 km/hr

5. The USLE is a
- Conceptual Model
 - Process-Based Model
 - Empirical Model
 - None of the above

Answer options :

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

6. Which are the direct methods of moisture measurement of the grain sample ?
- Electrical resistance
 - Dielectric method
 - Air-oven drying
 - Distillation

Answer options :

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

7. Blaney-Criddle method is one of the best known procedures for estimating
- Transpiration
 - Potential-evapotranspiration
 - Evaporation
 - Evapotranspiration

Answer options :

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

8. Identify the type of Engine based on the following description :
- The injector and fuel pump are the heart of this engine.
 - The compression ratio of this engine is 14 : 1 to 22 : 1.
 - The fuel consumption of this engine is 160 to 200 g/bhp/hr.
 - Thermal efficiency of this engine varies between 32 to 38 percent.

Answer options :

- (1) Steam engine (2) Gas engine (3) Petrol engine (4) Diesel engine

कच्च्या कामासाठी जागा / SPACE FOR ROUGH WORK

9. Removal of male bud after completion of female phase in banana is called _____.
(1) Pinching (2) Denavelling
(3) Mattocking (4) Desuckering
-
10. Candy queen is the _____ coloured variety of anthurium.
(1) Red (2) Pink (3) White (4) Orange
-
11. The only bean which can withstand sufficiently cold temperature is
(1) Dolichos bean (2) Cluster bean
(3) Winged bean (4) Broad bean
-
12. Which species of durian is the only commercially cultivated species in the world ?
(1) *D. Graveolens* (2) *D. Kutejensis*
(3) *D. Zibethinus* (4) *D. Lowianus*
-
13. Best carnation flowers can be produced when carbon dioxide concentration in polyhouse is maintained at _____ ppm during day time under high light intensity and temperature range of 14°C – 15°C.
(1) 300 (2) 500 (3) 700 (4) 900
-
14. _____ is a treatment of product by exposing it to gamma radiation from radioactive source or electrons under controlled conditions.
(1) Radioactivity (2) Ionizing radiation
(3) Irradiation (4) Isotherm
-
15. The Central Tuber Crops Research Institute is situated at _____.
(1) Tiruchirappalli
(2) Thiruvanthapuram
(3) Periyakulam
(4) Coimbatore
-
16. The principal constituent present in thyme oil is
(1) Furfural
(2) Carvacrol
(3) Sennosides
(4) Galactogogue

कच्च्या कामासाठी जागा / SPACE FOR ROUGH WORK

P.T.O.

17. In India, GE organisms or cells and non-GE hazardous microorganisms and products thereof are regulated as per the Rules _____ under EPA-1986.
- (1) 1987 (2) 1988
(3) 1989 (4) 1986
-
18. In _____ gene detection technique, antibodies are used to detect specific proteins.
- (1) Gel electrophoresis (2) Southern blotting
(3) Northern blotting (4) Western blotting
-
19. _____ organism secretes a mucous-like polysaccharide which helps in the attachment of various bacterial species to filter surfaces and floc formation in sewage treatment.
- (1) *Zoogloea ramigera* (2) *Aerobacter aerogenes*
(3) *Acetobacter aceti* (4) *Bacillus subtilis*
-
20. Which of the following method does **not** make use of restriction enzymes ?
- (1) RAPD
(2) RFLP
(3) AFLP
(4) None of the above
-
21. Which one of the following is **not** true regarding PCR technique ?
- (1) It is fast and unexpensive
(2) It requires large amount of DNA
(3) It permits in-vitro multiplication of DNA
(4) It is extremely sensitive
-
22. Which of the following microorganism contains astaxanthin pigment ?
- (1) *Saccharomyces cerevisiae* (2) *Aspergillus oryzae*
(3) *Phaffia rhodozyma* (4) *Candida albicans*
-
23. The aerobic plate count of bacteria in dry cereal mixes is _____
- (1) 10^2 to 10^5 per gram (2) 10^2 to 10^6 per gram
(3) 10^2 to 10^4 per gram (4) 10^2 to 10^3 per gram
-

कच्चा कामासाठी जागा / SPACE FOR ROUGH WORK

24. Dehydration in vacuum can bring down the moisture content of fruits to
- (1) 1 – 3%
 - (2) 3 – 5%
 - (3) 5 – 7%
 - (4) 7 – 9%
-
25. Which of the following enzyme is used in citrus juice extraction ?
- (1) α -Amylase
 - (2) Catalase
 - (3) Pectinase
 - (4) Lactase
-
26. _____ is synthesized by bacteria in the human intestinal tract.
- | | |
|---------------|---------------|
| (1) Vitamin D | (2) Vitamin C |
| (3) Vitamin A | (4) Vitamin K |
-
27. Which carbohydrate is only found in milk and thus can be present in foods made from milk ?
- a. Lactose
 - b. Galactose
 - c. Xylose
 - d. Mannose
- Answer options :**
- (1) a and b only
 - (2) b and c only
 - (3) a and d only
 - (4) a only
-
28. High hydrostatic pressure used in food processing primarily acts on
- (1) Ionic and hydrogen bonds
 - (2) Ionic and covalent bonds
 - (3) Hydrogen and covalent bonds
 - (4) Covalent and hydrophobic interactions
-
29. The most common pasteurization followed in dairy is carried out at
- (1) 72°C for 15 seconds
 - (2) 63°C for 3 seconds
 - (3) 72°C for 5 seconds
 - (4) 85°C for 1 second

कच्चा कामासाठी जागा / SPACE FOR ROUGH WORK

P.T.O.

30. Which of the following situations show that a farm business has a healthy and profitable performance ?
- The current ratio is greater than 1
 - The current liability ratio is greater than 1
 - Debt equity ratio is less than 1
 - Gross ratio is less than 1

Answer options :

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

31. With reference to Break-even Analysis during project evaluation
- The lower the break-even-point, the greater the prospects of the project earning profit.
 - The difference between the projected use of the installed capacity and the break-even point is referred to as the "margin of safety".
 - The smaller the safety margin, the better.
 - The break-even point is the floor level or danger level below which production is expected to fall.

Which of the above statements is/are correct ?

Answer options :

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

32. The GoM has adopted "Cup and Cap Model" of crop insurance approach in Kharif 2022 season in implementation of PMFBY scheme.

With respect to this, which of the following statements is/are incorrect.

- The State Government will pay claims in excess of a 110% loss ratio within a notified cluster.
- When the notified cluster loss ratio is equal to 80%; the insurance company retains 20% of the premium and pays all the claims.
- Implementation of Cup and Cap approach could reduce private insurance company profits in good years of crop harvest as compared to earlier PMFBY implementation approach.
- Farmers' premium rates are increased in "Cup and Cap Model" over last year's premium rates.

Answer options :

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

कच्चा कामासाठी जागा / SPACE FOR ROUGH WORK

33. Pond constructed for milk fish culture is known as

- a. 'Stew' pond
- b. 'Garden' pond
- c. 'Raceway' pond
- d. 'Tambak' pond

Answer options :

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

34. 'Trepang' is a product prepared from

- a. Seaweed
- b. Sea cucumber
- c. Lobster tail
- d. Frog legs

Answer options :

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

35. For mercerising process clothes are

- (1) Put in 10 to 15 percent caustic soda solution for 2 to 3 minutes.
- (2) Put in 15 to 20 percent caustic soda solution for 1/2 to 2 minutes.
- (3) Put in 18 to 22 percent caustic soda solution for 1 to 3 minutes.
- (4) Put in 20 to 25 percent caustic soda solution for 2 to 4 minutes.

36. Write the correct sequence of decision-making process :

- a. Define the problem
- b. Select an alternative
- c. Seek an alternative solution
- d. Accept responsibility for the decision
- e. Think through alternatives

Answer options :

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

कच्च्या कामासाठी जागा / SPACE FOR ROUGH WORK

P.T.O.

37. General principles of organic farming are to
- produce food with high yield.
 - encourage and enhance biological cycles within the farming system.
 - avoid pollution resulting from agricultural techniques.
 - maintain and increase soil fertility in long run.

Answer options :

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

-
38. Weed not native of a country is known as _____.

- | | |
|--------------------|------------------------|
| (1) Obligate weed | (2) Objectionable weed |
| (3) Satellite weed | (4) Alien weed |

-
39. Response of living organism to regular changes in temperature, either day or night or seasonal is termed as _____.

- | | |
|---------------------|-------------------------|
| (1) Photoperiodism | (2) Diurnal temperature |
| (3) Thermoperiodism | (4) Crop growth |

-
40. Rainfed Farming Systems should include _____.

- Reducing soil erosion
- Improving soil conservation
- Inclusion of legumes and cover crops in crop rotations
- Avoiding use of organic wastes

Answer options :

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

-
41. Weeds like *Echinochloa colonum*, *E. Crus-galli* are always associated with _____ crop.

- | | |
|--------------|-------------|
| (1) Rice | (2) Sorghum |
| (3) Chickpea | (4) Maize |

-
42. Indian Institute of Farming Systems Research is located at

- | | |
|-----------------------------|----------------------|
| (1) New Delhi | (2) Modipuram-Meerut |
| (3) Rajendranagar-Hyderabad | (4) Coimbatore |

कच्चा कामासाठी जागा / SPACE FOR ROUGH WORK

43. Plants with crassulacean acid metabolism are highly drought-resistant. The economic plants with this type of photosynthesis are _____.

- a. Sorghum
- b. Agave
- c. Safflower
- d. Pineapple

Answer options :

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

44. Unfilled pods (pops) in groundnut are due to the deficiency of

- | | |
|---------------|---------------|
| (1) Potassium | (2) Calcium |
| (3) Sulphur | (4) Magnesium |

45. The fraction of the total rainfall available for the consumptive use of crop is called _____.

- | | |
|------------------------|---------------------------|
| (1) Evapotranspiration | (2) Frequency of rainfall |
| (3) Effective rainfall | (4) Intensity of rainfall |

46. Most critical growth stages for irrigation in maize are

- (1) Tasseling and Silking
- (2) Silking and Dough
- (3) Early vegetative growth and Dough
- (4) Tasseling and Dough

47. The proportion of incident solar energy that is reflected or the reflection coefficient for incoming solar radiation is called _____.

- | | |
|----------------------|-----------------------|
| (1) Sunrays | (2) Albedo |
| (3) Refractive index | (4) None of the above |

48. In Marathwada and Vidarbha regions of Maharashtra, irrigated cotton sowing is advocated in the month of

- | | |
|--------------------|--------------------|
| (1) May 5 to 25 | (2) March 15 to 20 |
| (3) April 15 to 25 | (4) June 25 to 30 |

कच्चा कामासाठी जागा / SPACE FOR ROUGH WORK

P.T.O.

49. Farming system is mainly classified into
- (1) Collective farming and Cultivated farming.
 - (2) Conventional farming and Organic farming.
 - (3) Intensive farming and Precision farming.
 - (4) Conventional farming and Precision farming.
-
50. The main function of chloroplasts is
- (1) Respiration
 - (2) Chlorosis
 - (3) Photosynthesis
 - (4) Photophosphorylation
-
51. Which variety is usually created by mixing seeds of several lines that are similar in appearance but have different genes for resistance to a given disease ?
- (1) Biotech
 - (2) Multiline
 - (3) Hybrid
 - (4) All of the above
-
52. Enzymes are
- (1) Made of pure protein
 - (2) Having high molecular weight
 - (3) Not stable beyond 40°C
 - (4) All of the above
-
53. The synchrony in flowering of seed and pollinator parent is termed as
- (1) Staggering
 - (2) Nicking
 - (3) Pollination
 - (4) Synchronization
-
54. Phenotypic variation within the clone is purely
- (1) Genetic
 - (2) Environmental
 - (3) Phenotypic
 - (4) Mutation
-
55. The invention that colchicine could be used to double the number of chromosomes is associated with scientist
- (1) Wilson
 - (2) Morgan
 - (3) Blakeslee
 - (4) Painter
-

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56. If two cells A and B are in contact with each other, the cell A has a pressure potential of 4 bars and contains sap with an osmotic potential of -12 bars. Cell B has pressure potential of 2 bars and contains sap with osmotic potential of -5 bars, then water will move from
- (1) Cell B to cell A
 - (2) Cell A to cell B
 - (3) Cell A to outer atmosphere
 - (4) None of the above
-
57. In monocotyledonous roots the single, outermost layer with a number of unicellular root hairs is known as
- (1) Pith
 - (2) Cortex
 - (3) Pericycle
 - (4) Epiblema
-
58. The phenomenon of mature cells reverting to a meristematic state and forming undifferentiated callus tissue is termed as
- (1) Cytodifferentiation
 - (2) Dedifferentiation
 - (3) Redifferentiation
 - (4) Totipotency
-
59. Availability of P to plant is controlled by the mutual interplay of factors such as
- (1) quantity only
 - (2) quantity and intensity only
 - (3) intensity and phosphate buffering capacity only
 - (4) quantity, intensity and phosphate buffering capacity
-
60. The blue, green algae is also known as
- (1) *Anabaena azollae*
 - (2) *Penicillium digitatum*
 - (3) Cyanobacteria
 - (4) None of the above
-
61. What is the zinc content in the zinc sulphate heptahydrate fertilizer ?
- (1) 19.4%
 - (2) 12%
 - (3) 21%
 - (4) 33%

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62. The relative difficulty with which common cations can be replaced or removed from the exchange complex leading to increased flocculation of the clay particles is in the order of

- (1) $\text{Al}^{3+} > \text{Ca}^{2+} > \text{Mg}^{2+} > \text{K}^+ > \text{Na}^+$ (2) $\text{Na}^+ > \text{K}^+ > \text{Mg}^{2+} > \text{Ca}^{2+} > \text{Al}^{3+}$
(3) $\text{Mg}^{2+} > \text{Ca}^{2+} > \text{Al}^{3+} > \text{Na}^+ > \text{K}^+$ (4) $\text{K}^+ > \text{Na}^+ > \text{Al}^{3+} > \text{Ca}^{2+} > \text{Mg}^{2+}$

63. According to land capability classification _____ land is suitable for wildlife and watershed.

- (1) Class VI (2) Class VII
(3) Class VIII (4) Class VI and Class VII

64. Bulk density of soil =

- (1) $\frac{\text{wt. of soil mass}}{\text{soil volume}}$ (2) $\frac{\text{soil volume}}{\text{wt. of soil mass}}$
(3) $\frac{\text{soil diameter}}{\text{soil mass}}$ (4) None of the above

65. Which of the following Fertilizer is more suitable in Acidic Soils ?

- (1) Ammonium Sulfate (2) Ammonium Chloride
(3) Calcium ammonium nitrate (4) Hydrous ammonia

66. In land capability classification Class-II is shown as colour

- (1) green on maps (2) brown on maps
(3) yellow on maps (4) red on maps

67. Which of the following is the daily dry matter requirement as per weight in goats ?

- (1) 10 to 15% (2) 8 to 10%
(3) 20 to 25% (4) 3 to 5%

68. Comprehensive Crop Insurance Scheme (CCIS) was introduced by General Insurance Company (GIC) in all States in the year _____.

- (1) 1985 (2) 1995
(3) 1980 (4) 1990

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69. Non-protein nitrogenous sources being used successfully for ruminants are

- a. Ammonium acetate
- b. Ammonium bicarbonate
- c. Ammonium carbonate
- d. Ammonium lactate

Answer options :

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

70. During semen collection of bulls the inner temperature of Artificial Vagina should be between _____.

- (1) 42°C to 46°C
- (2) 47°C to 52°C
- (3) 38°C to 40°C
- (4) 25°C to 37°C

71. Zinc is an integral part of the enzyme _____ which is present in high concentration in blood cells.

- (1) Trypsin
- (2) Choline
- (3) Carbonic anhydrase
- (4) Riboflavin

72. _____ hormone is used for superovulation in cows for embryo transfer.

- (1) Luteinising hormone
- (2) Oestrogen
- (3) Progesterone
- (4) Follicle-stimulating hormone

73. Necessities, comforts and luxuries are the categories of

- (1) Wealth
- (2) Price
- (3) Wants
- (4) Needs

74. Which law says that the more a commodity that an individual possesses, the less is the utility that is derived from it ?

- (1) Law of equimarginal utility
- (2) Law of competition
- (3) Law of diminishing marginal utility
- (4) Law of minimum

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75. When was GATT signed by 23 countries for the first time ?
(1) 1946 (2) 1945 (3) 1948 (4) 1949
-
76. The capital based on place that is generated from the domestic savings of the public in a nation is called _____ capital.
(1) Internal (2) Auxiliary
(3) Floating (4) Remunerative
-
77. As per the Census 2011, _____ percent of the population is engaged in agriculture and allied activities in India.
(1) 74.7 (2) 60.5 (3) 54.6 (4) 65.1
-
78. When the cost of inputs and input services are expressed at constant prices they become the _____ cost.
(1) Opportunity (2) Economic
(3) Deflated (4) Real
-
79. Systematically designed, spatially indexed approach for organizing information about places or regions in order to facilitate analysis of relationships between different social, economic and environmental variables is
(1) GPS (2) GIS (3) RS (4) SPSS
-
80. A committee of Rural Sociologists suggested a five-stage model in farm practices adoption – sequentially it follows as below :
(1) Interest → Awareness → Evaluation → Trial → Adoption
(2) Awareness → Interest → Evaluation → Trial → Adoption
(3) Planning → Awareness → Evaluation → Adoption
(4) Evaluation → Planning → Trial → Adoption
-
81. Which is the first step in extension programme planning ?
(1) Reconsideration (2) Identify problems
(3) Analyse situation (4) Collection of facts
-
82. The birth of 'Rural Sociology' stemmed
(1) due to need of educational institutes
(2) as a result of the rural problems in the field
(3) due to policy decisions of the government
(4) due to better communication in rural areas
-

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83. Which of the following principles in extension administration is also known as 'Scalar Process' ?
- (1) Principle of Hierarchy
 - (2) Principle of Authority
 - (3) Principle of Span of Control
 - (4) Principle of Organisational Structure
-
84. Under which method of training do a small group of knowledgeable persons discuss a given problem and are asked to produce as many solutions as possible within a given period ?
- (1) Buzz session
 - (2) Brainstorming
 - (3) Syndicate method
 - (4) Case study
-
85. The degree to which an innovation is perceived as better than the idea it supersedes is called _____.
- (1) Compatibility
 - (2) Relative advantage
 - (3) Complexity
 - (4) Observability
-
86. _____ is an insect growth regulator proved effective against a number of sucking pests.
- (1) Cyantraniliprole
 - (2) Fipronil
 - (3) Pyriproxyfen
 - (4) Propargite
-
87. Entomopathogenic nematodes in family Heterorhabditidae have mutualistic association with _____.
- (1) *Nosema*
 - (2) *Photorhabdus*
 - (3) *Bacillus*
 - (4) Baculovirus
-
88. Scarabaeiform larvae are found in order _____.
- (1) Odonata
 - (2) Coleoptera
 - (3) Diptera
 - (4) Lepidoptera
-
89. Moniliform type of antennae are found in _____.
- (1) Termites
 - (2) Grasshoppers
 - (3) Moths
 - (4) Weevils
-
90. *Emmalocera depressella* is the scientific name of sugarcane _____.
- (1) Top shoot borer
 - (2) Root borer
 - (3) Scale
 - (4) Internode borer

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91. In occasional pests, GEP touches EIL for insect pests in approximately how many years ?
- (1) Less than 2 years
 - (2) Between 2 to 5 years
 - (3) More than 16 years
 - (4) Between 10 to 15 years

92. The spear is an important characteristic used for identification of
- (1) Mollusca
 - (2) Arthropodes
 - (3) Insects
 - (4) Nematodes

93. Match the following :

	Group 'A'		Group 'B'
a.	Woronin	I.	Nematode
b.	Needham	II.	Protozoan Myxomycetes
c.	Beijerinck	III.	Bacteria
d.	Burrill	IV.	Virus

Answer options :

	a	b	c	d
(1)	I	II	III	IV
(2)	IV	III	II	I
(3)	II	I	IV	III
(4)	III	IV	I	II

94. Science that deals with the study of algae is _____.

- (1) Psychology
- (2) Phycology
- (3) Phytology
- (4) All of the above

95. Which of the following is the ability of Parasite to interfere with one or more of the essential functions of the plant thereby causing disease ?

- (1) Parasitism
- (2) Hyperparasitism
- (3) Pathogenicity
- (4) Asymbiotic

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96. Early blight of potato and tomato is caused by

- (1) *Ascomycetes SPP*
- (2) *Alternaria SPP*
- (3) *Lirula SPP*
- (4) *Rhizosphora SPP*

97. The "Kresek" symptoms confusing with stem borer in rice are due to the pathogen

- (1) *Pyricularia oryzae*
- (2) *Helminthosporium oryzae*
- (3) *Xanthomonas oryzae pv. oryzicola*
- (4) *Xanthomonas oryzae pv. oryzae*

98. From the following fungicides which falls in the group of green agrochemicals ?

- (1) Benomyl
- (2) Carbendazim
- (3) Fuberidazole
- (4) Thiophanate methyl

99. The X_0 in formula $X = X_0 e^{rt}$ given by Van der Plank in 1963 for plant disease management is

- (1) Infection rate
- (2) Final severity
- (3) Initial inoculum
- (4) Duration of disease development

100. Botanical name of plant parasitic mistletoes is

- (1) *Dendrophthoe falcate*
- (2) *Striga asiatica*
- (3) *Orobanche aegyptiaca*
- (4) *Cuscuta gronovii*

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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 काँपी 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 परीक्षाकक्षाबाहेर 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 समोरील 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 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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