

M. Sc. Ag

12P/202/22

4167

Set No. – I

Question Booklet No. ....

(To be filled up by the candidate by **blue/black ball-point pen**)

Roll No.

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Roll No.

(Write the digits in words) .....

Serial No. of Answer Sheet .....

Day and Date .....

(Signature of Invigilator)

### INSTRUCTIONS TO CANDIDATES

(Use only **blue/black ball-point pen** in the space above and on both sides of the Answer Sheet)

1. Within 10 minutes of the issue of the Question Booklet, check the Question Booklet to ensure that it contains all the pages in correct sequence and that no page/question is missing. In case of faulty Question Booklet bring it to the notice of the Superintendent/Invigilators immediately to obtain a fresh Question Booklet.
2. Do not bring any loose paper, written or blank, inside the Examination Hall *except the Admit Card without its envelope*.
3. A separate Answer Sheet is given. *It should not be folded or mutilated. A second Answer Sheet shall not be provided. Only the Answer Sheet will be evaluated.*
4. Write your **Roll Number and Serial Number of the Answer Sheet by pen** in the space provided above.
5. *On the front page of the Answer Sheet, write by pen your Roll Number in the space provided at the top, and by darkening the circles at the bottom. Also, wherever applicable, write the Question Booklet Number and the Set Number in appropriate places.*
6. No overwriting is allowed in the entries of Roll No., Question Booklet No. and Set No. (if any) on OMR sheet and Roll No. and OMR sheet No. on the Question Booklet.
7. Any changes in the aforesaid entries is to be verified by the invigilator, otherwise it will be taken as unfair means.
8. Each question in this Booklet is followed by four alternative answers. *For each question, you are to record the correct option on the Answer Sheet by darkening the appropriate circle in the corresponding row of the Answer Sheet, by pen as mentioned in the guidelines given on the first page of the Answer Sheet.*
9. For each question, darken only one circle on the Answer Sheet. If you darken more than one circle or darken a circle partially, the answer will be treated as incorrect.
10. *Note that the answer once filled in ink cannot be changed.* If you do not wish to attempt a question, leave all the circles in the corresponding row blank (such question will be awarded zero marks).
11. For rough work, use the inner back page of the title cover and the blank page at the end of this Booklet.
12. Deposit *only the OMR Answer Sheet* at the end of the Test.
13. You are not permitted to leave the Examination Hall until the end of the Test.
14. If a candidate attempts to use any form of unfair means, he/she shall be liable to such punishment as the University may determine and impose on him/her.

[ उपर्युक्त निर्देश हिन्दी में अन्तिम आवरण-पृष्ठ पर दिये गये हैं । ]

Total No. of Printed Pages : 18

No. of Questions : 120

Time : 2 Hours ]

[ Full Marks : 360

*Note :* (i) Attempt as many questions as you can. Each question carries 3 (three) marks. *One mark will be deducted for each incorrect answer. Zero mark will be awarded for each unattempted question.*

(ii) If more than one alternative answers seem to be approximate to the correct answer, choose the closest one.

1. The active factor of soil formation is :

- |                     |             |
|---------------------|-------------|
| (1) Parent material | (2) Climate |
| (3) Relief          | (4) Time    |

2. Black soils (Vertisols) are formed mainly from the weathering of :

- |               |                |             |             |
|---------------|----------------|-------------|-------------|
| (1) Feldspars | (2) Amphiboles | (3) Granite | (4) Basalts |
|---------------|----------------|-------------|-------------|

3. Which soils have the highest cation exchange capacity ?

- |                    |                    |
|--------------------|--------------------|
| (1) Alluvial soils | (2) Red soils      |
| (3) Black soils    | (4) Laterite soils |

4. Plants wilt when soil water content goes below :

- |             |             |           |            |
|-------------|-------------|-----------|------------|
| (1) 0.1 bar | (2) 1/3 bar | (3) 5 bar | (4) 15 bar |
|-------------|-------------|-----------|------------|





23. The famous Indian plant explorer is :
- (1) M. S. Swaminathan (2) Hari Bhajan Singh  
(3) A. B. Joshi (4) Ramanujan
24. The first Intergeneric-cross between bread wheat and rye was made by :
- (1) Kolreuter (2) Vilmorine  
(3) Karpechenko (4) Rimpu
25. Which one is the best extension method for advocating high yielding varieties of wheat ?
- (1) Group discussion (2) Audio-visual Aids  
(3) Demonstration (4) Field day
26. Which one is the most suitable for use in a group of 20 farmers ?
- (1) Demonstration (2) Telecast  
(3) Poster (4) Flip-Chart
27. Which one is most important in conducting a group discussion?
- (1) Informing the local people  
(2) Selecting the appropriate farmers  
(3) Arranging physical facilities for group discussion  
(4) Preparing a VCD of group discussion
28. In a 'questionnaire', the answers are written under socio-economic survey by the :
- (1) Interviewer (2) Respondent  
(3) Extension worker (4) Expert

29. The knowledge of the following subject is most essential in extension education :

- |                        |              |
|------------------------|--------------|
| (1) English literature | (2) History  |
| (3) Rural Sociology    | (4) Agronomy |

30. The following is an adopter category :

- |                         |                        |
|-------------------------|------------------------|
| (1) Agricultural labour | (2) Laggard            |
| (3) Village teacher     | (4) Progressive farmer |

31. Extension Education deals mainly with :

- |                 |                    |
|-----------------|--------------------|
| (1) Rural Women | (2) Rural Youth    |
| (3) Farmers     | (4) Rural Children |

32. The most important principle of Extension Education is :

- (1) Extension programmes must be based on the economic status of the farmers.
- (2) Extension programmes must be based on the felt needs of the people.
- (3) Extension programmes should be based on 'seeing is believing'.
- (4) Extension programmes must be holistic and not sectoral.

33. The most important activity of Extension Education is :

- |              |                   |
|--------------|-------------------|
| (1) Teaching | (2) Guiding       |
| (3) Helping  | (4) Communicating |

34. The major source of income for rural population is :

- |                        |              |
|------------------------|--------------|
| (1) Government service | (2) Business |
| (3) Agriculture        | (4) Artisan  |



44. 'Silver shoots' in paddy are caused by :
- (1) Rice hispa (2) Case worm  
(3) Gall midge (4) Brown plant hopper
45. Mango mealy bug female lays eggs in :
- (1) Soil (2) Leaf mid rib (3) Bark (4) Growing tip
46. Damaging stage of mustard saw fly is :
- (1) Adult (2) Nymph (3) Caterpillars (4) Maggot
47. Kelthane is effective as :
- (1) Nematicide (2) Rodenticide (3) Acaricide (4) Biopesticide
48. Use of trap crop is considered as :
- (1) Physical control (2) Mechanical control  
(3) Cultural control (4) Biological control
49. Crude fibre digestion largely takes place in :
- (1) Rumen (2) Reticulum (3) Abomasum (4) Omasum
50. Chief carbohydrate in milk is :
- (1) Glucose (2) Fructose (3) Lactose (4) Sucrose
51. Heifer is a term given to :
- (1) Male young bull  
(2) Cows after first lactation  
(3) Young female before first parturition  
(4) Adult male





68. Non - Symbiotic anerobic N - fixing bacteria is :
- (1) Azotobacter (2) Clostridium  
(3) Rhizobium Sps. (4) Rhodospirillum
69. Sandy soils are considered as :
- (1) Plastic (2) Non - plastic  
(3) Highly plastic (4) Partially plastic
70. Suitable weedicides as pre-emergence for control of weeds in maize is :
- (1) 2,4 - D (2) Isoproturon (3) Atrazine (4) Butachlor
71. Area under rainfed agriculture in India is :
- (1) 40 - 45% (2) 50 - 55%  
(3) 30 - 40% (4) 60 - 65%
72. Potassium is absorbed by plants in the ionic form :
- (1) K (2)  $K^+$  (3)  $K^{++}$  (4)  $KaO$
73. When average cost increases marginal cost is :
- (1) Below average cost (2) Equal to average variable cost  
(3) Above average cost (4) Equal to average fixed cost
74. The slope of an indifference curve represents the :
- (1) Elasticity of a demand for a good  
(2) Marginal rate of substitution between two goods  
(3) Ratio of prices of two goods  
(4) Position of consumer equilibrium

75. Ceteris paribus means :
- (1) Constant supply condition                      (2) Constant demand condition  
 (3) Other things being equal                      (4) Most efficient resource allocation
76. At inflexion point in classical production function the marginal product is :
- (1) Equal to zero    (2) Negative              (3) Maximum              (4) Minimum
77. The isoquant is straight line when  $MRS_{X_1, X_2}$  is :
- (1) Increasing              (2) Decreasing              (3) Constant              (4) None of these
78. The APP is maximum when :
- (1) APP is more than MPP                      (2) APP is less than MPP  
 (3) APP = MPP                      (4) APP = TPP
79. In first zone of production function, Elasticity of production is :
- (1) Increasing                      (2) Decreasing  
 (3) Constant                      (4) No specific relationship
80. For a Giffen good, the quantity demanded decreases when there is :
- (1) Increase in price  
 (2) Decrease in price  
 (3) Increase in price of the related commodity  
 (4) Fall in price of the related commodity
81. Equilibrium exists in the market for the commodity when :
- (1) The amount bought equals to amount sold  
 (2) Price is such that consumers do not wish to buy more  
 (3) The price is equal to the marginal utility of the good  
 (4) At the market price, the amount sellers wish to sell is the same quantity buyers wish to buy

82. Boundary line in case of factor – factor relationship is also known as :

- (1) Isocline (2) Isoline  
(3) Ridge line (4) None of the above

83. Sum of individual demand is known as :

- (1) Derived demand (2) Joint demand  
(3) Market demand (4) Composite demand

84. Under perfect competition, the demand curve is :

- (1) Perfectly inelastic (2) Perfectly elastic  
(3) Comparatively inelastic (4) Comparatively elastic

85. When a litre of solution has one gram molecular weight of a substance dissolve in it, is called :

- (1) Molar solution (2) Molal solution  
(3) Standard solution (4) Normal solution

86. What is the location in a cell of pentose phosphate pathway operation ?

- (1) Mitochondria (2) Cytosol (3) Peroxisome (4) Vacuole

87. Who gave the concept of florigen :

- (1) Chinoy (2) Hamner (3) Salisbury (4) Chailakhan

88. Which of the following element is related to stomatal opening :

- (1) *Ca* (2) *K* (3) *Mg* (4) *Na*

89. Which hormone is known as stress hormone :

- (1) Brassinosteroid (2) Gibberellic acid  
(3) Abscisic acid (4) Ascorbic acid



99. Damping off disease of seedlings is caused by :
- (1) *Colletotrichum falcatum*                      (2) *Pythium aphanidermatum*  
(3) *Sphacelotheca*                                      (4) *Erysiphe polygoni*
100. Flask shaped hollow fungal fructifications containing a hymenium of conidiogenous cells and conidia are called :
- (1) pycnidia              (2) perithecium              (3) sporodochium              (4) acervulus
101. Postulates of pathogenecity were propounded by :
- (1) Anton deBary                                      (2) Von Leuvenhoek  
(3) Alex Millardet                                      (4) Robert Koch
102. Bordeaux mixture was first used as fungicide against :
- (1) late blight of potato                              (2) early blight of potato  
(3) downy mildew of grape vines                      (4) stem rust of wheat
103. Powdery mildew diseases are generally controlled by :
- (1) mercury fungicides                              (2) sulphur fungicides  
(3) copper fungicides                                      (4) antibiotics
104. Ear-cockle disease of wheat is caused by :
- (1) *Ustilago tritici*                                      (2) *Anguina tritici*  
(3) *Puccinia graminis tritici*                              (4) *Urocystis tritici*
105. Iodine solution in Gram staining acts as :
- (1) primary stain                                      (2) counter stain  
(3) mordant    (4) secondary stain

106. More than 250 litres of volume per hectare is used in which of the following spray type :
- (1) low volume (2) ultra low volume  
(3) medium volume (4) high volume
107. All activities which enhance the activity and numbers of existing natural enemies is called :
- (1) augmentive biological control (2) inoculative biological control  
(3) classical biological control (4) habitat management
108. Bacteria having tufts of flagella on one end are classified as :
- (1) lophotichous (2) peritrichous  
(3) amphitrichous (4) monotrichous
109. Ber plants are pruned in the month of :
- (1) May-June (2) June-July  
(3) July-August (4) April-May
110. Jasmine species producing yellow flowers is :
- (1) *J. grandiflorum* (2) *J. humile* (3) *J. officinale* (4) *J. auriculatum*
111. Winter annual suitable for shady situation is :
- (1) Dahlia (2) Calendula (3) Cineraria (4) Antirrhinum
112. Alkaloid VINBLASTIN is extracted from :
- (1) Sarpagandha (2) Aswagandha (3) Periwinkle (4) Dioscoria
113. Monocot vegetable is :
- (1) Carrot (2) Pointed gourd (3) Tomato (4) Onion



## अभ्यर्थियों के लिए निर्देश

(इस पुस्तिका के प्रथम आवरण-पृष्ठ पर तथा उत्तर-पत्र के दोनों पृष्ठों पर केवल नीली/काली बाल-प्वाइंट पेन से ही लिखें)

1. प्रश्न पुस्तिका मिलने के 10 मिनट के अन्दर ही देख ले कि प्रश्नपत्र में सभी पृष्ठ मौजूद हैं और कोई प्रश्न छूटा नहीं है। पुस्तिका दोषयुक्त पाये जाने पर इसकी सूचना तत्काल कक्ष निरीक्षक को देकर सम्पूर्ण प्रश्नपत्र की दूसरी पुस्तिका प्राप्त कर लें।
2. परीक्षा भवन में लिफाफा रहित प्रवेश-पत्र के अतिरिक्त, लिखा या सादा कोई भी खुला कागज साथ में न लायें।
3. उत्तर-पत्र अलग से दिया गया है। इसे न तो मोड़ें और न ही विकृत करें। दूसरा उत्तर-पत्र नहीं दिया जायेगा। केवल उत्तर-पत्र का ही मूल्यांकन किया जायेगा।
4. अपना अनुक्रमांक तथा उत्तर-पत्र का क्रमांक प्रथम आवरण-पृष्ठ पर पेन से निर्धारित स्थान पर लिखें।
5. उत्तर-पत्र के प्रथम पृष्ठ पर पेन से अपना अनुक्रमांक निर्धारित स्थान पर लिखें तथा नीचे दिये वृत्तों को गाढ़ा कर दें। जहाँ-जहाँ आवश्यक हो वहाँ प्रश्न-पुस्तिका का क्रमांक तथा सेट का नम्बर उचित स्थानों पर लिखें।
6. ओ० एम० आर० पत्र पर अनुक्रमांक संख्या, प्रश्न-पुस्तिका संख्या व सेट संख्या (यदि कोई हो) तथा प्रश्न-पुस्तिका पर अनुक्रमांक संख्या और ओ० एम० आर० पत्र संख्या की प्रविष्टियों में उपरिलेखन की अनुमति नहीं है।
7. उपर्युक्त प्रविष्टियों में कोई भी परिवर्तन कक्ष निरीक्षक द्वारा प्रमाणित होना चाहिये अन्यथा यह एक अनुचित साधन का प्रयोग माना जायेगा।
8. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार वैकल्पिक उत्तर दिये गये हैं। प्रत्येक प्रश्न के वैकल्पिक उत्तर के लिये आपको उत्तर-पत्र की सम्बन्धित पंक्ति के सामने दिये गये वृत्त को उत्तर-पत्र के प्रथम पृष्ठ पर दिये गये निर्देशों के अनुसार पेन से गाढ़ा करना है।
9. प्रत्येक प्रश्न के उत्तर के लिये केवल एक ही वृत्त को गाढ़ा करें। एक से अधिक वृत्तों को गाढ़ा करने पर अथवा एक वृत्त को अपूर्ण भरने पर वह उत्तर गलत माना जायेगा।
10. ध्यान दें कि एक बार स्याही द्वारा अंकित उत्तर बदला नहीं जा सकता है। यदि आप किसी प्रश्न का उत्तर नहीं देना चाहते हैं, तो सम्बन्धित पंक्ति के सामने दिये गये सभी वृत्तों को खाली छोड़ दें। ऐसे प्रश्नों पर शून्य अंक दिये जायेंगे।
11. रफ कार्य के लिये इस पुस्तिका के मुखपृष्ठ के अंदर वाला पृष्ठ तथा अंतिम खाली पृष्ठ का प्रयोग करें।
12. परीक्षा के उपरान्त केवल ओ० एम० आर० उत्तर-पत्र ही परीक्षा भवन में जमा करें।
13. परीक्षा समाप्त होने से पहले परीक्षा भवन से बाहर जाने की अनुमति नहीं होगी।
14. यदि कोई अभ्यर्थी परीक्षा में अनुचित साधनों का प्रयोग करता है, तो वह विश्वविद्यालय द्वारा निर्धारित दंड का/की भागी होगा/होगी।