

Set No. : 1

Question Booklet No.

**RET / 14 / TEST - B**

**741**

**Agronomy**

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

Roll No.

--	--	--	--	--	--	--	--	--

Roll No. (Write the digits in words) .....

Serial No. of OMR 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, Please ensure that you have got the correct booklet and it contains all the pages in correct sequence and 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.*
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 change in the aforesaid entries is to be verified by the invigilator, otherwise it will be taken as unfair means.*
8. *This Booklet contains 40 multiple choice questions followed by 10 short answer questions. For each MCQ, 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. For answering any five short Answer Questions use five blank pages attached at the end of this Question Booklet.*
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 pages of the title cover and the blank page at the end of this Booklet.
12. *Deposit both OMR Answer Sheet and Question Booklet 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.

**Total No. of Printed Pages : 16**

**RET/14/TEST-B**

**741/Agronomy**

**ROUGH WORK**  
**रफ़ कार्य**

**No. of Questions : 50**

**Time : 2 Hours**

**Full Marks : 200**

- Note: (1)** This Question Booklet contains **40** Multiple Choice Questions followed by **10** Short Answer Questions.
- (2)** Attempt as many MCQs as you can. Each MCQ carries **3 (Three)** marks. **1 (One)** mark will be deducted for each incorrect answer. **Zero** mark will be awarded for each unattempted question. If more than one alternative answers of MCQs seem to be approximate to the correct answer, choose the closest one.
- (3)** Answer only **5** Short Answer Questions. Each question carries **16 (Sixteen)** marks and should be answered in **150-200** words. Blank **5 (Five)** pages attached with this booklet shall only be used for the purpose. Answer each question on separate page, after writing Question No.

- 01.** Which one of the following is **not** a kharif crop :
- |             |           |
|-------------|-----------|
| (1) Paddy   | (2) Maize |
| (3) Mustard | (4) Arhar |
- 02.** Select the crop, which is used for green manuring :
- |                       |               |
|-----------------------|---------------|
| (1) Daincha (sunhemp) | (2) Sugarcane |
| (3) Tobacco           | (4) Onion     |
- 03.** Panama wilt disease is found in :
- |            |            |
|------------|------------|
| (1) Papaya | (2) Mango  |
| (3) Peach  | (4) Banana |
- 04.** Osmotic expansion of a cell kept in water is chiefly regulated by :
- |               |                  |
|---------------|------------------|
| (1) Ribosomes | (2) Mitochondria |
| (3) Plastids  | (4) Vacuoles     |
- 05.** Community Development Programme was started in :
- |          |          |
|----------|----------|
| (1) 1952 | (2) 1965 |
| (3) 1957 | (4) 1960 |
- 06.** Food grains have :
- |                              |                                |
|------------------------------|--------------------------------|
| (1) Inelastic demand         | (2) Elastic demand             |
| (3) Perfectly elastic demand | (4) Perfectly inelastic demand |
- 07.** The disease "ricket" in animal is caused due to deficiency of :
- |               |               |
|---------------|---------------|
| (1) Vitamin A | (2) Vitamin B |
| (3) Vitamin C | (4) Vitamin D |
- 08.** For comparing the variability of the two series, which one of the following measures is used :
- |                        |                              |
|------------------------|------------------------------|
| (1) Standard Deviation | (2) Mean Deviation           |
| (3) Range              | (4) Coefficient of Variation |

09. Which one of the following is an anticoagulant ?
- |             |                 |
|-------------|-----------------|
| (1) Heparin | (2) Interleukin |
| (3) Plasmin | (4) Lymphokine  |
10. The fertility of soil is reduced by :
- |                              |                        |
|------------------------------|------------------------|
| (1) Alternate cropping       | (2) Intensive cropping |
| (3) Nitrogen fixing bacteria | (4) None of the above  |
11. Example of ephemeral weed is :
- |                               |                               |
|-------------------------------|-------------------------------|
| (1) <i>Cynodon dactylon</i>   | (2) <i>Chenopodium album</i>  |
| (3) <i>Phyllanthus niruri</i> | (4) <i>Amaranthus viridis</i> |
12. Selectivity in pendimethalin is achieved due to :
- |                            |                               |
|----------------------------|-------------------------------|
| (1) Depth of sowing        | (2) Morphological differences |
| (3) Surfactant application | (4) Herbicide safener         |
13. A dose of herbicide which inhibits growth of test plants by 50% is :
- |               |               |
|---------------|---------------|
| (1) $LC_{50}$ | (2) $LD_{50}$ |
| (3) $DT_{50}$ | (4) $GR_{50}$ |
14. Out of 18 world's worst weed of the world (Holm Etat., 1977), the number of weeds having  $C_4$  pathway of carbon fixation are.
- |        |        |
|--------|--------|
| (1) 10 | (2) 14 |
| (3) 12 | (4) 15 |
15. Name of allelochemical present in *Parthenium hysterophorus* is :
- |              |                           |
|--------------|---------------------------|
| (1) Coumarin | (2) Thiocynate            |
| (3) Quinone  | (4) Sesquiterpene lactone |

16. Which of the following is total root parasite ?
- (1) *Orobanche spp.* (2) *Striga asiatica*  
(3) *Loranthus spp.* (4) *Cuscuta spp.*
17. The air entry value to tensiometer cup is as high as:
- (1) 0.75 bar (2) 0.80 bar  
(3) 0.85 bar (4) 0.90 bar
18. Drought due to imbalance between available soil moisture and evapotranspiration of a crop is :
- (1) Hydrological drought (2) Atmospheric Drought  
(3) Agricultural drought (4) Meteorological drought
19. The equation,  $\log(A-Y) = \log A - Cx$  is :
- (1) Gapon's equation (2) Liebig equation  
(3) Spillman's equation (4) Mitscherlich's equation
20. Nutrients that are relatively immobile in soil, move from soil particles to the root surface by the process of :
- (1) Bi-modal reciprocal transpiration inversion flow  
(2) Contact exchange  
(3) Mass flow  
(4) Diffusion
21. The Fe-chelate suitable for application to crops grown on acid soil is :
- (1) Fe-EDTA (2) Fe-DTPA  
(3) Fe-HEDTA (4) Fe-EDDHA

- 22.** The sum of area under different crops and harvested in a single year divided by total cultivated area is called :
- (1) L.E.R. (2) M.C.I.  
(3) C.E.Y. (4) R.Y.T.
- 23.** In a strip plot design with 3 replications, 6 horizontal plots and 3 vertical plots, the degree of freedom of error used to test the variation between the interaction are :
- (1) 30 (2) 4  
(3) 10 (4) 20
- 24.** If the component crop in the cropping system is equally competitive, the aggressivity index will be :
- (1) 0 (2) -1  
(3) 1 (4) 2
- 25.** Structure used to measure the water flow from the pipe is :
- (1) Parshall flume (2) V-notch  
(3) Cut-throat flume (4) Venturi meter
- 26.** How much nitrogen will be supplied by 400 kg of DAP :
- (1) 48 kg (2) 72 kg  
(3) 80 kg (4) 192 kg
- 27.** Use of GPS technology is practiced in :
- (1) Conservation agriculture (2) Organic agriculture  
(3) Precision agriculture (4) Sustainable agriculture

28. Soil that are subjected to water logged condition which of the following is produced :
- (1) Oxygen EDTA (2) Ethylene  
(3) CFC (4) Methane
29. SRI method of rice cultivation is developed in :
- (1) Philippines (2) China  
(3) Madagascar (4) USA
30. Dapog method of nursery raising in rice crop was introduced in India from :
- (1) Israel (2) Indonesia  
(3) Taiwan (4) Philippines
31. CIMMYT is situated at :
- (1) Bangkok (2) Philippines  
(3) Rome (4) Mexico
32. Enlargement of cotton fibers resulting in tiny knots in the yarn is called :
- (1) Count (2) Croppy  
(3) Nippiness (4) Dazed fibre
33. In forecasting of rainfall the word 'isolated rain' denotes..... area receiving rain :
- (1) 1/5 (2) 1/4  
(3) 1/3 (4) 1/2
34. When soil pH changes from 7.0 to 6.0, its H-ion conc increases .....times :
- (1) 1 (2) 10  
(3) 100 (4) 1000



- 35.** The 17<sup>th</sup> nutrient added to the list of essential elements is :
- (1) Boron (2) Molybdenum  
(3) Chlorine (4) Nickel
- 36.** Peg in groundnut is a stalk- like structure (originating from the meristemic region at the base of the ovary) known as :
- (1) Androphore (2) Gynophore  
(3) Perianth (4) Androgynophore
- 37.** The first Stage Agricultural University of India is :
- (1) PAU, Ludhiana (2) GBPUAT, Pantnagar  
(3) OUAT, Bhubaneshwar (4) GAU, Gujrat
- 38.** pCO<sub>2</sub> in submerged soil declines rapidly when soil is rich in :
- (1) Organic Matter (2) Silicate Ions  
(3) Fe and Mn (4) Al Ions
- 39.** The criteria of essentiality of nutrients was finally refined and established by :
- (1) Arnon (1954)  
(2) Theodore de Saussure (1804)  
(3) Justus Von Liebig (1840)  
(4) Maza (1915)
- 40.** Under flooded anaerobic condition, nitrogen is released from the decomposing rice straw at :
- (1) A narrow C:N ratio (2) A wider C:N ratio  
(3) Higher temperature (4) Deeper layer of the soil

**Short Answer Questions**

**Note:** Attempt any **five** questions. Write answer in **150-200** words. Each question carries **16** marks. Answer each question on separate page, after writing Question Number.

01. What are the problems of dryland agriculture ? Suggest suitable technologies for establishing crop production under dryland.
02. What is factor productivity ? Give the reasons of declining factor productivity in crop production.
03. Suggest suitable experimental design, statistical analysis and ANOVA to test the performance of 5 maize hybrids in green house in which the experimental pots are arranged in straight line perpendicular to the green walls.
04. Write briefly about the role of cultural practices in ecological weed management.
05. Give a brief account of the role of herbicide resistant crops/varieties in integrated weed management.
06. What is conservation agriculture ? Briefly enumerate its significance in resource use efficiency and soil health.
07. Enlist the current changes in agriculture situation, Suggest suitable measures for improving production, potentiality and sustainability under the climate change scenario.
08. What are the natural resources ? Enumerate the potential resource conservation technologies in rice wheat cropping system.
09. What is green house effect ? Write briefly about its impact in Indian agriculture.
10. Write briefly about the development of partial pressure of CO<sub>2</sub> under submerged soil condition.

**RET/14/TEST-B**

**741/Agronomy**

**Question No.**

**प्रश्न संख्या**

**Page for Short Answer**

**लघु उत्तरीय के लिए पृष्ठ**

---

Question No.  
प्रश्न संख्या

Page for Short Answer  
लघु उत्तरीय के लिए पृष्ठ

---

**RET/14/TEST-B**

**741/Agronomy**

**Question No.**

**प्रश्न संख्या**

**Page for Short Answer**

**लघु उत्तरीय के लिए पृष्ठ**

---

Question No.

प्रश्न संख्या

Page for Short Answer

लघु उत्तरीय के लिए पृष्ठ

---

**Question No.**  
प्रश्न संख्या

**Page for Short Answer**  
लघु उत्तरीय के लिए पृष्ठ

---

## 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 लें 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, प्रश्नपुस्तिका संख्या व सेट संख्या (यदि कोई हो) तथा प्रश्नपुस्तिका पर अनुक्रमांक 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 लिए 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 लिए 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 संबंधित पंक्ति के सामने दिये गये सभी वृत्तों को खाली छोड़ दें। ऐसे प्रश्नों पर शून्य अंक दिये जायेंगे।
11. रफ कार्य के लिए प्रश्न-पुस्तिका के मुखपृष्ठ के अंदर वाला पृष्ठ तथा उत्तर-पुस्तिका के अंतिम पृष्ठ का प्रयोग करें।
12. परीक्षा के उपरान्त केवल ओ एम आर उत्तर-पत्र परीक्षा भवन में जमा कर दें।
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।