

RET/17/Test B**741-A****Agronomy**Question Booklet No. **10004**(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 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 30 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 changes 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.

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

Total No. of Printed Pages : 16

3.

FOR ROUGH WORK

(A7) 2017

Research Entrance Test – 2017

No. of Questions : 50

Time : 2 Hours

Full Marks : 200

Note : (i) This Question Booklet contains 40 Multiple Choice Questions followed by 10 Short Answer Questions.

(ii) 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.

(iii) 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.

1. Which lime is referred to as quick lime ?
(1) CaO (2) Ca(OH)_2
(3) $\text{CaMg(CO}_3)_2$ (4) CaCO_3
2. Ooze test is done to detect :
(1) Bacterial disease (2) Fungal disease
(3) Viral disease (4) All of these
3. For test of goodness of fit, which statistical test is applied ?
(1) ' χ^2 ' test (2) 'F' test
(3) 'Z' test (4) 't' test
4. Farm management is an :
(1) Intra-farm science (2) Inter-farm science
(3) Inter-regional farm science (4) International farm science
5. The term "Ever Green Revolution" was given by :
(1) R. S. Paroda (2) V. L. Chopra
(3) Norman Borloug (4) M. S. Swaminathan
6. "Operation flood" is related to :
(1) Rice (2) Fish
(3) Milk (4) Oilseeds
7. During prophase-I of meiosis crossing over occurs at :
(1) Zygotene (2) Pachytene
(3) Diplotene (4) Diakinesis
8. Larva of butterfly is known as :
(1) Grub (2) Nymph
(3) Catterpillar (4) Maggot

9. Marginal product is ratio of :
- | | |
|------------------|------------------|
| (1) Input-Output | (2) Output-Input |
| (3) Cost-Income | (4) Price-Income |
10. Mendel did not work on which of the following ?
- | | |
|-------------------------|------------------------|
| (1) Plant height in pea | (2) Seed colour in pea |
| (3) Pod number in pea | (4) Pod size in pea |
11. If the field capacity is 18% and permanent wilting points is 6%, then 50% of the available soil moisture will be :
- | | |
|---------|---------|
| (1) 6% | (2) 8% |
| (3) 10% | (4) 14% |
12. The degree of freedom for error in randomized complete block design with 10 treatments and 4 replications will be :
- | | |
|--------|--------|
| (1) 27 | (2) 30 |
| (3) 36 | (4) 40 |
13. The analysis of variance technique is used for :
- (1) Comparing the means of two population
 - (2) Comparing the means of more than two population
 - (3) Comparing the variance of two population
 - (4) Comparing the variance of more than two populations
14. Which one of the following is a C₄ weed ?
- | | |
|----------------------------------|--------------------------------|
| (1) <i>Digitaria sanguinalis</i> | (2) <i>Eichornia crassipes</i> |
| (3) <i>Phalaris minor</i> | (4) <i>Cyperus rotundus</i> |
15. Which one of the following is a root parasite on maize ?
- | | |
|-------------------------|---------------------------|
| (1) <i>Striga</i> spp. | (2) <i>Orobancha</i> spp. |
| (3) <i>Cuscuta</i> spp. | (4) <i>Loranthus</i> spp. |

16. Which weed has multiple herbicide resistance in India ?
(1) Little seed canary grass (2) Alligator weed
(3) Ipomoea (4) Lantana
17. Which one of the following is used as antidote with herbicides ?
(1) Pronamid (2) Methazole
(3) Dichlormid (4) Buthidazole
18. Evolution of rice variety which gave breakthrough in rice production.
(1) TN (Taichung Native) 1 (2) Sarju - 52
(3) Jaya (4) Pusa Basmati - 1
19. Country which is pioneer in hybrid rice is :
(1) Japan (2) India
(3) Philippines (4) China
20. The predominant cropping system of India is :
(1) Rice-Wheat (2) Rice-Rice
(3) Rice-Maize (4) Rice-Mustard
21. What is major source of irrigation in India
(1) River (2) Canal
(3) Well (4) Tank
22. Which sequence is correct with respect to water holding capacity of soil ?
(1) Clay > sand > silt (2) Silt > sand > clay
(3) Clay > silt > sand (4) Sand > silt > clay
23. Soil water potential at permanent wilting point is around :
(1) -15 bar (2) -30 bar
(3) -60 bar (4) 0.1 - 0.3 bar

24. Which of the following minerals have the highest CEC ?
 (1) Vermiculite (2) Montmorillonite
 (3) Illite (4) Chlorite
25. Element which is primary constituent of chlorophyll molecule is :
 (1) Calcium (2) Magnesium
 (3) Nitrogen (4) Phosphorus
26. Potassic fertilizer most suitable for potato is :
 (1) Muriate of potash (2) Sulphate of potash
 (3) Schoenite (4) Nitrate of potash
27. The term 'Luxury Consumption' is mainly associated with :
 (1) Nitrogen (2) Phosphorus
 (3) Potassium (4) Sulphur
28. Burning quality of tobacco is associated with :
 (1) Nitrogen (2) Potassium
 (3) Sulphur (4) Molybdenum
29. In soil, nitrite is oxidized to nitrate by :
 (1) *Nitrosomonas* (2) *Nitrobacter*
 (3) *Thiobacillus* (4) *Ferrobacillus*
30. Under optimum condition, the use efficiency of applied phosphatic fertilizers is :
 (1) 10-15 % (2) 15-20%
 (3) 20-25% (4) 25-30%
31. Most suitable nitrogen fixer inoculant for sugarcane is :
 (1) *Rhizobium japonicum* (2) *Herbaspirillum seropedicae*
 (3) *Pseudomonas striata* (4) *Klebsiella planticola*

- 32.** The best solid based carrier for biofertilizers is :
 (1) Lignite (2) Peat
 (3) Wood charcoal (4) FYM
- 33.** Gypsum application to groundnut is recommended at :
 (1) Sowing (2) One month stage
 (3) pre-flowering (4) Pegging
- 34.** TEMPO was initiated in :
 (1) 1996 (2) 1986 (3) 1972 (4) 1968
- 35.** Which of the following statement is not appropriate for organic farming ?
 (1) Maintain long term soil fertility (2) Maintain quality of produce
 (3) Emphasis to maximize production (4) Integration of suitable technologies
- 36.** Which of the following plants used as livestock feed is 'forage' :
 (1) Wild plants only (2) Cultivated plants only
 (3) Wild and cultivated both (4) Dry fodder only
- 37.** Intercropping in drylands is advisable when effective crop growing period is :
 (1) Less than 10 weeks (2) Between 10 to 20 weeks
 (3) Between 20 to 30 weeks (4) More than 30 weeks
- 38.** The most damaging pest of cotton is :
 (1) Cotton leaf roller (2) Spotted boll worm
 (3) American boll worm (4) Pink boll worm
- 39.** Method of harvesting in tobacco is called :
 (1) Reaping (2) Priming
 (3) Nipping (4) Striping
- 40.** Critical period for crop weed competition in sugarcane is :
 (1) 4 month (2) 3 months (3) 2 months (4) 1 months

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.

1. Why hybrid rice is required to be practiced in India ? Discuss specific organic management for hybrid rice.
2. (a) Briefly describe the transformation of applied 'P fertilizers' under acidic condition.
(b) Suggest measures for enhancing the 'phosphorus use efficiency'.
3. Discuss the movement of soil water under saturated condition.
4. Explain methods and systems for surface drainage.
5. What is 'Integrated Farming System' ? Briefly describe its importance under present agricultural scenario.
6. What do you understand by weed ecology ? Discuss the factors in crop-weed competition.
7. Discuss different approaches in biological weed control. Briefly describe the advantages and limitations of biological weed control.
8. Define bio-fertilizer. Sketch out their classification and discuss the significance of bio-fertilizer with the help of suitable examples.
9. Define organic farming. Describe opportunities and constraints of organic farming under present crop production scenario.
10. What is dry land agriculture ? Enlist technology interventions needed and suggest suitable crops/cropping systems for dry land situation.

Roll No. :

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FOR ROUGH WORK

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 30 मिनट के अन्दर ही कृपया 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 दकर 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।
4. अपना अनुक्रमांक तथा उत्तरपत्र का क्रमांक प्रथम आवरण-पृष्ठ पर पेन से निर्धारित स्थान पर लिखें।
5. उत्तरपत्र 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. इस पुस्तिका में 40 बहुविकल्पीय प्रश्नों के साथ 10 लघु उत्तरीय प्रश्न हैं। प्रत्येक बहुविकल्पीय प्रश्न के लिए, आपको उत्तर-पत्र के प्रथम पृष्ठ पर दी गयी गाइडलाइन के अनुसार सही विकल्प के लिए उत्तर-पत्र की संगत पंक्ति में उपयुक्त गोले को पेन द्वारा काला करना है। किन्हीं पाँच लघु उत्तरीय प्रश्नों के उत्तर देने के लिए प्रश्न-पुस्तिका के अन्त में संलग्न पाँच रिक्त पृष्ठों का प्रयोग कीजिए।
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 कागज के लिये इस पुस्तिका के मुखपृष्ठ के अंदर वाला पृष्ठ तथा अंतिम खाली पृष्ठ का प्रयोग करें।
12. परीक्षा के उपरान्त ओ० एम० आर० उत्तर-पत्र एवं प्रश्न पुस्तिका दोनों 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 पर/को भोगे/होगी।