

RET/17/Test B**741-B****Water Management**Question Booklet No. **10002**(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) **(A9) 2017**Serial No. of OMR Answer Sheet **(A9) 2017**

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

FOR ROUGH WORK

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) CaMg(CO₃)₂ (4) CaCO₃
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. According to Stokes law terminal velocity of the spherical particle settling under the influence of gravity in a fluid of given density and viscosity is proportional to :
- (1) r (2) r^2 (3) r^3 (4) r^4
12. Tensiometer is effective to record soil matric suction up to :
- (1) 0.33 bars (2) 0.75 bars (3) 0.85 bars (4) 1.00 bars
13. The equation representing the flow of water in saturated soil is :
- (1) Poiseuille's equation (2) Bernoulli's equation
(3) Darcy's equation (4) Navier-Stokes equation
14. Which of the following statement is wrong ?
- (1) Infiltration rate is lower if the soil is dominant in montmorillonite clay mineral
(2) Infiltration rate is higher in coarse textured and well aggregated soils
(3) Vegetative cover reduce infiltration
(4) Impervious subsoil layer reduces infiltration
15. The drainable water is :
- (1) Hygroscopic water (2) Capillary water
(3) Gravitational water (4) Perched water
16. Combined use of surface and ground water in an irrigation project is known as :
- (1) Integrated use (2) Conjunctive use
(3) Consumptive use (4) Bottom up used
17. According to the Indian Meteorological Department (IMD), an area is considered to be drought affected if it receives the total seasonal rainfall less than :
- (1) 75% of its normal value (2) 50% of its normal value
(3) 25% of its normal value (4) 20% of its normal value

- 18.** Minor irrigation projects have Culturable Command Area :
- | | |
|-----------------------|-----------------------|
| (1) Less than 2000 ha | (2) Less than 3000 ha |
| (3) 2000 to 5000 ha | (4) None of the above |
- 19.** Sprinklers are not suitable for soils having infiltration rate less than :
- | | |
|-------------|--------------|
| (1) 2 mm/hr | (2) 4 mm/hr |
| (3) 6 mm/hr | (4) 10 mm/hr |
- 20.** Rainfall used to meet the crop water requirement is called :
- | | |
|------------------------|-----------------------------|
| (1) Effective rainfall | (2) Normal rainfall |
| (3) Available rainfall | (4) Field capacity rainfall |
- 21.** A revolving head sprinkler operates under :
- | | |
|--------------------------------------|----------------------------------|
| (1) Low pressure range | (2) High pressure range |
| (3) Both low and high pressure range | (4) 5 kg/cm ² or more |
- 22.** Depth of water in river is measured by :
- | | |
|--------------------|-----------------|
| (1) Piezometer | (2) Tensiometer |
| (3) Moisture meter | (4) Fathometer |
- 23.** The most sensitive stage for irrigation in sugarcane is :
- | | |
|-----------------|------------------------------|
| (1) Germination | (2) Third order of tillering |
| (3) Arrowing | (4) Maturity |
- 24.** Pressure plate apparatus is used to determine :
- | | |
|-----------------------------|--------------------------|
| (1) Soil moisture constants | (2) Temperature |
| (3) Capillary | (4) Water loss from soil |
- 25.** The most commonly used electrical resistance instrument is :
- | | |
|------------------|--------------------|
| (1) Tensiometer | (2) Moisture meter |
| (3) Gypsum block | (4) Infiltrometer |

26. Water heat capacity is :
- (1) 1 cal/cc (2) 0.3 cal/cc
(3) 5 cal/cc (4) 8 cal/cc
27. The forces by which molecules of same substance are held together is called :
- (1) Adhesion (2) Cohesion
(3) Capillary (4) Diffusion
28. Interval between two irrigations is called :
- (1) Water use efficiency (2) Duty
(3) Irrigation frequency (4) Delta
29. 1 ha cm of irrigation water is equal to :
- (1) 1000 Liters (2) 10000 Liters
(3) 100,000 Liters (4) 1000000 Liters
30. Indian Meteorological Department (IMD) is located at :
- (1) Thane (2) Pune
(3) Allahabad (4) Ahmadabad
31. The instrument used to measure humidity is :
- (1) Barometer (2) Hydrometer
(3) Hygrometer (4) Altimeter
32. Scientific name of Bermuda grass is :
- (1) *Cynodon dactylon* (2) *Echinochloa spp*
(3) *Digitaria spp* (4) *Parthenium hysterophorus*

- 33.** The Zinc deficiency in rice causes disease :
- (1) Khaira (2) Bacterial leaf streak
(3) Bacterial leaf blight (4) Sheath blight
- 34.** Blast disease of rice is caused by :
- (1) Bacteria (2) Virus
(3) Fungus (4) None of these
- 35.** Which among the following is non selective herbicide ?
- (1) 2,4-D (2) Atrazine
(3) Fluchloralin (4) Glyphosate
- 36.** A short duration crop in between two main crops is termed as :
- (1) Cash crop (2) Catch crop
(3) Relay Cropping (4) Companion crop
- 37.** In conservation agriculture practice percent (%) residue of previous crop usually left is :
- (1) 15% (2) 80% (3) 30-40% (4) None of these
- 38.** The total depth of water required by a crop is called :
- (1) Datum (2) Delta (3) Data (4) Depth
- 39.** USWB class open pan evaporimeter has diameter of about :
- (1) 100 cm (2) 120 cm (3) 150 cm (4) 180 cm
- 40.** Average annual rainfall of India is :
- (1) 800 mm (2) 1000 mm (3) 1200 mm (4) 1600 mm

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. What is soil water potential ? Describe different components of soil water potential.
2. What do you mean by hysteresis ? Explain phenomenon and cause of hysteresis in soil water system.
3. Differentiate between perforated pipe and rotating head sprinkler system.
4. Who developed drip irrigation system ? Name the various components of drip irrigation system and briefly describe the emitters used in it.
5. Define conveyance and write methods for preventing wastage of irrigation water.
6. What do you mean by excess water ? Write the plant characters adopted to water logged condition.
7. Define sprinkler irrigation and write chemical treatment of micro irrigation system.
8. Discuss the concept of conservation agriculture. Briefly discuss its components and importance in present day agriculture.
9. What are irrigation efficiencies ? Briefly explain the principal factors affecting irrigation efficiency.
10. What is moisture stress ? Briefly explain its effect on field crops.

Roll No. :

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Roll No. :

Q. No. :

Roll No. :

Q. No. :

Roll No. :

Q. No. :

Roll No. :

Q. No. :

FOR ROUGH WORK

अभ्यर्थियों के लिए निर्देश

(इस पुरितका 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। पुरितका 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।
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. 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 कार्य के लिये इस पुरितका 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 का/की भागी होगा/होगी।