

**RET/15/Test B****2****741****Agronomy****101**

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 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 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 page 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 : 15**

FOR ROUGH WORK

# Research Entrance Test – 2015

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. "Fluid mosaic model" relates to the structure of :  
(1) Cell wall (2) Protoplasm  
(3) Plasma membrane (4) Nucleic acid
2. Spongy tissue of mango is a :  
(1) Bacterial disease (2) Physiological disease  
(3) Viral disease (4) Fungal disease
3. A purpose of initiating a conscious and purposeful action is called :  
(1) Education (2) Motivation (3) Action (4) Coordination
4. Yellow colour of egg is due to :  
(1) Carotene (2) Xanthophyll (3) Anthocyanin (4) Vitamin B
5. During prophase-I of meiosis crossing over occurs at :  
(1) Zygotene (2) Pachytene (3) Diplotene (4) Diakinesis
6. In which crop the use of Blue-Green Algae as a bio-fertilizer will be most useful ?  
(1) Maize (2) Potato (3) Rice (4) Sugarcane
7. Lycopene pigment is present in :  
(1) Beetroot (2) Tomato (3) Radish (4) Chilli
8. Ooze test is done to detect :  
(1) Bacterial disease (2) Fungal disease  
(3) Viral disease (4) All of these
9. Number of chromosome in wheat endosperm is :  
(1) 21 (2) 42 (3) 63 (4) 14
10. Acridine orange is used for inducing :  
(1) DNA denaturation (2) Mutagenesis  
(3) Chiasma formation (4) Bacterial transduction

11. Green Revolution has been most successful in :  
(1) Wheat and Potato (2) Wheat and Rice  
(3) Wheat and Barley (4) Wheat and Coffee
12. A short duration crop in between two main crops is termed as :  
(1) Cash crop (2) Catch crop  
(3) Relay Cropping (4) Companion crop
13. In conservation agriculture practice percent (%) residue of previous crop left is usually  
(1) 15% (2) 80% (3) 30-40% (4) None of these
14. BPT 5204 is popular variety of  
(1) Pigeon pea (2) Wheat (3) Rice (4) Gram
15. The mycoherbicide BIOMAL contains the spores of :  
(1) *Phytophthora* (2) *Cooletotrichum* (3) *Puccinia* (4) *Cercospor*
16. Parasitic weed *Striga* is a root parasite of:  
(1) Sesame (2) Sorghum (3) Cotton (4) Tobacco
17. The synthesis of aromatic amino acids is inhibited by :  
(1) Glufosinate (2) Atrazine (3) Pendimethalin (4) Glyphosate
18. An increase in soil organic matter:  
(1) Increases herbicides application rate  
(2) Decreases herbicide application rate  
(3) Both increases and decreases herbicide application rate  
(4) No change in application rate



27. The nutrient element absorbed both in anionic and cationic forms by plant is:  
(1) Molybdenum (2) Boron (3) Nitrogen (4) Phosphorus
28. In acid soils, the breakdown of proteins is initiated by :  
(1) Bacteria (2) Fungi  
(3) Actinomycetes (4) Algae
29. Which of the following clay minerals has maximum 'Cation Exchange Capacity'  
(1) Illite (2) Kaolinite  
(3) Montmorillonite (4) Vermiculite
30. Under optimum management condition, the nutrient use efficiency of applied phosphatic fertilizers is :  
(1) 10-15% (2) 15-20%  
(3) 20-25% (4) 25-30%
31. In rice field BGA is applied as dried flakes at the rate of :  
(1) 10kg/ha (2) 20kg/ha  
(3) 30kg/ha (4) 40kg/ha
32. Gypsum application to groundnut is recommended at flowering stage because :  
(1) Sulphur plays important role in oil synthesis  
(2) Developing pegs require higher concentration of sulphur in soil  
(3) Calcium is immobile in plants  
(4) Residual effect of gypsum can be exploited well in succeeding crop
33. 'Stable soil aggregates' are formed in the presence of:  
(1) Mg ++ (2) Ca++  
(3) K + (4) Al+++

34. Structure used to measure the water flow from the pipe is  
 (1) Parshall flume (2) Cut-throat flume  
 (3) V notch (4) Venturi meter
35. Average weight of 1 acre furrow slice of soil is :  
 (1) 3 m lbs (2) 1.5 m lbs  
 (3) 3.54 m lbs (4) 2 m lbs
36. At a pH of 6, there is .....of active hydrogen  
 (1) 0.00001g (2) 0.00000lg  
 (3) 0.000002g (4) 0.000010g
37. Error degree of freedom for 7 treatments laid out in a latin square design (LSD) is  
 (1) 20 (2) 36  
 (3) 30 (4) 42
38. National Rice Research Institute is situated at  
 (1) Hyderabad (2) Karnal  
 (3) Cuttack (4) Coimbatore
39. Normal translocation of sugar from sugarcane leaves to different plant organs is approximately:  
 (1) 1.5 cm/min (2) 3.0 cm/min  
 (3) 2.5 cm/min (4) 4.5 cm/min
40. Generally ultra -narrow row (UNR) sowing of cotton facilitates  
 (1) early germination (2) more vegetative growth  
 (3) late fruiting (4) early fruiting and growth control



*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. Discuss the modern concept of tillage. Briefly discuss its components and importance in present day agriculture
2. What are the natural resources ? Briefly explain the concept of natural resource management and resource use efficient technologies
3. Differentiate between mode of action and mechanism of action of herbicides. How herbicides affect photosynthesis and cell division ? Discuss with examples.
4. What are different approaches in biological weed control ? Explain the advantages and limitations of biological weed control in crops.
5. Explain Volatilization loss of nitrogen in soil, factors affecting it and suggest the measure to reduce the loss
6. Briefly describe the importance of "integrated nutrient management" under present agricultural scenario of the country.
7. What do you mean by quality of irrigation water ? Suggest appropriate measures to improve the quality of irrigation water for safe use in crops.
8. Discuss different components of water requirement of rice crop. Suggest suitable measures to reduce water losses from rice fields.
9. What is synergism ? Do irrigation and fertilizer have synergistic effects on crop yield ? Explain.
10. What is experimental error ? Give a brief account of the importance of blocking technique in designing an experiment.

Roll No. : .....

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Q. No. :

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(8)

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**Q. No. :**

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Q. No. :

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Q. No. :

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Q. No. :

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**FOR ROUGH WORK**

