

RET/17/Test B**748****Mycology & Plant Pathology**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

FOR ROUGH WORK

(Aug) 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) 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) 'χ²' 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. Button mushroom belongs to the genus :
- (1) *Agaricus* (2) *Amanita*
(3) *Pleurotus* (4) *Volvariella*
12. Phytoplasma are present in :
- (1) Xylem (2) Phloem
(3) Mitochondria (4) Mesophyll
13. Meristem tip culture is followed for the :
- (1) Elimination of bacteria (2) Elimination of fungi
(3) Elimination of virus (4) Elimination of nematodes
14. Which one is the host specific toxin and pathogenicity factor ?
- (1) Afla (2) HM
(3) Helminthosporal (4) Fusiccosin
15. Which term is related to the inoculum multiplication ?
- (1) Incubation period (2) Latent period
(3) Spore germination (4) Necrosis
16. Identify the fungicide which act as Quinone outside inhibitors :
- (1) Propiconazole (2) Carboxin
(3) Dithen M 45 (4) Azoxystrobin

17. Identify the fungus used in the biological control of soil-borne plant disease :
- (1) *Trichoderma harzianum* (2) *Claviceps purpurea*
(3) *Curvularia lunata* (4) *Rhizoctonia solani*
18. Calculate the % disease index if disease was scored in 0-5 grade and average sum of all score was 4.
- (1) 20 (2) 40 (3) 60 (4) 80
19. If 30% area of a host is covered by the disease, calculate the proportion of healthy area left for further infection.
- (1) 0.3 (2) 0.1 (3) 0.7 (4) 0.9
20. A fungicide is carrying 50% active ingredient (a.i.)/100 g of formulated product and a farmer is recommended to use 100 g a.i./ha. Calculate the amount (g) of formulation needed :
- (1) 100 (2) 1000 (3) 200 (4) 500
21. Calculate the size of a spore in μm if print size is 5 mm (magnified 500 times of actual) :
- (1) 5 μm (2) 10 μm (3) 100 μm (4) 1000 μm
22. Acervuli is found in fungi :
- (1) *Phoma* (2) *Botrytis* (3) *Colletotrichum* (4) *Macrophomina*
23. Father of Mycology is :
- (1) Antonie Van Leeuwenhock (2) P. A. Micheli
(3) Robert Koch (4) E. M. Fries
24. Powdery mildew fungi belong to order :
- (1) Peronosporales
(2) Erysiphales
(3) Uredinales
(4) Mucorales

25. "Fungi and Plant Disease" was written by :
- (1) E. J. Butler (2) J. F. Dastur
 (3) B. B. Mundukur (4) Anton de Bary
26. Grapevine fan leaf virus is transmitted by :
- (1) Fungi (2) Mite
 (3) Aphid (4) Nematode
27. Orobanche is a :
- (1) Total root parasite (2) Partial stem parasite
 (3) Partial root parasite (4) Total stem parasite
28. Plant parasitic bacterium was first report by :
- (1) E. F. Smith (2) T. J. Burril
 (3) E. J. Butler (4) Robert Koch
29. Rice tungro disease is transmitted through :
- (1) Aphid (2) Beetle
 (3) White fly (4) Leaf hopper
30. Seed treatment is very effective for controlling loose smut by :
- (1) Vitavax (2) Thiram
 (3) Captan (4) Metalaxyl
31. The cell wall of oomycetes contain :
- (1) Chitin (2) Chitosan
 (3) Cellulose (4) Pectin
32. Which of the following fungicides is effective against *Phytophthora infestans* ?
- (1) Carbendazim (2) Benomyl
 (3) Thiophenate methyl (4) Metalaxyl

33. The causal organism of white rust disease is :
- | | |
|-------------------------------|---------------------------------|
| (1) <i>Albugo candida</i> | (2) <i>Melampsora lini</i> |
| (3) <i>Tophrina deformans</i> | (4) <i>Puccinia striiformis</i> |
34. Apothecia is present in :
- | | |
|------------------------|------------------------|
| (1) <i>Aspergillus</i> | (2) <i>Fusarium</i> |
| (3) <i>Curvularia</i> | (4) <i>Sclerotinia</i> |
35. Badana virus is :
- | | |
|----------------------------|-----------------------------|
| (1) Bacilliorm dsDNA virus | (2) Bacilliform ssRNA virus |
| (3) Isometric dsRNA virus | (4) Rigid rod ssRNA virus |
36. The process of complete destruction of micro-organism is :
- | | |
|-------------------|--------------------|
| (1) Fermentation | (2) Decomposition |
| (3) Sterilization | (4) Pasteurization |
37. Ug99 is a race of :
- | | |
|--------------------------------------|---------------------------------|
| (1) <i>Puccinia graminis tritici</i> | (2) <i>Puccinia striiformis</i> |
| (3) <i>Puccinia hordei</i> | (4) <i>Puccinia recondita</i> |
38. Tetrazolium test is for :
- | | |
|---------------------|----------------------|
| (1) Physical purity | (2) Seed viability |
| (3) Genetic purity | (4) Moisture content |
39. Concentric ring type symptoms caused by fungus on the leaf found in :
- | | |
|----------------------------|--------------------------|
| (1) Late blight of potato | (2) Black spot of potato |
| (3) Early blight of potato | (4) Leaf roll of potato |
40. Kresek phase is found in :
- | | |
|---------------------------|-----------------------------------|
| (1) Sheath blight of rice | (2) Bacterial leaf blight of rice |
| (3) Brown spot of rice | (4) Rice blast |

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 pre-existing and post infection defence barriers of host along with suitable examples in each category.
2. Name the host specific toxins and their role in disease development.
3. Describe systemic fungicides and their mode of action on host plant along with suitable examples.
4. Describe the various methods of reproduction in fungi.
5. Describe briefly the disease cycle of late blight of potato and its management.
6. Describe the economic importance of fungi.
7. Describe virus-vector relationship with suitable examples.
8. Give an account on the contributions of the following :
 - (1) Anton De Bary
 - (2) E. J. Butler
 - (3) B. B. Mundukur
 - (4) Robert Koch
9. Write briefly about the transmission of seed borne pathogens.
10. Describe in brief about the seed treatment for management of seed borne diseases.

Roll No. :

Q. No. :

Roll No. :

Q. No. :

Roll No. :

Q. No. :

Roll No. :

Q. No. :

Roll No. :

Q. No. :

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 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 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 का/की भागी होगा/होगी।