

Set No. : 1

Question Booklet No.

RET/14/TEST-B

748

Mycology & Plant Pathology

(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 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

ROUGH WORK

रफ़ कार्य

1
2
3
4
5
6
7
8
9
10

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.** Strobilurin fungicides act on :
(1) Tubulin (2) Membrane lipid
(3) Antioxidants (4) Q₀I
- 12.** Tyoe III secretion system induces :
(1) PTI (2) Slow Disease Development
(3) ETI (4) None
- 13.** Resting spore of Synchytrium geminate through :
(1) Sporangia (2) Conidia
(3) Prosorous (4) Spores
- 14.** Xa21 gene provide resistance to :
(1) Fungal pathogen (2) Nematode
(3) Bacteria (4) Phytoplasma
- 15.** How many races are expected if there are 5 differential in a set :
(1) 10 (2) 20
(3) 30 (4) 32
- 16.** SSR markers are :
(1) Dominant (2) Codominant
(3) Recessive (4) None of these

17. Zygotic meiosis occurs :

- | | |
|----------------|-------------------|
| (1) Ascomycota | (2) Oomycota |
| (3) Nematode | (4) None of these |

18. Identify the downy mildew :

- | | |
|----------------|------------------|
| (1) Erysiphe | (2) Albugo |
| (3) Plasmopara | (4) Phytophthora |

19. Identify the fungicide ergosterol biosynthesis inhibitors :

- | | |
|------------------|-------------------|
| (1) Carbendazim | (2) Metalaxyl |
| (3) Imidacloprid | (4) Propiconazole |

20. Karnal bunt pathogen is :

- | | |
|----------------|-------------------------|
| (1) Air borne | (2) Seed borne |
| (3) Soil borne | (4) Seed and soil borne |

21. Which repository authority is recognised under Budapest Treaty to deposit microbial cultures in India ?

- | | |
|------------------------|-----------------|
| (1) NBAIM, Mau | (2) ITCC, Delhi |
| (3) IMTECH, Chandigarh | (4) ARI, Pune |

22. Hypersensitive reaction produced in the host after the interaction with pathogen due to :

- (1) Injury
- (2) Reactive oxygen species
- (3) Production of hydrolytic enzymes
- (4) Disturbed metabolism of host

23. Sick plot is used for the screening of :

- | | |
|---------------------------|-------------------------|
| (1) Air borne pathogen | (2) Soil borne pathogen |
| (3) Vector borne pathogen | (4) None |

24. Melanin is a virulence factor in :
- | | |
|-------------------------------|---------------------------|
| (1) <i>Alternaria</i> spp. | (2) <i>Bipolaris</i> spp. |
| (3) <i>Magnaporthe grisea</i> | (4) <i>Pythium</i> spp. |
25. Ug 99 is a race of :
- | | |
|-------------------------------|--------------------------------------|
| (1) <i>Claviceps purpurea</i> | (2) <i>Puccinia graminis tritici</i> |
| (3) <i>Erwinia</i> sp. | (4) <i>Rotylenchus</i> sp. |
26. Pinwheel inclusion bodies are induced by :
- | | |
|--------------------------|-----------------|
| (1) Tobacco Mosaic Virus | (2) Reoviruses |
| (3) Caulimoviruses | (4) Potyviruses |
27. Citrus greening is caused by :
- (1) *Candidatus Liberibacter asiaticus*
 - (2) Phytoplasma
 - (3) *Xanthomonas axonopodis*
 - (4) *Xylella fastidiosa*
28. Plant parasitic nematodes could be identified through presence of :
- | | |
|------------|-------------|
| (1) Vulva | (2) Spicule |
| (3) Stylet | (4) Cloaca |
29. *Ralstonia solanacearum* belongs to :
- | | |
|--------------------------|-------------------------|
| (1) Alpha proteobacteria | (2) Beta proteobacteria |
| (3) Gamma proteobacteria | (4) None of the above |
30. Flagellar arrangement of most *Xanthomonas* species are :
- | | |
|------------------|-------------------|
| (1) Peritrichous | (2) Altrichous |
| (3) Single polar | (4) Lophotrichous |

- 31.** The ascocarp of *Venturia inaequalis* is :
- | | |
|--------------------|-------------------|
| (1) Perithecium | (2) Apothecium |
| (3) Cleistothecium | (4) Pseudothecium |
- 32.** Sporidia formation takes place through :
- | | |
|--------------------|-----------------------|
| (1) Binary fission | (2) Budding |
| (3) Snapping | (4) None of the above |
- 33.** Which stage is deleted in Demicyclie rust fungi from the life cycle ?
- | | |
|---------------|--------------|
| (1) Pycnidial | (2) Uredial |
| (3) Telial | (4) Basidial |
- 34.** Zygosporangia gives rise to :
- | | |
|------------------|---------------------|
| (1) Pycniospores | (2) Sporangiospores |
| (3) Ascospores | (4) Conidiospores |
- 35.** Multiplication of DNA viruses is mediated by :
- | |
|----------------------------------|
| (1) RNA dependent RNA polymerase |
| (2) RNA dependent DNA polymerase |
| (3) DNA dependent RNA polymerase |
| (4) DNA dependent DNA polymerase |
- 36.** Which of the following genus is belongs to Ascomycetes ?
- | | |
|-----------------|--------------|
| (1) Tilletia | (2) Erysiphe |
| (3) Peronospora | (4) Puccinia |
- 37.** Meloidogyne species are :
- | | |
|-----------------------------|-----------------------------|
| (1) Ectoparasites | (2) Migratory endoparasites |
| (3) Sedentary endoparasites | (4) Semi-endoparasites |

38. The nature of Tobacco Mosaic virus is :

- | | |
|--------------------|-----------------------|
| (1) Persistent | (2) Semi-persistent |
| (3) Non-persistent | (4) None of the above |

39. Wilt of solanaceous crops is caused by :

- | | |
|----------------------|----------------------|
| (1) Xanthomonas spp. | (2) Pseudomonas spp. |
| (3) Erwinia spp. | (4) Ralstonia spp. |

40. Which one is a systemic fungicide :

- | | |
|------------|---------------|
| (1) Captan | (2) Metalaxyl |
| (3) Thiram | (4) Sulfex |

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.** Significance of ITS in fungal identification.
- 02.** Races in BLB and their identification.
- 03.** Mating types in *Phytophthora infestans* and its significance.
- 04.** Role of germplasm in plant disease management.
- 05.** Evaluation of fungicide resistance to fungal pathogens of plants.
- 06.** Evolution of new pathogens.
- 07.** Status of viral diseases in India.
- 08.** IPM strategy in plant disease management.
- 09.** Management of bacterial diseases.
- 10.** Transgenics in plant disease management.

Question No.

प्रश्न संख्या

Page for Short Answer

लघु उत्तरीय के लिए पृष्ठ

Question No.

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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।