

Set No. : 1

Question Booklet No.

RET/16/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

Research Entrance Test-2016

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. Where is the International Rice Research Institute located ?

- | | |
|------------|-------------|
| (1) Manila | (2) Chicago |
| (3) Cairo | (4) Cuttack |

02. Trypsin is basically what ?

- | | |
|----------------------|-------------|
| (1) Fatty acid | (2) Sugar |
| (3) Oligo-nucleotide | (4) Protein |

03. GMO stands for what ?

- (1) Genetically Modified Organisms
- (2) Genetically Multiplied Organisms
- (3) Green Modified Organisms
- (4) Green Modified Orange

- 04.** Which international treaty was documented in 1987 and implemented in 1989, to avoid deleterious effects of ultra- violet radiation owing to ozone layer depletion ?
- (1) Cartagene protocol
 - (2) Montreal protocol
 - (3) Geneva protocol
 - (4) Antartica Environmental protocol
- 05.** The tissue bearing dead cells is ?
- (1) Collenchyma
 - (2) Parenchyma
 - (3) Xylem
 - (4) Phellogen
- 06.** Sub-cellular components are separated by means of ?
- (1) Chromatography
 - (2) Autoradiography
 - (3) Electrophoresis
 - (4) Differential and density gradient centrifugation
- 07.** Which these is a vertebrate animal ?
- (1) Prawn
 - (2) Snake
 - (3) Mosquito
 - (4) Octopus
- 08.** Which of these is not a C_4 plant ?
- (1) Maize
 - (2) Rice
 - (3) Sorghum
 - (4) Sugarcane
- 09.** Cell theory was first formulated by ?
- (1) Schleiden and Schwann
 - (2) Rudolf Vrichow
 - (3) A.V. Leeuwenhock
 - (4) Ruth Sagar
- 10.** Apple is a ?
- (1) True fruit
 - (2) False fruit
 - (3) Vegetable
 - (4) Parthenocarpic fruit

11. The black bodies formed on potato tubers infected with scurf are :
(1) Sclerotia (2) Dead Tissues
(3) Discolored skin (4) Conidia
12. Karnal Bunt is :
(1) Internally seed borne
(2) Externally seed borne
(3) Contamination
(4) Internally and externally seed borne
13. Apothecia are found in :
(1) *Aspergillus* (2) *Alternaria*
(3) *Sclerotinia* (4) *Penicillium*
14. Domestic quarantine exists on :
(1) Rice blast (2) Wart of potato
(3) Red rot of sugarcane (4) Wheat rust
15. *Phyllactinia* causes disease :
(1) Downey mildew (2) Blight
(3) Powdery mildew (4) Leaf spot
16. Systemic fungicide was discovered by :
(1) Van Schleming and Kulka (2) Millardet
(3) Prevost (4) Tillet
17. Which one is the host specific toxin ?
(1) Afla (2) Tab
(3) Phaseolotoxin (4) HM toxin

18. Identify the systemic fungicide effective against Oomycetes :
- | | |
|------------------|---------------|
| (1) Carbendazim | (2) Metalaxyl |
| (3) Tebuconazole | (4) Sulphur |
19. Which one is directly related to the estimation of inoculum ?
- | | |
|-----------------------|-------------------|
| (1) Incubation period | (2) Latent period |
| (3) Spore germination | (4) Necrosis |
20. Mitotic crossing over is observed in :
- | | |
|----------------------------|------------------------------|
| (1) Gametangial fusion | (2) Gamitangial contact |
| (3) Gametangial copulation | (4) Parasexual recombination |
21. Identify the fungicide which act as Quinone outside inhibitors :
- | | |
|-------------------|------------------|
| (1) Propiconazole | (2) Carboxin |
| (3) Mancozeb | (4) Azoxystrobin |
22. Identify the matching virulence that would completely knockout the resistance gene R1 R2 :
- | | |
|--------------|---------------|
| (1) AV1AV2 | (2) AV1av2 |
| (3) av 1 av2 | (4) av 1 AV 2 |
23. A haploid fungus carrying 4 chromosomes through aneuploidy. How many variants are expected ?
- | | | | |
|-------|--------|--------|--------|
| (1) 8 | (2) 16 | (3) 12 | (4) 14 |
|-------|--------|--------|--------|
24. Identify the gene combination in zygote in a terapolar mating fungi Aa and Bb :
- | | |
|----------|----------|
| (1) AABB | (2) Aabb |
| (3) aaBB | (4) AaBb |

25. Bacterial leaf streak of rice is caused by :
(1) *Xanthomonas oryzae* pv. *oryzae*
(2) *Pseudomonas oryzae* pv. *oryzae*
(3) *Xanthomonas oryzae* pv. *oryzicola*
(4) *Erwinia oryzae*
26. The root knot nematode is :
(1) Migratory endoparasite (2) Sedentary endoparasite
(3) Migratory Ectoparasite (4) Semi endoparasite
27. *Radopholus* and *Pratylenchus* are :
(1) Sedentary parasite (2) Endoparasite
(3) Migratory endoparasite (4) Migratory ectoparasite
28. The book "*Nova Plantarum Genera Juxta Tournfortii Methodum Disposita*" is written by :
(1) C.H. Persoon (2) P.A. Saccardo
(3) Pier' Antonio Micheli (4) A.C.J. Corda
29. Anisogamous planogametic copulation is found in :
(1) *Synchytrium* (2) *Monoblepharis*
(3) *Allomyces* (4) *Olpidium*
30. Zygosporangia with opposed suspensors are found in :
(1) *Piptocephalis cylindrospora*
(2) *Mortierella epigma*
(3) *Pilobolus kelinii*
(4) *Syncephalastrum racemosum*
31. Water molds belong to one of the following order :
(1) Chytridiales (2) Monoblepharidales
(3) Peronosporales (4) ~~Saprolegniales~~

32. Ug 99 pathotype is related with :
(1) White rust of crucifers (2) Coffee rust
(3) Brown rust of wheat (4) Stem rust of wheat
33. Potato mop top virus is transmitted by :
(1) *Ploymyxa graminis* (2) *Synchyrium endobioticum*
(3) *Spongospora subterranea* (4) *Olpidium viciae*
34. Badana virus is a :
(1) Bacilliform ssRNA (2) Bacilliform dsDNA
(3) Rigid rod ssRNA (4) Isometric dsRNA
35. The Destructive Insect Pest Act was passed in :
(1) 1912 (2) 1916 (3) 1914 (4) 1918
36. *Cuscuta* is a :
(1) Root holoparasite (2) Root semi-parasite
(3) Stem holoparasite (4) Stem semi-parasite
37. Which of one the following is a macrocylic polymorphic heteroecious rust ?
(1) Coffee rust (2) Sunflower rust
(3) Stem rust of wheat (4) Orange rust
38. Plant bacterial diseases controlled by :
(1) Blasticidine (2) Aureofungin
(3) Kasugamycin (4) Streptocycline
39. Which one of the following multiplies in sieve tube of phloem ?
(1) *Xylella fastidiosa* (2) *Phytoplasma*
(3) *Nematode* (4) *Fusarium*

40. Loose smut of wheat is an :
- (1) Internally seed borne
 - (2) Externally seed borne
 - (3) Internally and externally seed borne
 - (4) Soil borne

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.

Describe the general principal of plant diseases management with suitable examples.

1. Write briefly about role of enzymes during disease development.
2. Write briefly about toxins and their role during disease development.
3. Illustrate the classification of fungicides based on their chemical nature.
4. Give a brief account of different types of disease resistance.
5. Write note on transmission of plant viruses.
6. Describe briefly the disease cycle of apple scab.
7. Give general account on management of diseases caused by plant parasitic nematodes or bacteria.
8. Give a general account of biological control agents for management of plant diseases.
9. Write a brief account on plant quarantine.

Question No.

Page for Short Answer

Question No.

Page for Short Answer

Question No.

Page for Short Answer

Question No.

Page for Short Answer

Question No.

Page for Short Answer

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 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।