

Question Booklet No.

(To be filled up by the candidate by **blue/black ball-point pen**)

Roll No.

--	--	--	--	--	--	--	--	--	--

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.

FOR ROUGH WORK

Research Entrance Test – 2013

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. One Horse Power (HP) is expressed in term of watt which is
(1) 720 (2) 786 (3) 746 (4) None of these
2. Number of segments present in insect head is :
(1) Two (2) Four (3) Six (4) Seven
3. Deficiency symptom of sulphur first appears an :
(1) Younger leaves (2) Older leaves
(3) Middle leaves (4) None of these
4. Protein content in lentil is :
(1) 18% (2) 25% (3) 16% (4) 20%
5. Demonstration showing how to do things is called
(1) Method demonstration (2) Result demonstration
(3) Training (4) Frontline demonstration
6. Dithane M-45 is a :
(1) Bactericide (2) Insecticide (3) Fungicide (4) Nematicide
7. Jamunapari is a breed of :
(1) Cow (2) Goat
(3) Buffalo (4) None of the above
8. Select the correct formula of urea
(1) $H_2NCO_2NH_2$ (2) $HNCONH$
(3) H_2NCONH_2 (4) H_4NCONH_4
9. The measure of central tendency is
(1) Median (2) Mode
(3) Mean (4) All of the above
10. On which of the following plant Gregor Mendal perform his classical experiment ?
(1) Gram (2) Maize (3) Pea (4) Rice

11. Effector proteins in plant pathogenic bacteria is released through the secretion system :

- (1) Type I (2) Type II
(3) Type III (4) Type IV

12. Ridomil-MZ is a fungicide consisting of :

- (1) Metalaxyl
(2) Mancozeb
(3) Mancozeb and Zinc oxide
(4) Metalaxyl and Mancozeb

13. Citrus greening disease is caused by :

- (1) *Xanthomonas axonopodis pv. citri*
(2) *Candidatus Liberibacter asiaticus*
(3) *Xanthomonas campestris pv. citrumelo*
(4) None

14. Conidiophores of which of the fungi rises from thick walled foot cell :

- (1) *Penicillium* (2) *Aspergillus*
(3) *Plasmopara* (4) Both a and b

15. Moniliformin and Aflatoxin are :

- (1) Mycotoxin (2) Phytotoxin
(3) Pathotoxin (4) Vivotoxin

16. Genetic relationship among the racial resistant gene of host and virulence/ avirulence gene of the pathogen :

- (1) Additive (2) Epitaxis
(3) Complementary (4) Duplicate

17. Minute projection near the point of attachment to the sterigma of basidiospore is known as :
- | | |
|----------------------|--------------------|
| (1) Promycelium | (2) Paraphyses |
| (3) Clamp connection | (4) Hilar appendix |
18. Which one of the following genus belongs to Ascomycetes group of fungi ?
- (1) *Sclerotinia sclerotiorum*
 - (2) *Pilobolus sp*
 - (3) *Albugo candida*
 - (4) *Sclerotium rolfsii*
19. Ergot is obtained from :
- (1) *Synchytrium endobioticum*
 - (2) *Pythium aphanidermatum*
 - (3) *Cleviceps purpurea*
 - (4) *Cryphonectria parasitica*
20. Rust of pea is caused by :
- | | |
|------------------------------|-------------------------------|
| (1) <i>Puccinia graminis</i> | (2) <i>Uromyces fabae</i> |
| (3) <i>Melampsora lini</i> | (4) <i>Puccinia arachidis</i> |
21. RNAi technology is used to :
- (1) Promote expression of genes
 - (2) Suppress expression of genes
 - (3) Methylation of genes
 - (4) Report a gene
22. Soil borne pathogens can be best managed by:
- (1) Fungicide application
 - (2) Hot water treatment
 - (3) Biological control
 - (4) Mixed cropping

23. Induced systemic resistance is triggered by the following :
- (1) *Colletotrichum gloeosporioides*
 - (2) *Pseudomonas fluorescens*
 - (3) *Pseudomonas solanacearum*
 - (4) *Bacillus thuringiensis*
24. *Streptomyces scabies* is best managed by :
- (1) Application of antibiotics
 - (2) Soil pH management
 - (3) Flooding
 - (4) Seed treatment
25. Which one of the following is different from the group :
- (1) Grapevine yellows
 - (2) Potato spindle tuber
 - (3) Citrus exocortis
 - (4) Coconut cadang-cadang
26. For preparation of 5 liters of 0.5% Bordeaux mixture the amount of copper sulphate required :
- (1) 0.5 g
 - (2) 5 g
 - (3) 50 g
 - (4) 500 g
27. The following is an example of polycyclic disease :
- (1) Rust of crucifers
 - (2) Wilt of pigeonpea
 - (3) Sheath blight of rice
 - (4) Rust of wheat
28. Fire blight of apple and pear was first reported by :
- (1) Anton de Bary
 - (2) Adolf Mayer
 - (3) E. F. Smith
 - (4) T.J. Burrill
29. RAPD markers are :
- (1) Co dominant
 - (2) Recessive
 - (3) Dominant
 - (4) None

30. What would expected number of parental types in F2 progenies (64) if the traits are regulated by three QTLs. :
- (1) One (2) Two
(3) Four (4) Eight
31. Ergosterol as principal sterol in cell membrane is distributed in the pathogen :
- (1) Oomycotina (2) Basidiomycotina
(3) Xanthomonas (4) Nematode
32. Carbedazim bind to the :
- (1) Cell wall (2) Cell membrane
(3) Spindle fiber (4) Outer matrix
33. Karnal bunt is a :
- (1) Externally seed borne (2) Internally seed borne
(3) Both externally and internally (4) Contamination
34. Myceloid appendages with single ascus is the characteristic feature of :
- (1) *Uncinula* (2) *Erysiphe*
(3) *Spherothica* (4) *Phyllactinia*
35. Single polar flagella is characteristic features of :
- (1) *Xanthomonas* (2) *Erwinina*
(3) *Agrobacterium* (4) *Clavibctor*
36. Identify the rust that has migrated in India from Africa through wind :
- (1) Brown rust (2) White rust
(3) Pink rust (4) Yellow rust.
37. ITS is commonly used for the identification of :
- (1) Bacteria (2) Fungi
(3) Nematode (4) Virus

38. Which one the Culture collection center authorized under BUDAPEST treaty by Government of India :
- (1) IARI, New Delhi (2) IMTECH, Chandigarh
(3) NBAIM, Mau (4) Agharkar Research Institute, Pune
39. Genetic material of tobacco mosaic virus is :
- (1) Single stranded DNA (2) Single stranded RNA
(3) Double stranded DNA (4) Double stranded RNA
40. Sterility mosaic of pignon pea is :
- (1) Seed borne (2) Mite borne
(3) Wind borne (4) None

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 ITS markers for the identification of fungi.
2. Describe about Aflatoxin.
3. Forecasting of late blight of potato.
4. Amendment of organic matter in the soil bring diversity in the rhizosphere and control the phyto-pathogens.
5. Seed treatment for seed born diseases.
6. Virus-vector relationship.
7. Systemic fungicides for control of Oomycetes fungi.
8. Pathogenesis of obligate parasite.
9. Management of phyto- pathogenic nematode
10. Management of citrus canker

Roll No. :

Q. No. :

Roll No. :

Q. No. :

Roll No. :

Q. No. :

Roll No. :

Q. No. :

Roll No. :

Q. No. :

FOR ROUGH WORK

