

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 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

SEAL

Research Entrance Test – 2018

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 of the following is referred as Buffalo grass ?
(1) Para grass (2) Napier grass (3) Setaria grass (4) Guinea grass
2. Who is known as "Father of White Revolution in India" ?
(1) Dr. M. S. Swaminathan (2) Dr. J. J. Chinoy
(3) Dr. R. S. Paroda (4) Dr. Verghese Kurien
3. A character which is expressed in hybrid is called :
(1) Epistatic (2) Co-dominant (3) Dominant (4) Recessive
4. First antibiotic isolated was :
(1) Neomycin (2) Streptomycin (3) Terramycin (4) Penicillin
5. Mycorrhiza is the :
(1) Parasitic association between fungus and roots of seed plants
(2) Symbiotic association between fungus and roots of seed plants
(3) Saprophytic association between fungus and roots of seed plants
(4) Symbiotic association between bacteria and the roots of seed plants
6. Growing of complete plant from a cell is known as :
(1) Totipotency (2) Axenic culture
(3) Clone formation (4) Micro propagation
7. Clay soil particle size is :
(1) Less than 0.002 mm (2) Between 0.002-0.02 mm
(3) Between 0.02-0.2 mm (4) More than 2 mm
8. Which bacteria is useful for "Dairy Industry" ?
(1) *Clostridium acetobutyricum* (2) *Bacillus megatherium*
(3) *Acetobacteria aceti* (4) *Bacterium acidi lactic*
9. The silkworm *Bombyx mori* is fed on :
(1) Rose leaves (2) Mulberry leaves
(3) Hibiscus leaves (4) Gladiolus leaves
10. Sansad Adarsh Gram Yojana (SAANJHI) was launched on :
(1) November, 2005 (2) January, 2010
(3) October, 2014 (4) March, 2017

11. Name the scientist who proposed the concept of *forma specialis* :
- (1) H. H. Floer (2) E. C. Stakman
(3) N. E. Borlaug (4) J. C. Walker
12. Name the chemical produced by *Magnaporthe oryzae* that helps in direct penetration of epidermis :
- (1) Cutinase (2) Cellulase
(3) Melanin (4) Tricyclazole
13. Tab toxin is produced by :
- (1) *Xanthomonas campestris pv oryzae*
(2) *Ralstonia solanacearum*
(3) *Erwinia carotovora*
(4) *Pseudomonas syringae pv tabaci*
14. Which of the following is most significant in the outbreak of epidemic :
- (1) Incubation period (2) Latent period
(3) Unfavorable environment (4) High humidity
15. Name the methoxyacetyl-alanine based fungicide :
- (1) Carbendazim (2) Dithiocarbamate
(3) Carboxin (4) Metalxyl
16. Hybridoma is used for the production of antibodies :
- (1) Poly clonal (2) Oligoclonal
(3) Monoclonal (4) Multiclonal
17. Perithecia with coiled appendages found in the genus :
- (1) *Eryphae* (2) *Phyllactania*
(3) *Sphaerotheca* (4) *Uncinula*

18. Name the repeating spore in *Puccinia graminis tritici* :
- (1) Aeciospore (2) Teleospores
(3) Basidiospores (4) Urediospores
19. Vertical races are effective only against :
- (1) Many races (2) Multiple races
(3) Single race (4) Races of several pathogens
20. Universal bar code for the identification of fungi is :
- (1) *Tef* (2) B tubulin
(3) ITS (4) COX
21. Typification of fungi based on the anastomosis grouping followed in :
- (1) *Rhizoctonia solani* (2) *Sclerotinia sclerotiorum*
(3) *Sclerotium sp.* (4) *Fusarium solani*
22. Identify the genus which sporangiophore is dichotomously branched with acute angle :
- (1) *Peronospora* (2) *Sclerospora*
(3) *Bremia* (4) *Plasmopara*
23. Which one of the following is an autoceous rust :
- (1) *Puccinia graminis tritici*
(2) *Uromyces fabae*
(3) *Gymnosporangium Juniperi-virginianae*
(4) *Uromyces pisi*
24. Which one of the following chemicals is used for the seed viability :
- (1) Methylene blue (2) Cotton blue
(3) Safranin (4) Tetrazolium chloride
25. Pinwheel inclusion bodies are formed by
- (1) TMV (2) Reovirus
(3) Poty virus (4) Cucumovirus

26. Transgenic papaya developed against papaya ring spot virus by the use of :
- (1) RNA polymerase gene
 - (2) Coat protein gene
 - (3) Cell to cell movement of protein gene
 - (4) Toxin
27. Name the technique used for making virus free planting materials :
- (1) Cross protection
 - (2) Immuno therapy
 - (3) Meristem tip culture
 - (4) Protoplast fusion
28. Multiplication of DNA virus is mediated by :
- (1) RNA dependent RNA polymerase
 - (2) RNA dependent DNA polymerase
 - (3) DNA dependent DNA polymerase
 - (4) DNA dependent RNA polymerase
29. Badana virus is :
- (1) Bacilliform ds DNA virus
 - (2) Bacilliform ss RNA
 - (3) Isometric ds RNA virus
 - (4) Rigid rod ss DNA
30. Identify the crop where spindle disease is caused by a viroid :
- (1) Tomato
 - (2) Potao
 - (3) Carrot
 - (4) Sweet potato
31. Name the plant cells where phytoplasma grow and multiply :
- (1) Xylem
 - (2) Phloem
 - (3) Mesophyll
 - (4) Cortical cells
32. Identify the bacterial blight resistant gene in rice provide durable resistance :
- (1) Xa13
 - (2) Xa21
 - (3) Xa41
 - (4) Xa11
33. Identify the pathogen that survives through sclerotia mostly :
- (1) *Pythium*
 - (2) *Fusarium*
 - (3) *Venturia*
 - (4) *Rhizoctonia*

34. Isogamous planogametic copulation is found in the genus :
- (1) *Sclerospora* (2) *Allomyces*
(3) *Synchytrium* (4) *Peronospora*
35. Which one of the phyla produces pyriform zoospores motile by a single whiplash flagellum ?
- (1) Oomycota (2) Myxomycota
(3) Chytridiomycota (4) Neocalimastigomycota
36. Name the fungicide that act by inhibiting ergosterol biosynthesis :
- (1) Vitavax (2) Plantvex
(3) Blitox (4) Hexaconazole
37. *Ustilaginoidea virens* causes one of the following disease :
- (1) Flag smut (2) Flase smut
(3) Grain smut (4) Leaf smut
38. Which one is not falls under principles of plant disease management :
- (1) Eradication (2) Protection
(3) Inoculation (4) Avodence
39. Which one of the genera does not produce gills :
- (1) *Agaricus sp* (2) *Ganoderma*
(3) *Trichoderma* (4) *Volveriella*
40. Which one is the best measure of disease if it is growing continuously :
- (1) Percent disease index
(2) Disease severity
(3) Disease response
(4) Area under disease progress curve