

RET/17/Test B**743****Entomology & Ag. Zoology****10006**

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

(Ag) 2017

(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

5.

FOR ROUGH WORK

(A2) 247

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) $\text{CaMg(CO}_3)_2$ (4) CaCO_3
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) ' χ^2 ' 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. Niche of an organism refers to :
 (1) Physiological position
 (2) Functional position
 (3) Physical position
 (4) Feeding position
12. Dead heart of sugarcane is formed by :
 (1) *Chilo auricilius* (2) *Melananopsis glomerata*
 (3) *Scirpophaga excerptalis* (4) *Chilo infuscatellus*
13. Purple colour discoloration in apple fruits due to attack of :
 (1) *Icerya Purchasi* (2) *Eriosoma Lanigerum*
 (3) *Quadraspidiotus perniciosus* (4) *Cydia pomonella*
14. A specific strain of a species adapted to a particular set of environmental conditions :
 (1) Biotype (2) Prototype
 (3) Allotype (4) Ecotype
15. Cowpea mosaic disease is transmitted by :
 (1) *Ceratoma trifurcata* (2) *Bemisia tabaci*
 (3) *Aceria cajani* (4) *Myzus persicae*

16. Pusa Jai Kissan is resistant variety against :
- | | |
|-----------------|-----------------------|
| (1) Aphid | (2) Saw fly |
| (3) Painted Bug | (4) Diamond back moth |
17. *Pareuchaetes pseudoinculata* is bio control agent of :
- | | |
|------------------|------------------|
| (1) Prickly pear | (2) Water fern |
| (3) Siam weed | (4) Crofton weed |
18. Mycar is commercial formulation of :
- | | |
|---------------------------------|---------------------------------|
| (1) <i>Bacillus papillae</i> | (2) <i>Hirsutella thompsoni</i> |
| (3) <i>Verticillium lecanii</i> | (4) <i>Beauveria bassiana</i> |
19. Which one of the following is systemic anti-feedent ?
- | | |
|------------------|---------------|
| (1) Baygon | (2) Pyrethrum |
| (3) Azadirachtin | (4) Phlorizin |
20. Life table was first adopted for which of the following insect ?
- | | |
|---------------------------------|--|
| (1) <i>Mayetiola destructor</i> | (2) <i>Choristoneura fumiferana</i> |
| (3) <i>Cydia pomonella</i> | (4) <i>Quadraspidiotus perniciosus</i> |
21. The organophosphate insecticides were developed in which country during World War II as a substitute for nicotine :
- | | |
|-------------|-------------|
| (1) Sweden | (2) England |
| (3) Germany | (4) France |
22. In rice successful transfer of Brown plant hopper and white backed plant hopper resistance genes has been done from which plant ?
- | | |
|---------------------------|------------------------------|
| (1) <i>Oryza nivara</i> | (2) <i>Oryza officinalis</i> |
| (3) <i>Oryza nitidula</i> | (4) <i>Oryza sativa</i> |
23. Gaia hypothesis was proposed by :
- | | |
|------------------------|--------------|
| (1) James and Lovelock | (2) Pimental |
| (3) De Bach | (4) Chitty |

24. Which one of the following is Non ester Pyrethroid ?
 (1) Ethofenprox (2) Allethrin
 (3) Cypermethrin (4) Deltamethrin
25. In modified atmosphere technique the O₂ concentration should be :
 (1) 10% (2) 5%
 (3) 1% (4) Less than 1%
26. Webbing of leaves, buds and pods and feeds inside the web are the damage symptoms of :
 (1) *Helicoverpa armigera* (2) *Maruca vitrata*
 (3) *Melanagromyza obtuse* (4) *Exelastis atomosa*
27. Specific gravity of honey ranged from :
 (1) 2.33-2.44 (2) 3.33-3.44
 (3) 1.35-1.44 (4) 1.22-1.55
28. The dirt and left over material in the cloth bag after recovering molted lac is called :
 (1) Passewa (2) Kiri
 (3) Molemma (4) Seed lac
29. Which of the following is not scavenger family ?
 (1) Staphylinidae (2) Nitidulidae
 (3) Tipulidae (4) Arctidae
30. Antijuvénile hormone was isolated from :
 (1) *Ageratum houstonianum* (2) *Azadirachta indica*
 (3) *Ocimum basilicum* (4) *Tagetes erecta*
31. Farmers Field School was first started in which country ?
 (1) India (2) Indonesia
 (3) China (4) Philippines

32. Aerosols contains how much percentage of toxicant ?
 (1) 2% (2) 10% (3) 5% (4) 20%
33. In which of the following type of pest GEP is always above the EIL ?
 (1) Potential pest (2) Sporadic pest
 (3) Key pest (4) Occasional pest
34. Paper factor was discovered by :
 (1) E. F. Smith (2) Slama and Williams
 (3) Sterling (4) Wigglesworth
35. *Bacillus thuringiensis* was reported by Berliner from :
 (1) *Tribolium* (2) *Heliothis* (3) *Ephesia* (4) *Spodoptera*
36. In which of the following insect the spiracles are absent ?
 (1) Cecidomyid larvae (2) Chironomid larvae
 (3) Mycetophilid larvae (4) Psycodid larvae
37. The basis of antibiosis in corn against European corn borer is :
 (1) Nutritional imbalance
 (2) Presence of growth inhibitors MBOA and DIMBOA
 (3) Presence of toxins
 (4) Nutritional deficiency
38. *Rodolia cardinalis* has been successful in controlling :
 (1) Apple wooly aphid (2) Cottony cushion scale
 (3) Sugarcane shoot borer (4) Pink boll worm
39. Which of the following insects are migratory in nature ?
 (1) *Danaus* (2) Aphid (3) Locust (4) Grasshopper
40. A typical hopper burn in rice caused by feeding of :
 (1) Aphid (2) Gundhi bug
 (3) Brown Plant hopper (4) Mites

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. Define Integrated Pest Management and how it differs from Integrated Pest Control ?
2. Define the term biological control and describe the foreign exploration and introduction technique of biological control.
3. Define the term toxicology and describe the mode of action of Oxadiazines and neonicotinoids.
4. What is host plant resistance and how the phytophagous insects select their host ?
5. Describe the role of molecular biology in Insect Pest Management.
6. Describe about the digestive system of insects.
7. Enlist the major insect pests of cotton and discuss about nature of damage, life cycle and management of white fly.
8. Describe the management of root knot nematode in vegetable crops.
9. Describe the role of life table in integrated pest management.
10. Define the clarify diapauses and enlist the different phases of diapauses.

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।