

Set No. : 1

Question Booklet No.

RET/14/TEST-B

743 Entomology & Ag. Zoology

(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

RET/14/TEST-B

743/Entomology & Ag. Zoology

ROUGH WORK

रफ़ कार्य

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. Which of the following crops have been approved for commercial cultivation in India ?
- (1) Bt brinjal (2) Golden Rice
(3) Bt maize (4) Bt cotton
12. A notorious weed, *Lantana camara* is controlled by :
- (1) Lantana bug (2) Shoot fly
(3) Cochnial insect (4) Tur pod bug
13. Malpighian tubules are meant for :
- (1) Respiration (2) Excretion
(3) Digestion (4) Secretion
14. *Bacillus thuringiensis* was reported by Berliner from :
- (1) Tribolium (2) Heliothis
(3) Ephestia (4) Spodoptera

- 15.** Basic unit of classification is known as :
- | | |
|-------------|-----------|
| (1) Species | (2) Genus |
| (3) Family | (4) Order |
- 16.** Economic threshold level is generally :
- | |
|--|
| (1) Lower than Economic Injury Level (EIL) |
| (2) Equal to EIL |
| (3) More than EIL |
| (4) Reached when severe damage is done |
- 17.** Fore-gut is lined internally by :
- | | |
|--------------------------|-------------------------|
| (1) Peritrophic membrane | (2) Epithelial membrane |
| (3) Intima | (4) Taenidia |
- 18.** Giving complete coverage to one hectare crop with more than 250 liters of spray solution is called:
- | | |
|-------------------------|---------------------------|
| (1) Low volume spray | (2) Very low volume spray |
| (3) Medium volume spray | (4) High volume spray |
- 19.** In India, lac is mainly produced in :
- | | |
|----------------|---------------|
| (1) Tamil Nadu | (2) Bihar |
| (3) Kerala | (4) Rajasthan |
- 20.** Insects feeding on plants of several genera within a family are called :
- | | |
|------------------|-----------------|
| (1) Phytophagous | (2) Polyphagous |
| (3) Oligophagous | (4) Monophagous |

21. Integrated Pest Management (IPM) aims at :
- (1) Keeping pest populations below injurious levels
 - (2) Increasing natural enemies of the pest
 - (3) Strengthening the host
 - (4) Keeping pest populations below EIL
22. Juvenile hormone is secreted by :
- (1) Thoracic glands
 - (2) Carpora allata
 - (3) Carpora cardiaca
 - (4) Neurosecretary cells
23. Light trapping of insects is done in :
- (1) Cultural methods
 - (2) Legal methods
 - (3) Mechanical methods
 - (4) Preventive methods
24. Maize stem borer hibernates in which stage ?
- (1) Egg
 - (2) Larva
 - (3) Pupa
 - (4) Adult
25. *Odontotermes obesus* is the scientific name of :
- (1) Cutworm
 - (2) Termite
 - (3) Shoot borer
 - (4) Top borer
26. Order Odonata includes :
- (1) May flies
 - (2) Dragon flies
 - (3) Stone flies
 - (4) Fruit flies
27. Pheromones are also known as :
- (1) Antibiotics
 - (2) Ectohormones
 - (3) Hormones
 - (4) Attractants

28. Respiratory system in which, 1 mesothoracic and 7 abdominal spiracles are functional is called :
- (1) Peripneustic (2) Hemipneustic
(3) Amphipneustic (4) Metapneustic
29. Sanjose scale is a pest of :
- (1) Apple (2) Pear
(3) Mango (4) Banana
30. The alimentary canal of insect is derived from :
- (1) Ectoderm (2) Ectoderm and endoderm
(3) Mesoderm and endoderm (4) Ectoderm and mesoderm
31. The density of pest population at which control measures should be applied ?
- (1) GEL (2) PBL
(3) EIL (4) ETL
32. The function of peritrophic membrane is :
- (1) Absorption (2) Assimilation
(3) Protection (4) Excretion
33. The insects are able to maintain the balance while walking due to :
- (1) Hexapod (2) Small size
(3) Exoskeleton (4) Wings
34. The mouth parts of a caterpillar is :
- (1) Biting and chewing type (2) Coiled and suctorial type
(3) Piercing and suctorial type (4) Suctorial proboscis type

- 35.** Tree banding is useful for the control of :
- | | |
|---------------------|-----------------------------|
| (1) Mango hopper | (2) Bark eating caterpillar |
| (3) Mango mealy bug | (4) Mango stem borer |
- 36.** Which of the following is pest of cotton ?
- | | |
|---------------|---------------|
| (1) Fruit fly | (2) White fly |
| (3) Stem fly | (4) Saw fly |
- 37.** Which of the following aphid feeds on pulses ?
- | | |
|-------------------------|----------------------|
| (1) Rhpalosiphum maidis | (2) Aphis craccivora |
| (3) Myzus persicae | (4) Lipaphis erysimi |
- 38.** "Hopper burn" appears in :
- | | |
|-------------|---------------|
| (1) Wheat | (2) Sugarcane |
| (3) Sorghum | (4) Rice |
- 39.** Which of the following substance can be defined as a chemical substance designed to control weeds ?
- | | |
|-----------------|---------------|
| (1) Insecticide | (2) Pesticide |
| (3) Herbicide | (4) Acaricide |
- 40.** Relatively new insecticides that have both low persistence and low toxicity to mammals are what ?
- | | |
|------------------------------|----------------|
| (1) Organophosphates | (2) Triazines |
| (3) Chlorinated hydrocarbons | (4) Carbamates |

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. Describe various type of wing coupling mechanisms found in insects.
02. What is ecdysis and how does it takes place in insects ?
03. Define Integrated Pest Management and how it differs from Integrated Pest Control ?
04. Define the term biological control and describe the foreign exploration and introduction technique of biological control.
05. Define the term toxicology and describe the mode of action of Oxadiazines and neonicotinoids.
06. What is host plant resistance and how the phytophagous insects select their host ?
07. Write in brief the nature of damage and management of following insect pests –
 - (A) Brown plant hopper
 - (B) Tur pod fly
08. Write short notes on –
 - (A) Filter chamber
 - (B) Malpighian tubules
09. Describe the role of molecular biology in Insect Pest Management.
10. What is speciation and how speciation occurs in insects ?

Question No.

Page for Short Answer

प्रश्न संख्या

लघु उत्तरीय के लिए पृष्ठ

Question No.

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Page for Short Answer

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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।