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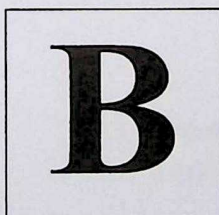
D(1st Sm.)-Zoology-H/SEC-1/CCF



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Invigilator's Signature



2025

ZOOLOGY — HONOURS

Paper : SEC-1

(Applied Entomology)

Full Marks : 75

The figures in the margin indicate full marks.

SECTION - A

Tick the correct answer (*any twenty-five*).

1×25

1. Pullorum is _____ disease.

(A) viral ☐	(B) bacterial ☐
(C) fungal ☐	(D) protozoan ☐
2. 'White ear' in rice developed due to

(A) stem borer ☐	(B) leaf folder ☐
(C) swarming caterpillar ☐	(D) case worm ☐
3. Hamulate type of wing coupling apparatus is found in

(A) grasshopper ☐	(B) butterfly ☐
(C) bug ☐	(D) honeybee ☐
4. Quarantine control of an insect pest involves

(A) eradication of the pest ☐
(B) limit the movement of the pest ☐
(C) co-operation of the public ☐
(D) both (B) and (C) ☐
5. Which one is contact pesticide?

(A) parathion ☐	(B) malathion ☐
(C) demacron ☐	(D) DDT ☐
6. Brood foul disease of honeybee is caused by

(A) fungi ☐	(B) protozoa ☐
(C) bacteria ☐	(D) virus ☐
7. Dorsal surface of insect is known as

(A) pleuron ☐	(B) sternum ☐
(C) tergum ☐	(D) plastron ☐
8. *Leucinodes* belongs to order

(A) Coleoptera ☐	(B) Lepidoptera ☐
(C) Diptera ☐	(D) Orthoptera ☐
9. In insect a term 'Sectorial' is associated with

(A) wings ☐	(B) legs ☐
(C) antenna ☐	(D) mouthparts ☐

Please Turn Over

10. Due to its ferocious nature _____, this bee species is not domesticated.
(A) *Apis mellifera* ☐ (B) *Apis dorsata* ☐
(C) *Apis cerana indica* ☐ (D) *Apis florae* ☐
11. The phenomenon of using a predator to control pests is _____.
(A) artificial control ☐ (B) genetic engineering ☐
(C) confusion technique ☐ (D) biological control ☐
12. Bed bugs and stink bugs belong to the order
(A) Hemiptera ☐ (B) Coleoptera ☐
(C) Thysanoptera ☐ (D) Diptera ☐
13. Worker honeybees in a colony
(A) are all sterile females ☐ (B) all are sterile males ☐
(C) all are fertile males ☐ (D) all are fertile females ☐
14. Mouthparts of insects directed forward in
(A) prognathous type ☐ (B) opisthognathous type ☐
(C) hypognathous type ☐ (D) hypergnathous type ☐
15. In insects, the sclerite in between frons and the labrum is
(A) Clypeus ☐ (B) Maxilla ☐
(C) Gena ☐ (D) Vertex ☐
16. During faunal succession in forensic entomology, the fly/flies first come to a corpse is/are
(A) blow flies ☐ (B) flesh flies ☐
(C) dung flies ☐ (D) soldier flies ☐
17. Which is correct about sericin protein of silk?
(A) It is a gelatinous protein ☐
(B) It forms the inner core of silk filament ☐
(C) It is secreted from the anterior part of the silk gland ☐
(D) It does not contain pigment ☐
18. Midgut nuclear polyhedrosis is a
(A) DNA virus ☐ (B) RNA virus ☐
(C) Neither DNA nor RNA virus ☐ (D) Cytoplasmic virus ☐

19. Chemical control measures of Uzi fly includes
(A) exposure to radiation ☐
(B) application of vijeta ☐
(C) fly leaf paper coated with vaseline ☐
(D) uzinet ☐
20. The largest cell in honeycomb is
(A) storage cell ☐ (B) worker cell ☐
(C) queen cell ☐ (D) drone cell ☐
21. Halteres are modification of
(A) legs ☐ (B) wings ☐
(C) mouthparts ☐ (D) genitalia ☐
22. Which of the following is not an apterygote?
(A) Bristle tail ☐ (B) Spring tail ☐
(C) Bed bug ☐ (D) Silver fish ☐
23. Nosema is _____ disease.
(A) viral ☐ (B) bacterial ☐
(C) protozoan ☐ (D) fungal ☐
24. Some of the evolutionary advantages of social behaviour include
(A) improved resource acquisition ☐ (B) improved defense ☐
(C) improved survival of offspring ☐ (D) All of these ☐
25. Largest insect order is
(A) Diptera ☐ (B) Coleoptera ☐
(C) Hemiptera ☐ (D) Orthoptera ☐
26. The principal function of peritrophic membrane is
(A) absorption ☐ (B) assimilation ☐
(C) protection ☐ (D) excretion ☐
27. An insect leg adapted for swimming is called
(A) ambulatorial ☐ (B) saltatorial ☐
(C) natatorial ☐ (D) cursorial ☐
28. Common natural Parasitoid/Predator of rice in India for *Scirpophaga incertulas*
(A) *T. ayyari* ☐ (B) *Bracon chinensis* ☐
(C) *Conocephalus longipennis* ☐ (D) All ☐

Please Turn Over

29. Which one is used for sealing agent of animal origin?

(A) Resin ☐

(B) Asafoetida ☐

(C) Lac ☐

(D) Latex ☐

30. Lyonnet's gland is found in _____ of silk-moth.

(A) larva ☐

(B) pupa ☐

(C) adult ☐

(D) All ☐

SECTION - B

Tick the correct answer (*any twenty-five*).

2×25

31. Honey extractor works on principle of _____ for honey extraction.

(A) gravitational force ☐

(B) centrifugal force ☐

(C) rotational force ☐

(D) electrostatic force ☐

32. Choose the wrong pair :

Haltere is

(A) a balancing organ ☐

(B) a flying organ ☐

(C) an excretory organ ☐

(D) a copulatory organ ☐

33. Using a barriers to prevent pests from getting into an area is an example of which type of pest management method?

(A) Biological control ☐

(B) Mechanical control ☐

(C) Genetic control ☐

(D) Chemical control ☐

34. Bracon hebetor is

(A) larval parasitoid ☐

(B) pupal parasitoid ☐

(C) nymphal parasitoid ☐

(D) egg parasitoid ☐

35. Which insect order contain species that are important pests of domestic animals?

(A) Siphonoptera and Coleoptera ☐

(B) Orthoptera and Hemiptera ☐

(C) Diptera and Phthiraptera ☐

(D) All of these ☐

36. The propolis is prepared by mixing with

(A) Honey ☐

(B) Royal jelly ☐

(C) Wax ☐

(D) Pollen ☐

37. Insects use _____ to breathe.

(A) antenna ☐

(B) nostrils ☐

(C) spiracles ☐

(D) skin ☐

(B - 7)

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38. Which of these insects are considered to be late stage scavengers?
(A) Macrocheles mites ☐ (B) Hide beetles ☐
(C) Hister beetles ☐ (D) Devil's coach-horse beetles ☐
39. Causative agent of brown muscardine is
(A) *Metarrhizium arisopliae* ☐
(B) *Beauveria bassiana* ☐
(C) *Aspergillus flavus* ☐
(D) *Poecilomyces farinosus* ☐
40. Insects feeding on plants of several genera within a family are called
(A) phytophagous ☐ (B) polyphagous ☐
(C) oligophagous ☐ (D) monophagous ☐
41. Family of *Leucinodes orbonalis* is
(A) Curculionidae ☐ (B) Crambidae ☐
(C) Erebridae ☐ (D) Noctuidae ☐
42. Biological method for controlling mosquito is
(A) use of larvicides ☐ (B) use of mosquito net ☐
(C) use of insecticides ☐ (D) cultivation of *gambusia* sp. ☐
43. The phenomenon of inundative inoculation for controlling of pests is
(A) artificial control ☐ (B) confusion technique ☐
(C) biological control ☐ (D) genetic engineering ☐
44. When are *Aedes aegypti* mosquitoes most active in biting?
(A) Late at night ☐
(B) Mid day ☐
(C) Early morning and evening (before dusk) ☐
(D) Only at dawn ☐
45. Economic threshold level always
(A) lower than economic injury level ☐ (B) equal to EIL ☐
(C) more than EIL ☐ (D) reached when severe damage is done ☐
46. Which of the following silk is mainly produced in Assam?
(A) Arundi ☐ (B) Muga ☐
(C) Tasar ☐ (D) Mulberry ☐

Please Turn Over

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47. Which of the following are specialized types of chordotonal organs situated on second antennal segment of most of the insects?
- (A) Tympanyal organ ☐ (B) Brunner's organs ☐
(C) Johnston's organ ☐ (D) Toilet organ ☐
48. The point at which the cost of pest damage exceeds the cost of control is known as
- (A) Economic Injury Level (EIL) ☐
(B) Economic Threshold Level (ETL) ☐
(C) General Equilibrium Positions (GEP) ☐
(D) Damage boundary ☐
49. The type of antennae found in honeybee are
- (A) setaceous ☐ (B) geniculate ☐
(C) filiform ☐ (D) serrate ☐
50. What is Voltinism?
- (A) Number of generation in a year ☐ (B) Number of offspring in a year ☐
(C) Number of eggs laid in a year ☐ (D) Number of moulting in a year ☐
51. The sensory element of compound eye is
- (A) rhabdom ☐ (B) iris cell ☐
(C) lens ☐ (D) serotonin ☐
52. The legless young of a housefly is known as
- (A) caterpillar ☐ (B) maggot ☐
(C) nymph ☐ (D) grub ☐
53. Which of the following is an incorrectly matched pair of a disease and its associated vector?
- (A) Leishmaniasis – *Anopheles culifacies* ☐
(B) Dengue fever – *Aedes aegypti* ☐
(C) Filariasis – *Culex pipiens* ☐
(D) Sleeping sickness – *Glossina palpalis* ☐
54. Which class of chemical insecticides is characterized by a relatively high degree of environmental persistence?
- (A) Carbamates ☐ (B) Synthetic pyrethroids ☐
(C) Organophosphate ☐ (D) Chlorinated hydrocarbon ☐

55. The most important vectors (transmission agents) of human disease would probably be
(A) moths ☐ (B) ants ☐
(C) beetles ☐ (D) fleas ☐
56. What is the composition of the exoskeleton of an arthropod?
(A) Carbohydrate rich ☐ (B) Protein rich ☐
(C) Lipid rich ☐ (D) Collagen rich ☐
57. Ladybird beetle is a predator of
(A) aphid ☐ (B) scale insect ☐
(C) mites ☐ (D) All of these ☐
58. Which is a microbial insecticide?
(A) Brevis ☐ (B) Polymyxa ☐
(C) Subtilis ☐ (D) Bacillus thuringiensis ☐
59. The time between death and corpse discovery is
(A) Post Mortem Interval ☐ (B) Post Mortem Investigation ☐
(C) Post Modern Interval ☐ (D) Post Management Interval ☐
60. Silk is composed of
(A) 60 – 70% fibroin, 20 – 25% sericin ☐ (B) 50% fibroin, 50% sericin ☐
(C) 20 – 25% fibroin, 60 – 70% sericin ☐ (D) 80 – 90% fibroin, 10 – 15% sericin ☐
61. Which one of the following is cross vein?
(A) Costa ☐ (B) Radial ☐
(C) Media ☐ (D) Anal ☐
62. Where the nectar is converted into honey?
(A) In the alimentary canal of the queen ☐
(B) In the alimentary canal of the worker ☐
(C) In royal chamber ☐
(D) In special cell of the hive ☐
63. A honeybee colony is termed weak or strong on the basis of number of
(A) comb ☐ (B) worker bee ☐
(C) queen ☐ (D) All of these ☐

Please Turn Over

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64. Honeybee caste determination is
- (A) regulated by food ☐
 - (B) regulated by photoperiod and temperature ☐
 - (C) regulated by waggle dance ☐
 - (D) determined by pesticides in the environment ☐
65. The Hypognathous head is found in
- (A) rice weevil ☐
 - (B) locust ☐
 - (C) red cotton bug ☐
 - (D) aphid ☐
- _____

Marks Obtained

Signature of Examiner

Signature of Scrutineer