



WEST BENGAL STATE UNIVERSITY
B.Sc. Honours 5th Semester Examination, 2022-23



ZOOADSE02T-ZOOLOGY (DSE1/2)

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.*

1. Answer any **eight** questions from the following: 2×8 = 16
 - (a) What is spermatophore? Name an insect species who bears this structure.
 - (b) What is rhabdomere?
 - (c) What is paurometabolus insect? Give example.
 - (d) What is ommatidium?
 - (e) Define hemimetabolic metamorphosis.
 - (f) Name the excretory organs of insect.
 - (g) State the function of corpora cardiaca.
 - (h) Name the insect pests causing 'dead heart' and 'defoliation' of paddy pest.
 - (i) Name the vectors of "Leishmaniasis" and "Trypanosomiasis".
 - (j) Mention the salient features of the order Lepidoptera.
 - (k) Give two examples of holometabolous insect.
 - (l) What is haltere?

2. Answer any **three** questions from the following: 3×3 = 9
 - (a) Describe the biting and chewing type of mouthparts of insect. 3
 - (b) What is the role of juvenile Hormone in insect metamorphosis? From where it is secreted? 2+1
 - (c) What is biological vector? Name the disease transmitted by *Aedes* sp in India. 2+1
 - (d) Mention the order of the following: $\frac{1}{2} \times 6 = 3$
 - (i) Dragon fly
 - (ii) Sand fly
 - (iii) Dung beetle
 - (iv) Termite
 - (v) Paper wasp
 - (vi) Honey bee
 - (e) Describe the social organisation and feeding communication behaviour of honey bee. 2+1

3. Answer any **three** questions from the following: 5×3 = 15
 - (a) Mention the characteristics of the order Hymenoptera and odonata with example. $2\frac{1}{2} + 2\frac{1}{2}$
 - (b) Describe the parts of a typical insect antenna with a suitable diagram. 3+2
 - (c) Describe the types of photoreceptors found in insects. 5
 - (d) Describe the structure of compound eye of an insect and state the mechanism of superposition of image within it. 3+2
 - (e) Describe different types of insect legs with their adaptive significance. 5

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