2016

ZOOLOGY

[Honours]

PAPER – IV

Full Marks : 90

Time : 4 hours

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

[OLD SYLLABUS]

GROUP – A

Answer **two** questions of the following :   15 × 2

1. What are meant by point sources and non-point sources of pollution ? Enlist the major water

pollutants and state their sources. How does water pollutants affect human health ? Explain why aquatic animals are at high risk under thermal pollution.   2 + 5 + 5 + 3

2. Name the different species of honey be found in India. Describe the improved method of bee keeping practised in India. State the composition and uses of honey.   3 + 8 + (2 + 2)

3. What is hypophysation ? Give a detailed description of the hypophysation technique applied for breeding of Indian major carps. State its advantages and disadvantages.   1 + 8 + 3 + 3

4. Describe the life-history, nature of damage and control measures of a vegetable pest.   8 + 3 + 2 + 2

5. Differentiate between "Null Hypothesis" and "Alternative Hypothesis". What do you mean by 'Yate's Correction' ? Find whether or not the following observed distribution of phenotypes in a sample of 378 *Drosophila* flies have

(*Continued*)

significant goodness of fit with proposed Mendelian $9 : 3 : 3 : 1$ distribution. :

Phenotypes :	AB	Ab	aB	ab	Total
Number of animals :	228	78	55	17	378

[Given that : Table value for 3 degrees of freedom (at $\alpha = 0.05$) is 7.82] $2 + 3 + 10$

6. Answer *three* of the following : 5×3

   (*a*) Effect of noise pollution (brief representation only)

   (*b*) "Appiko Movement" — give a brief description

   (*c*) Short note on SD and SE.

   (*d*) Comment on silk varieties found in India.

   (*e*) Write the control measures of a Rodent pest.

GROUP – B

Answer five questions of the following : 8×5

7. Explain how greenhouse gases are responsible for global warming. How do photochemical smog is formed ? $5 + 3$

8. What are acute toxicity and chronic toxicity tests ? Distinguish between LC_{50} and LD_{50}.　4 + 4

9. State the ecology and behaviour of a rodent pest.　8

10. Describe the location and structure of silk gland with a suitable diagram. Write down the composition of silk.　5 + 3

11. Mention the causative agents and symptoms of two diseases of silk moth. Describe the process of extraction of silk.　(2 + 2) + 4

12. Define regression and correlation. Find out the value of $'r'$ from the following data :　(2 + 2) + 4

　　Height (ft.)　:　2　　3　　4　　5
　　Weight (kg.) :　15　20　30　40

13. Mention two common poultry breeds with their salient features. What is debeaker ?　6 + 2

14. Name four exotic fishes stating their country of origin.　2 × 4

　　　　　　(*Continued*)

15. Write notes on :   4 + 4

   (*i*) Use of Internet

   (*ii*) CPU of a computer.

GROUP – C

Answer **five** questions of the following :   4 × 5

16. Briefly describe application of key board as a desktop device.   4

17. Elaborate the idea of biomagnification with suitable data.   4

18. State any two applications of statistics in biology. 4

19. What is acid rain ? What are its impacts on ecosystem ?   2 + 2

20. Categories the sources of noise pollution. Mention the effects of noise pollution on human health.   2 + 2

21. Define byproducts of fish. Name some comon byproducts of fish and their use.   1 + 3

22. What is a pest ? Distinguish between major and minor pests. 1 + 3

23. Distinguish between penaeid and non-penaeid prawn. 4

24. Find out the mean and standard deviation of age (yr.) of five individuals of a family — 2, 5, 12, 20 and 18 respectively. 2 + 2

25. Write a note on deep litter system in poultry. 4

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