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Name.....

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Reg. No.....

SECOND SEMESTER B.Sc. DEGREE EXAMINATION, MAY 2014

(UG—CCSS)

Core Course—Zoology

ZO 2B 03—METHODOLOGY OF ZOOLOGICAL EXPLORATIONS

(2009—2012 Admissions)

Time : Three Hours

Maximum : 30 Weightage

Give illustrations wherever necessary.

I. Answer *all twelve* questions. Each question carries 0.25 weightage.

A. Objective type questions :

1 Which of the following is used for collecting nocturnal insects ?

- (a) Light traps. (b) Tullgren funnel.
(c) Funnel trap. (d) Box trap.

2 Who proposed the three kingdom classification ?

- (a) R.H. Whittaker. (b) Earnst Haeckel.
(c) Carl Woese. (d) Linnaeus.

3 The technique used for the analysis of DNA is :

- (a) Northern blotting. (b) Southern blotting.
(c) Western blotting. (d) Eastern blotting.

4 The optical device used for making accurate sketches of the objects under microscopic observation is :

- (a) Centrifuge. (b) Camera lucida.
(c) Dark field microscopes. (d) Light microscope.

B. Name the following :—

5 A commonly used method for the demonstration of lipids.

6 A fixative used in electron microscopy.

7 Name the staining technique that uses a dye to stain the background but not the cell.

8 Name a mounting medium of permanent mount.

C. Fill in the blanks :

9 Phase contrast microscope is used to examine the components of _____.

10 _____ is a separation technique movement of charged molecules in an electric field.

Turn over

11 Magnification = $\frac{\text{Size of the retinal image formed by unaided eye}}{\text{Size of the object}}$

12 The rate of sedimentation of particles in centrifugation is called $\frac{S \times 10^{-13}}{10^{-13}}$. (12 × ¼ = 3 weight)

II. Short Answer Questions. Answer *all nine* questions :

13 Bilateral symmetry.

14 Mutilation.

15 Fluorescent dyes.

16 Home range.

17 Freeze fixation.

18 Eucoelomate.

19 NMR spectroscopy.

20 State Beer-Lambert law.

21 What is staining ? Name a neutral stain.

III. Short Answer Questions. Answer any *five* questions :

22 Briefly describe Western blotting.

23 What do you understand by remote sensing ?

24 List four methods employed in trapping and collecting birds.

25 What is PCR ? Mention two applications of PCR.

26 Differentiate between Diploblastic and Triploblastic organisms with examples.

27 Mention the merits of five kingdom classification.

28 What is meant by resolving power of a microscope ?

IV. Essay Questions. Answer any *two* questions :

29 What is nomenclature ? Briefly explain the four systems of biological nomenclature.

30 What is DNA fingerprinting ? Mention four applications of DNA finger printing.

31 Briefly describe the illumination source and lens systems in electron microscope. List different types of electron microscopes.