

C 43510

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Name.....

Reg. No.....

FIRST SEMESTER B.Sc. DEGREE EXAMINATION, JULY 2013

(CCSS)

Zoology

ZO1 B01—GENERAL METHODOLOGY AND PERSPECTIVES IN SCIENCE

Time : Three Hours

Maximum : 30 Weightage

*Answers may be written either in English or Malayalam.
Give illustrations wherever necessary.*

I. Answer all *twelve* questions. Each question carries $\frac{1}{4}$ weightage :

A. Objective type questions :

1 A Hypothesis is :

- (a) An experiment. (b) A random thought.
(c) An answer. (d) An educated guess.

2 Urey and Miller experiment is an example for :

- (a) Simulation. (b) Theory.
(c) Model. (d) Sample analysis.

3 In which of the following graphical representation, the frequency is shown by the area of the bar ?

- (a) Line diagram. (b) Histogram.
(c) Bar diagram. (d) Frequency polygon.

4 The difference between the lowest and highest values in a set of data is :

- (a) Mean. (b) Median.
(c) Mode. (d) Range.

B. Name the following :—

- 5 The technique, which uses a Computer simulation of a real or imaginary system for various studies.
6 A collection of numbers or facts that is used as a basis for making conclusions.
7 A Hypothesis which the researcher tries to disprove, reject or nullify.
8 The exclusive right granted by a government to an inventor to manufacture, use or sell an invention for a certain number of years.

Turn over

C. Fill in the blanks :

- 9 Variables which are experimentally manipulated by an investigator are called _____.
- 10 The practice of taking someone else's work or ideas and passing them off as one's own is known as _____.
- 11 A number representing the degree of variation within a numerical set is _____.
- 12 Data collected by the researcher for the first time is known as _____.

(12 × ¼ = 3 weightage)

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

- 13 Define Scientific theory.
- 14 Define Patent.
- 15 What is Scientific knowledge ?
- 16 What is Sampling error ?
- 17 Define Inductive reasoning.
- 18 Define Mean deviation.
- 19 Write a note on diagrammatic representation of data.
- 20 What is Knowledge sharing ?
- 21 What is Data collection ?

(9 × 1 = 9 weightage)

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

- 22 What do you mean by Scientific Law ?
- 23 List different types of Knowledge.
- 24 What is Simulation ?
- 25 Briefly explain measures of Central tendency.
- 26 What makes Peer reviewing essential for the publication of a Scientific paper ?
- 27 List major disciplines of Science.
- 28 Find the Mean, Median, Mode, and Range for the following list of values :

13,18,13,14,13,16,14,21,13

(5 × 2 = 10 weightage)

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

- 29 Explain the major steps in Designing an experiment.
- 30 Explain the importance of Ethics in science.
- 31 Explain the importance of Graphical representation of data.

(2 × 4 = 8 weightage)