C 24741

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Name...............................

Reg. No............................

SECOND SEMESTER B.Sc. DEGREE EXAMINATION, MAY 2017

(CUCBCSS—UG)

Core Course—Botany

BOT 2B 02—RESEARCH METHODOLOGY AND MICRO TECHNIQUE

Time : Three Hours

Maximum : 80 Marks

I. Answer *all* questions. (1 mark each) :

Choose the correct answer :

1 The source of illumination in an electron microscope is :

(Light, Photon, Neutron, None of these).

2 Which of the following is a killing agent ?

(Formalin glycerine, Carnoys fluid, Safranin).

3 The abbreviation pH stands for :

(Portions hydrogen, Portions hydroxyl, Potenz hydrogen, Potenz hydroxyl).

4 Hypothesis is a tentative.

(Guess, theory, Solution, Thesis).

Fill in the blanks :

5 Science is the art of the ————.

6 ———— is a central tendency.

7 TEM stands for ————.

8 DPX is a ————.

Answer in a single word :

9 What is the name of the device used to measure microscopic objects ?

10 Who devised the *t*-test ?

(10 × 1 = 10 marks)

Turn over

II. Answer *all* questions. Short answer. (2 marks each) :

11 Differentiate between mode and median.

12 Differentiate between killing and fixing.

13 Differentiate between an acid and a base.

14 What is adsorption chromatography ?

15 Name any 3 renowned journals in plant science.

16 What is the full form of LCD ?

17 Mention the name of a vital stain ?

18 What is the purpose of double staining.

19 What is a camera lucida ?

20 What is molarity ?

(10 × 2 = 20 marks)

III. Answer any *six* questions. Short Essays. (5 marks each) :

21 What is probability ? Describe the multiplication rule in probability.

22 What is Chi square test ? How does it differ from *t*-test ?

23 Briefly describe the technique of maceration.

24 What is coefficient of variation ? Why is it important in determining sample size.

25 Explain the principle of centrifugation.

26 Differentiate between type 1 and type 2 errors.

27 Write the steps in TBA series.

28 Differentiate between stage micrometer and ocular micrometer.

(6 × 5 = 30 marks)

IV. Answer any *two* questions. Essay. (10 marks each) :

29 Describe the various graphical means in the representation of data.

30 Describe the basic assumptions and steps in scientific methodology.

31 What is a stain ? How are the stains used in micro technique classified ?

(2 × 10 = 20 marks)