

(6 pages)

Reg. No. :

Code No. : 6435

Sub. Code : HZOE 41

M.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2016.

Fourth Semester

Zoology — Main

Elective — RESEARCH METHODOLOGY

(For those who joined in July 2012 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Research that is related to some abstract idea(s) or theory is referred as
 - (a) Qualitative research
 - (b) Empirical research
 - (c) Fundamental research
 - (d) Analysical
2. One of the best example for copy rights is
 - (a) Super bug
 - (b) Book
 - (c) Basumathi
 - (d) Telephone

3. The major component of annular disc is present is
 - (a) Blight field microscope
 - (b) Fluorescence microscope
 - (c) Phase – contrast microscope
 - (d) Scanning microscope
4. The AFM is working in the mode of
 - (a) Repulsive contact
 - (b) Non contact
 - (c) Tapping
 - (d) All of these
5. The sedimentation coefficient is expressent in
 - (a) Colomb unit
 - (b) Morgan unit
 - (c) Swedberg unit
 - (d) Rontgen unit
6. The best cryoprotectant used for cryoproservation
 - (a) Sodium citrate
 - (b) Cotric acid
 - (c) Dimethyl sulfoxide
 - (d) Methyl acid
7. The electrophoretic mobility is affected by
 - (a) Size of the sample
 - (b) Charge of the sample
 - (c) Electric field
 - (d) All of these

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8. Supporting media that can be scanned in the visible light and the UV light is
- (a) Paper (b) Cellulose acetate
(c) Starch (d) Agarose
9. In atomic absorption spectro photometer a rotating wheel is interposed between the hallow cathode lamp the flame is called
- (a) Springer (b) Analyzer
(c) Chopper (d) Stirrer
10. ESR is used to
- (a) To study metallic protein
(b) To elucidate the mechanism of enzyme reaction
(c) To find out the binding site of metal cons an a protein
(d) All of these

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write an account on research report formatting and typing.
- Or
- (b) Evaluate the steps to the followed in research.

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12. (a) Examine the principle and types of light microscopes.

Or

- (b) Explain the components of micrometry and its uses.
13. (a) Describe the principle and instrumentation of pH meter.

Or

- (b) Write down the technique of cryo preservation.
14. (a) Elucidate the principle and technique of auto radiography.

Or

- (b) Compare the efficiency of paper electrophoresis with agrose.
15. (a) State the principle of flame emission photometry.

Or

- (b) Analyse the principle and application of ESR.

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[P.T.O.]



PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Critically evaluate the different types of research.

Or

- (b) Discuss the laboratory safety guide lines and its importances.

17. (a) Evaluate the principle, instrumentation and applications of phase contrast microscope.

Or

- (b) Explain the working principle and applications of bright field and dash field microscope.

18. (a) Discuss the principle, types and applications of centrifugation.

Or

- (b) Write an account on freeze drying microtome and its applications.

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19. (a) Analyse the principle technique and application of southern Blotting technique.

Or

- (b) Explain the principle, technique and application of immune electrophoresis.

20. (a) Explain the principle, technique and applications of NMR.

Or

- (b) Describe the components, types and application of spectrophotometer.

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