

(6 pages)

Reg. No. : .....

**Code No. : 7453**

**Sub. Code : ZZOM 33**

M.Sc. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2023.

Third Semester

Zoology – Core

**RESEARCH METHODOLOGY**

(For those who joined in July 2021-2022 onwards)

Time : Three hours

Maximum : 75 marks

**PART A — (10 × 1 = 10 marks)**

**Answer ALL questions.**

Choose the correct answer:

1. Identify the primary purpose of literature review is to facilitate detailed background of
  - (a) Present studies
  - (b) Feature studies
  - (c) Previous studies
  - (d) All the above

2. What is the major attribute of Correlation Analysis?
  - (a) Association among variables
  - (b) Difference among variables
  - (c) Regression among variables
  - (d) Variations among variables
3. Why is it important to spend time writing an abstract for research report?
  - (a) Reviewers only review the abstract
  - (b) It is the only opportunity for you to report the applications and strengths of the research.
  - (c) Readers sometimes use it to decide if they wish to read the full article
  - (d) Readers sometimes use it to decide if they wish to read the full article
4. When was the first journal published?
  - (a) 1665
  - (b) 1675
  - (c) 1955
  - (d) 1645
5. What is the correct name for the microscope lens located in the eyepiece?
  - (a) Condenser
  - (b) Objective
  - (c) Binocular
  - (d) Ocular

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6. State that the Buffer solutions are used with pH probes for the purpose of
- (a) Calibration
  - (b) Linearization
  - (c) Cleaning
  - (d) Electrode inspection
7. Who invented centrifugation?
- (a) Newton
  - (b) G.G. Stokes
  - (c) Antonin Prandtl
  - (d) Al-Kindi
8. Which one is free space, X-ray travels in \_\_\_\_\_
- (a) Periodic oscillations
  - (b) Non-Periodic oscillations
  - (c) Straight line
  - (d) Zig-zag path
9. Who is developed by Electrophoresis?
- (a) Tswett
  - (b) Tsvedberg
  - (c) Tiselius
  - (d) Sanger

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10. Why does bomb calorimeter require high pressure oxygen?
- (a) To increase the ignition temperature
  - (b) To increase the kinetic energy
  - (c) To increase the rate of reaction
  - (d) To ensure that the given sample in the crucible burns completely

PART B — ( $5 \times 5 = 25$  marks)

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

Each answer should not exceed 250 words.

11. (a) Narrate the scope of the microbiology. Classify the importance of scientific research.
- Or
- (b) Narrate the collection of review of literature survey in research.
12. (a) State that the organization of scientific paper.
- Or
- (b) Summarise the importance of plagiarism software in research.

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13. (a) Explain about the general principles of fluorescence.

Or

- (b) Describe the applications of  $P^H$  Meter.
14. (a) Narrate the isolation steps of mitochondria.
- Or
- (b) Describe about the isolation of amino acid.
15. (a) Explain about the general principles of electrophoresis.
- Or
- (b) Classify the spectroscopic techniques.

PART C — ( $5 \times 8 = 40$  marks)

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

Each answer should not exceed 600 words.

16. (a) Categorize the writing of scientific research report.
- Or
- (b) Enumerate the scientific result in interpretation.

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17. (a) How to write the standard scientific article? – Discuss.

Or

- (b) Highlight the way of presentation in seminar and conference.
18. (a) Discuss about the working principles of SEM.
- Or
- (b) Justify the different steps of cytotechniques.
19. (a) Summarise the different type of centrifuge.
- Or
- (b) Discuss about the gas liquid chromatography.
20. (a) Highlight about the types of electrophoresis.
- Or
- (b) Justify the working principles of bomb calorimeter.

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