

M.Sc. ENVIRONMENTAL SCIENCE
THIRD SEMESTER
RESEARCH METHODOLOGY
MEV-301

(Use separate answer scripts for Objective & Descriptive)

Duration: 3 hrs.

Full Marks: 70

(**PART-A: Objective**)

Time: 20 min.

Marks: 20

Choose the correct answer from the following:

1×20=20

1. In order to begin research one must:
 - a. Start with a number of clear goals
 - b. Start with a number of predefined objectives
 - c. Have a well-defined research method
 - d. All the above
2. A research problem is feasible only when:
 - a. It has utility and relevance
 - b. It is researchable
 - c. It is new and adds something new to knowledge
 - d. All the above
3. Bibliography in a research report:
 - a. Shows a vast knowledge of researcher
 - b. Helps those interested in further research
 - c. Has no relevance to research
 - d. All the above
4. Fundamental research reflects the ability to:
 - a. Synthesize new ideals.
 - b. Expound new principles.
 - c. Evaluate the existing material concerning research.
 - d. Study the existing literature regarding various topics.
5. The study in which the investigators attempt to trace an effect is known as:
 - a. Survey Research
 - b. 'Ex-post Facto' Research
 - c. Historical Research
 - d. Summative Research
6. Which technique is generally followed when the population is finite?
 - a. Area Sampling Technique
 - b. Purposive Sampling Technique
 - c. Systematic Sampling Technique
 - d. None of the above
7. Research problem is selected from the stand point of:
 - a. Researcher's interest
 - b. Financial support
 - c. Social relevance
 - d. Availability of relevant literature
8. Which of the following sampling method is appropriate to study the prevalence of AIDS amongst male and female in India in 1976, 1986, 1996 and 2006?
 - a. Cluster sampling
 - b. Systematic sampling
 - c. Quota sampling
 - d. Stratified random sampling
9. Research ethics do not include:
 - a. Honesty
 - b. Subjectivity
 - c. Integrity
 - d. Objectivity
10. Which of the following phrases is not relevant to describe the meaning of research as a process?
 - a. Systematic Activity
 - b. Objective Observation
 - c. Trial and Error
 - d. Problem Solving

11. What is the correct order of the steps in the scientific method?
 - a. Ask questions, make a hypothesis, test the hypothesis, analyze results, draw conclusions, communicate results.
 - b. Make a hypothesis, test the hypothesis, analyze the results, ask a question, draw conclusions, communicate results.
 - c. Ask a question, make a hypothesis, test hypothesis, draw conclusions, analyze results, communicate results.
 - d. Ask a question, analyze results, make a hypothesis, test the hypothesis, draw conclusions, communicate results.
12. Which of the following is NOT a rule when writing a hypothesis?
 - a. It should restate the question
 - b. It is a prediction
 - c. It is an if/then statement
 - d. It is testable
13. A conclusion reached on the basis of evidence and reasoning is a/an:
 - a. Hypothesis
 - b. Conclusion
 - c. Theory
 - d. Inference
14. Action research means:
 - a. A longitudinal research.
 - b. An applied research.
 - c. A research initiated to solve an immediate problem.
 - d. A research with socioeconomic objective.
15. In the process of conducting research 'Formulation of Hypothesis' is followed by:
 - a. Statement of objectives
 - b. Analysis of data
 - c. Selection of research tools
 - d. Collection of data
16. Cluster sampling, stratified sampling and systematic sampling are types of:
 - a. Direct sampling
 - b. Indirect sampling
 - c. Random sampling
 - d. Non random sampling
17. Quota sampling, judgment sampling and convenience sampling are classified as types of:
 - a. Random sampling
 - b. Non random sampling
 - c. Direct sampling
 - d. Indirect sampling
18. What is a research design?
 - a. A way of conducting research that is not grounded in theory.
 - b. The choice between using qualitative or quantitative methods.
 - c. The style in which you present your research findings, e.g. a graph.
 - d. A framework for every stage of the collection and analysis of data.
19. What does the term 'longitudinal design' mean?
 - a. A study completed far away from where the researcher lives.
 - b. A study which is very long to read.
 - c. A study with two contrasting cases.
 - d. A study completed over a distinct period of time to map changes in social phenomena.
20. Which of the following are sampling considerations?
 - a. Who do you need to study in order to investigate your research questions?
 - b. How easily can you gain access to a sampling frame?
 - c. What kind of sampling strategy will you employ?
 - d. All of the above.

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(PART-B :Descriptive)

Time: 2 hrs. 40min.

Marks: 50

[Answer question no.1 & any four (4) from the rest]

1. Discuss about the content analysis. 10
2. a) What is SPSS? 5+5=10
b) Discuss the importance of SPSS in research.
3. a) Write notes on objectives of research. 4+6=10
b) What are the different types of research?
4. a) Define project formulation. 6+4=10
b) What are the different types of report?
5. a) Describe in detail the probability sampling techniques. 5
b) Describe in detail the non-probability sampling techniques. 5
6. Describe each briefly: 2×5=10
a) Surveys
b) Experiments
c) Secondary data studies
d) Observation
e) Interviews
7. a) What are the modes of data collection? Differentiate primary and secondary types of data. 1+4=5
b) Define the following:
i. Sample
ii. Sampling frame 1×5=5
iii. Sampling error
iv. Type I and Type II errors
v. Research proposal
8. State the importance of a hypothesis. How do you formulate a hypothesis and what are the difficulties involved while formulating it? 4+3+3=10

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