

**BACHELOR OF MEDICAL LABORATORY
TECHNOLOGY
FIFTH SEMESTER
RESEARCH METHODOLOGY
BMLT - 502
(USE OMR SHEET FOR OBJECTIVE PART)**

**SET
A**

Duration: 3 hrs.

Full Marks: 70

Time: 30 min.

(Objective)

Marks: 20

Choose the correct answer from the following:

1×20=20 -

- Where does the word research come from?
 - Ancient Greek "recherche"
 - Ancient Egypt "recherche"
 - Middle French "recherche"
 - None of these
- Which of the following is a research objective
 - Exploratory
 - Evaluative
 - Predictive
 - All of these
- When to Write Research Objectives
 - At the beginning of a research project
 - To get the idea of research project
 - At the end of the research project
 - None of these
- To ensure that research objectives are well-defined and achievable, one has to use the SMART criteria. The abbreviation of SMART is
 - Specialized Measurable, Achievable, Relevant, and Time-bound.
 - Specific, Manageable, Attainable, Reliable and Time-bound
 - Specific, Measurable, Achievable, Relevant, and Time-bound.
 - None of these
- Measurement of the consistency of reliability is
 - Test retest
 - Parallel forms
 - Internal consistency
 - All of these
- Which measure of the following is about the accuracy of a measure opt.
 - Validity
 - Reliability
 - Neutral
 - None of these
- Which statement is correct in relating to research methodology
 - The research methodology consists of complete approach aligned towards the attainment of purpose.
 - The research methodology is nothing but the behaviour or tool, employed in selecting and building research technique.
 - Research methodology covers various investigation techniques
 - All of these

8. The reasons to conduct a literature review at the beginning of a research project:
- | | |
|--|--|
| To familiarize yourself with the | To ensure that you're not just |
| a. current state of knowledge on your topic | b. repeating what others have already done |
| To identify gaps in knowledge and | All of these |
| c. unresolved <u>problems</u> that your research can address | d. |
9. When a hypothesis has independent and dependent variables are more than two are known as
- | | |
|-------------------------|---------------------------|
| a. Complex hypothesis | b. Alternative hypothesis |
| c. Empirical hypothesis | d. None of these |
10. The source that index, abstract, organize, compile, or digest other sources in literature review is known as
- | | |
|---------------------|------------------|
| a. Primary source | b. Secondary |
| c. Tertiary sources | d. None of these |
11. Which of the following is a non- probability sampling
- | | |
|-------------------------------|-----------------------|
| a. Stratified random sampling | b. judgement sampling |
| c. Systematic sampling | d. None of these |
12. The sampling, where the population is divided into strata (or subgroups) and a random sample is taken from each subgroup is known as
- | | |
|-------------------------------|-------------------------|
| a. Random sampling | b. Convenience sampling |
| c. Stratified random Sampling | d. None of these |
13. Data which are mostly non-numerical and usually descriptive or nominal in nature is known as_
- | | |
|-----------------|------------------|
| a. Quantitative | b. Qualitative |
| c. Mixed | d. None of these |
14. The source that data has been collected from first-hand-experience is known as
- | | |
|---------------------|---------------------|
| a. Primary source | b. Secondary source |
| c. Tertiary sources | d. None of these |
15. The analysis which aims to make inferences or predictions about a larger population based on sample data is known as_
- | | |
|-------------------------|-------------------------|
| a. Descriptive analysis | b. Inferential analysis |
| c. Diagnostic analysis | d. None of these |
16. A distribution which deals with only two variables is known as
- | | |
|-----------------|------------------|
| a. Univariate | b. Bi-variate |
| c. Multivariate | d. None of these |
17. If the two variables move in opposite direction, then the correlation between two variables is
- | | |
|-------------|------------------|
| a. Positive | b. Negative |
| c. Both | d. None of these |

18. When the value of Pearson's Correlation coefficient is -1 then the two variables are
- Positive & highly correlated
 - Negative & moderately correlated
 - Positive & moderately correlated
 - Negative & highly correlated
19. Which one is the principle of sound research design
- Identifies the problems
 - Reviews literature around the problem statement
 - Describes sources of data
 - All of these
20. A Research Design in which researcher examines the various variables while including numbers as well as statistics in a project to analyze its findings is known as
- Qualitative research design
 - Experimental research design
 - Quantitative research design
 - None of these

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(Descriptive)

Time : 2 hrs. 30 min.

Marks : 50

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

- What are the different types of research objectives? Explain any four. 2+8 =10
- Discuss different key characteristics of research objective. 5+5=10
 - Write 5 objectives of the following research title:
 "Unveiling the Role of Physiotherapy in Restoring Movement and Health: Current Insights and Future Directions"
 Or
 "Haemoglobin Analysis and Clinical Implications: A Profound Study in Medical Laboratory Technology"
- What is research design? Discuss different characteristics of research design. 2+8=10
- What do you mean by literature review? Discuss different sources of literature review. 2+8=10

5. a. Discuss three different types of hypotheses. 6+4=10
b. Is it true that vitamin C has the ability to cure or prevent the common cold? Or is it just a myth? Set up a hypothesis for this with significance level 0.01 and P value 0.03. Give conclusion also.
6. Explain three probability and non-probability sampling techniques. 10
7. a. What do you mean by correlation between two variables? Give two examples. 5+5=10
b. Discuss correlation of variables in terms of number of variables, direction and magnitude.
8. Write short notes on *any two* 5+5=10
- a. Reliability vs validity in research
 - b. Purpose of hypothesis testing
 - c. Importance of research objectives
 - d. Convenience vs purposive sampling technique

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