

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MOT 1223]

**DECEMBER 2023
(OCTOBER 2023 EXAM SESSION)**

Sub. Code: 9111

**M.O.T. DEGREE EXAMINATION
FIRST YEAR - (Regulations for the candidates admitted from the academic year 2022-2023)
PAPER I – RESEARCH METHODOLOGY
Q.P. Code: 419111**

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Describe the essential steps involved in conducting a Randomized Controlled Trial (RCT). Discuss the specific challenges and ethical considerations that may arise when designing an RCT to evaluate the effectiveness of a new occupational therapy technique for patients with cerebrovascular accidents (stroke)?
2. Explain the process of using the Delphi technique to develop a comprehensive questionnaire for assessing life satisfaction in patients with spinal cord injuries who have undergone community-based rehabilitation. Discuss the advantages and limitations of this approach.

II. Write notes on:

(10 x 6 = 60)

1. Define and explain the concept of survey research. Provide examples of how survey research in occupational therapy research.
2. Discuss the four scales of measurement (nominal, ordinal, interval and ratio).
3. Define reliability in research. Explain the difference between internal consistency reliability and test-retest reliability. How is reliability assessed in measurement tools used in occupational therapy?
4. What is a null hypothesis in the context of hypothesis testing? Explain with an example.
5. Explain the concepts of Type I and Type II errors in hypothesis testing. How can researchers minimize the risk of these errors in their studies?
6. What are the steps in critical appraisal of a Journal Article?
7. Define the term "population" in research. How do researchers select a representative sample from a population in occupational therapy research?
8. Explain the concept of the "t" test in inferential statistics. When and why is it used in occupational therapy research?
9. Discuss the importance of using graphs (e.g. bar graphs, line graphs, scatterplots) in presenting research findings. Provide examples of when and how each type of graph can be used effectively?
10. What is inter-rater reliability and why is it important in observational research in occupational therapy? Describe methods to assess inter-rater reliability.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MOT 1024]

OCTOBER 2024

Sub. Code: 9111

M.O.T. DEGREE EXAMINATION
FIRST YEAR - (Regulations for the candidates admitted from the academic year 2022-2023)
PAPER I – RESEARCH METHODOLOGY

Q.P. Code: 419111

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. You want to explore the association between occupational performance and volition. What is the research type and design you will choose? What are statistics you will consider?
2. What makes a scale to be a standardized scale? Compare and contrast criterion and norm referenced scales. What are the strength and weakness of standardized scales in occupational therapy?

II. Write notes on:

(10 x 6 = 60)

1. Types of measurement scales.
2. Mixed method research design.
3. Grounded theory.
4. What are the search strategies for literature search?
5. What is research question? How will you formulate a research question?
6. Types of graphs.
7. Population, sample and respondent – explain.
8. Institutional review board.
9. PRISMA for systematic review and meta analysis.
10. Confidence interval – explain its relevance in research.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MOT 0525]

MAY 2025

Sub. Code: 9111

**M.O.T. DEGREE EXAMINATION
FIRST YEAR - (Candidates admitted 2022-2023 onwards)
PAPER I – RESEARCH METHODOLOGY**

Q.P. Code: 419111

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. You want to find out whether part practice or whole practice is effective for a group of stroke patients. Explain various research design you will consider, briefly mention the advantages and disadvantages of each. Which research design you will choose? Why?
2. How will you critique an experimental study? Add a note on checklist available for critical appraisal of journal articles.

II. Write notes on:

(10 x 6 = 60)

1. What is central tendency and dispersion? Explain its use in statistics interpretation.
2. Research misconduct.
3. Cohort studies.
4. e-data base.
5. Explain the methods of data collection with examples. Discuss the advantages and disadvantages of each.
6. Sampling error and Non sampling error.
7. Clinical Trial Registry India.
8. Explain any two referencing styles appropriate for occupational therapy.
9. Sensitivity and specificity.
10. Delphi technique.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MOT 1025]

OCTOBER 2025

Sub. Code: 9111

**M.O.T. DEGREE EXAMINATION
FIRST YEAR - (Candidates admitted 2022-2023 onwards)
PAPER I – RESEARCH METHODOLOGY**

Q.P. Code: 419111

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Discuss the key steps involved in conducting a mixed-methods research study in the field of occupational therapy. Provide an example of how mixed-methods research can be applied to investigate an occupational therapy intervention's effectiveness.
2. Explain the concept of sampling in research. Outline the differences between probability and non-probability sampling methods and provide examples of when each is appropriate in occupational therapy research.

II. Write notes on:

(10 x 6 = 60)

1. Define and describe the concept of a case-control study with an example.
2. Discuss the principles of construct validity in measurement. How do researchers establish construct validity when developing new assessment tools in occupational therapy?
3. Explain the concept of statistical power in hypothesis testing. Why is it important and how can researchers increase statistical power in their studies?
4. Define qualitative research. Discuss the strengths and limitations of qualitative research methods in exploring complex occupational therapy phenomena.
5. What is the role of Assent in research involving human subjects? Describe the ethical considerations related to obtaining Assent in occupational therapy research.
6. Describe the purpose and steps involved in conducting a content analysis in qualitative research. Provide an example of how content analysis can be applied to analyze qualitative data in occupational therapy research.

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7. Explain the concept of stratified sampling. How can researchers use stratified sampling to ensure that certain subgroups are adequately represented in their research studies?
8. Discuss the principles of descriptive statistics and their role in summarizing and presenting data.
9. What is test bias in measurement? How can researchers address and minimize potential test bias when using assessment tools in occupational therapy research?
10. Define internal validity in research design. Discuss potential threats to internal validity and strategies to enhance internal validity in experimental research.
