

No. of Printed Pages: 2

Roll No.....

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SCHOOL OF NURSING SCIENCES & ALLIED HEALTH**

**MPT 1st YEAR (ALL SPECIALTIES), ANNUAL EXAMINATION, MAY 2024
RESEARCH METHODOLOGY & BIostatISTICS & COMPUTER APPLICATION
(THEORY)
PAPER CODE: MTC/M/N/S – 164**

Time: 3 hours

Maximum Marks: 75 Marks

(Write your Roll No. on top of the paper immediately)

Instructions:

- (i) Attempt Section A – Research Methodology and Section B - Biostatistics in separate main sheets
- (ii) Attempt ALL questions. Choices are mentioned wherever applicable
- (iii) Use of Simple Calculator is allowed.

SECTION A – RESEARCH METHODOLOGY (50 Marks)

Part – I

Answer any **FOUR** of the following:

(4 × 5 Marks = 20 Marks)

- Q1.** Level of measurement in research
- Q2.** Type I and Type II error in research
- Q3.** Dependent, independent, and confounding variables in research
- Q4.** Referencing, citation, Indexing and impact factor
- Q5.** Informed consent

Part – II

Answer any **TWO** of the following:

(2 × 15 Marks = 30 Marks)

- Q1.** Enumerate the source of research questions in physiotherapy. Describe the various steps involved in development of good research question.
- Q2.** Describe the Important steps and measures taken in development of research proposal to assure you for approval of budget for your project
- Q3.** Describe the different types of validity in research. Explain the various threat to internal validity of research with appropriate examples.

SECTION B – BIOSTATISTICS (25 Marks)

Part – I

All Questions are compulsory

(5 × 1 Mark = 5 Marks)

- Q1. The Statistical Software “SPSS” stands for _____.
- Q2. Mean Deviation is a measure of dispersion.
a) True b) False
- Q3. The degrees of freedom for statistic-t for unpaired t-test is _____.
- Q4. Level of significance is _____.
- Q5. ANOVA stands for _____.

Part - II

Answer any *TWO* of the following:

(2 × 10 Marks = 20 Marks)

Q1. In a locality 100 persons are randomly selected and asked about their educational achievements. The results are given below:

Sex	Education		
	Middle	High School	College
Male	10	15	25
Female	25	10	15

Based on this information can you say that the education depends on sex? (Given that table value of chi square for 2 d.f. at 5% level of significance is 5.991)

Q2. Calculate the arithmetic mean, standard deviation, and coefficient of variation of the systolic B.P. in mm of Hg of 10 students:

115, 117, 121, 120, 118, 122, 123, 116, 118, 120

Q3. Albino rats were administered with an Ayurvedic medicine at the rate of 10 mg/10 kg day for 7 days. Initial and final body weight of the rats was recorded as shown in the following table. Determine whether the drug has any significant effect on the gain or loss of the body weight of the rat. (Given that $t_{0.05(9)} = 1.83$)

Rat No.	1	2	3	4	5	6	7	8	9	10
Initial body weight	110	115	102	98	112	110	97	120	102	110
Final body weight	109	116	100	95	108	112	98	115	98	111
