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

[MD (UNANI) 1125] **NOVEMBER 2025** **Sub. Code: 4002**
(ARREAR)

UNANI MAHIR TIB (DOCTOR OF MEDICINE – MD)
COMPETENCY – BASED DYNAMIC CURRICULAM (CBDC)
FIRST SEMESTER / FIRST SUMMATIVE ASSESSMENT EXAMINATIONS
(For candidates admitted in the academic year 2024-2025)
BRANCH - IV, IX, X
PAPER II - BIOSTATISTICS
UNIPG - BS

Q.P. Code: 484002

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Analytical-Based Structured Question (ABQ): **(1 x 20 = 20)**

1. Heart rate (bpm) before and after a 30-minute moderate-intensity exercise session in a group of 7 patients is given below:
   - Before Exercise: 75, 78, 80, 72, 76, 85, 62
   - After Exercise: 105, 110, 130, 103, 98, 120, 110

   a) Formulate a hypothesis for the above question.
   b) Which test is appropriate for this data? Justify.
   c) Perform an appropriate statistical test to compare the Heart rate (bpm) before and after a 30-minute moderate-intensity exercise session. The given critical value is 2.447 at α=0.05 and 6 degrees of freedom.
   d) Write the interpretation and conclusion.

II. Short Answer Questions: **(8 x 5 = 40)**

1. Define incidence and prevalence with examples.
2. Define probability and mention the laws of probability.
3. Describe the Chi-square test.
4. What is simple linear regression? Explain its applications and uses.
5. Explain the simple random sampling technique with an example.
6. Describe Spearman's correlation coefficient.
7. Explain the type 1 and type 2 errors in the testing of hypotheses.
8. Explain Normal distribution and its properties.

P.T.O.

III. Long Answer Questions: **(4 x 10 = 40)**

1. What is the importance of sample size estimation in research? Explain the methods of sample size estimation in a descriptive study.
2. Explain the different mortality measures in vital Statistics.
3. Explain in detail about Anova test and its significance.
4. a) What are the measures of dispersion?
   b) Calculate the Mean, Median, Standard Deviation and Range for the following data and interpret the results.

   Age in years: 26, 15, 25, 30, 28, 35, 60, 44, 50, 31

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