



RAN - 2206000303060016

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Third Year BPT Examination September - 2023

Research Methodology and Biostatistics

સૂચના : / Instructions

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નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the details of signs on your answer book

Name of the Examination:

☛ **Third Year BPT**

Name of the Subject :

☛ **Research Methodology and Biostatistics**

Subject Code No.: **2206000303060016**

Seat No.:

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Student's Signature

SECTION - II

1. What is research design? Explain any two non-experimental study design with examples (10)
- OR**
1. Define hypothesis. Describe types of hypothesis and characteristics of good hypothesis. Write about type 1 and type 2 errors. (10)
2. **Write short notes: (three out of four)** (15)
 1. Informed consent
 2. Explain dependant and independant variables with examples.
 3. Random sampling
 4. Ethics and its importance in research
3. **Write short notes: (five out of six)** (15)
 1. Cohort study design
 2. Snow ball sampling
 3. Single and double blinded study
 4. Level of significance
 5. Case control study
 6. Inter-rater and intra-rater reliability

SECTION - II

Q.1 Write a detail note on measures of central tendency. **(10)**

OR

Q.1 From the following information find mean, median and mode. **(10)**

Class	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	2	7	14	20	14	7	2

Q.2 **Write Short Notes. (Three Out of Four)** **(15)**

1. Obtain correlation coefficient between the heights of father (X) and of the sons (Y) from the following data.

X	65	66	67	68	69
Y	67	68	64	72	70

2. From the following information find regression line of Y on X and also obtain value of Y when X=70.

$$\bar{X} = 65 \quad \bar{Y} = 67 \quad S_x = 2.5 \quad S_y = 3.5 \quad r_{xy} = 0.8$$

3. Normal distribution and characteristics of a normal curve
4. Define Parametric and Non-parametric methods.

Q.3 **Write Short Notes. (Five Out of Six)** **(15)**

1. Standard deviation
2. Scale of measurements
3. Mutually exclusive event
4. Type - I and Type - II error
5. ANOVA
6. One sample t- test.
