

**BACHELOR IN PROSTHETICS AND ORTHOTICS****THIRD YEAR****PAPER VI – RESEARCH METHODOLOGY / PROJECT DEVELOPMENT***Q.P. Code: 802436***Time: Three Hours****Maximum : 100 Marks****Answer All questions****I. Elaborate on:** (3 x 10 = 30)

1. Define Research Variable. What is meant by Independent and Dependent Variable? Design a research problem from limb prosthetics and identify independent and dependent variable.
2. Elaborate on various research designs applicable in Orthotic/Prosthetic projects.
3. Explain the meaning and utility of percentile. Elaborate the ways and means for the interpretation of a computed co-efficient of correlation.

**II. Write notes on:** (8 x 5 = 40)

1. Distinguish between 'Ratio Scale' and 'Interval Scale'. In which situation Likert scale is used?
2. Discuss, in brief, the need for stratified random sampling. Is the mean of the stratified random sample unbiased estimator of the population mean? Justify your answer.
3. Write short notes on (a) frequency polygon (b) histogram.
4. Explain in brief :- Type I and Type II errors.
5. What is PICO model? Formulate a research question using this model.
6. Explain Chi square test. Mention its uses.
7. Write a note on Inductive logic in Orthotic/Prosthetic studies.
8. When there are more than two group with continuous outcome measure, explain the procedure of Test of Hypothesis?

**III. Short answers on:** (10 x 3 = 30)

1. What is positive Correlation and Negative Correlation?
2. What is scatter diagram?
3. What are requisites of good Average?
4. Define Tabulation in collection of data.
5. How will you interpret correlation coefficient?
6. What do you mean by Operational Definition? Give a suitable example.
7. What is normative data? Give examples.
8. What is pilot testing? Write its advantages.
9. What do you mean by Scientific Enquiry? Give examples from clinical orthotics.
10. What is literature review and why it is necessary?

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