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M.Tech.
(SEM-II) THEORY EXAMINATION 2017-18
RESEARCH METHODOLOGY

Time: 3 Hours   *Total Marks: 100*

Notes:
- *Attempt all Sections.*
- *Assume any missing data.*

SECTION-A

Attempt any five questions:

Q1. What are the various types of researches? Classify them on the basis of applications.

Q2. Explain how the Research is connected with proper fact finding, analysis and evaluation. Take suitable examples.

Q3. What is research problem? Define the main issues which should receive the attention of the researchers in formulation the research problem. Give suitable examples to explicate your points.

Q4. Distinguish between the following:

    (i)   Null Hypothesis and Alternative Hypothesis

    (ii)   Type I Error and Type II Error

Q5.   Set up an analysis of variance table for the following per acre production data for three varieties of a crop, each grown on four plots and state if the varieties differences are significant.

------------------ **Per Acre Production** --------------------

Plot of Land	A	B	C
1	6	5	5
2	7	4	4
3	4	3	3
4	7	6	4

Given: $F_{(2,9)}$ at 4% level of significance = 5.26

Q6. Describe various methods of collecting data. Also explain the difference between questionnaire and schedule.

Q7. Explain the meaning of the following in context of research design

   i) Extraneous variable

   ii) Confounded relationship

   iii) Research hypothesis

   iv) Experimental and Control groups

   v) Treatments

Q8. Describe in brief all the steps required by a researcher for the procedure of testing hypothesis.