

**[5060] - 552**  
**M.E. (Civil) (WREE)**  
**RESEARCH METHODOLOGY TREATMENT**  
**(2013 Pattern)**

*Time : 3 Hours]*

*[Max. Marks : 50*

*Instructions to the candidates :-*

- 1) *Answer any FIVE questions.*
- 2) *Figures to the right side indicate full marks.*

- Q1)** a) With suitable example explain Ex post facto research. [5]  
b) "Selecting an appropriate research problem is the key to successful research", Discuss. [5]
- Q2)** a) Explain the technique involved in defining a research problem. [5]  
b) Explain the basic principles of experimental designs. [5]
- Q3)** a) Write a note on "Internet as a source of Literature review in Research." [5]  
b) Enlist different types of sample designs and explain probability sampling. [5]
- Q4)** a) Explain the merits and demerits of collection of data through Interview. [5]  
b) Write the advantages and disadvantages of itemized rating scale [5]
- Q5)** a) Differentiate between Null hypothesis and Alternative hypothesis. [5]  
b) Explain the steps involved in procedure for hypothesis testing. [5]
- Q6)** a) What is a Z-test? When it is used and for what purpose? Explain with examples. [5]  
b) Explain the steps involved in writing report. [5]
- Q7)** a) Write down the good characteristics of good Abstract. [5]  
b) Write a note on Multicollinearity. [5]
- Q8)** Write a research proposal for a suitable research problem (any problem related to Civil engineering can be considered) to a funding agency with reference to the following terms: Title, Introduction, origin of the problem, expected outcome, literature review, Significance of the study in the context of current status, objectives, methodology, year wise plan. [10]

