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[4860]-1049 M.E. (Civil) (WREE) RESEARCH METHODOLOGY

(2013 Credit Pattern) Time: 3 Hours] [Max. Marks: 50 Instructions to the candidates: Answer any five questions. 1) Figures to the right indicate full marks. 2) Explain the techniques involved in defining a research problem. **Q1)** a) [5] b) Distinguish between Research methods and Research methodology [5] Discuss the need for writing a research proposal for a funding agency. [5] **Q2**) a) Identify the ethical issues related to interpretation and reporting a research b) problem. [5] *Q3*) a) Write a note on Brain Storming and Delphi method. [5] Explain in brief various sampling techniques. b) [5] Why should the data collected for research must be checked for reability, **Q4**) a) suitability and adequacy? [5] Explain the importance of a good literature review. [5] b) Write a note on Factor Analysis. [5] **Q5**) a) b) Write a note on advantage and limitation of Simple Regression Analysis. [5]

- Q6) a) Discuss the important characteristics of Chi-Square test. [5]
 - b) Explain the centroid method of factor Analysis. [5]
- **Q7)** a) Discuss the prerequisites for publishing the research in a journal paper. [5]
 - b) Write a note on "Patenting a research idea". [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]

