

Syllabus for PhD Entrance Test

(From Electrical Engg. Dept.)

Subject: ResearchMethodology

1. Introduction to Research Methodology: motivation, objectives and goal, criterion of good research, research psychology.
2. Defining research problem: importance of defining research problem, industrial research problems and academic research problems, ways to define a research problem.
3. Research planning, features of good research planning.
4. Stages of practical experimentation; Design of experiments.
5. Measurement and data acquisition in research, importance of appropriate and meaningful data acquisition, selection of appropriate measuring instruments in research, errors in measurements,
6. Literature survey: importance of literature survey in research, selection of good references, survey papers.
7. Data analysis and statistical methods, interpretation of graphs and charts.
8. Engineering simulation: importance of simulation in research, simulation tools, basic building blocks of simulation studies.
9. Thesis organization: structure of a thesis, figures and illustrations, tables and charts, contents, index, thesis style.
10. Organization of technical papers; organization of reference; reference Style.

Reference:

C.R. Kothari, Research Methodology: Methods & Techniques, New Age International Publishers, 2004.