Name : ....

Roll No. : ....

Invigilator's Signature : ....

CS/M.TECH(ECE-VLSI)/SEM-3/MVLSI-381B/2011-12

2011

TEACHING & RESEARCH METHODOLOGIES

Time Allotted : 3 Hours   *Full Marks* : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words
as far as practicable.

Answer any *five* questions.   5 × 14 = 70

1. Explain the meaning of teaching and learning. Describe the roles of the teachers and the learners in instruction. Describe the different methods of teaching and explain how each teaching method can be used in order to enhance effective teaching and learning.

2. a) Enumerate the main objectives of research and describe the various classification of research.   4

    b) Differentiate between fundamental research and action research. Elaborate your answer with examples.   10

3. What is meant by Direct Instruction ? Is direct instruction appropriate for all instructional purposes ? What problems are associated with direct instruction ? Explain the Advantages of resource-based learning.

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4. a) Explain the need and functions of review of literature. Describe the role of review of literature in experimental type of research in education. 7

   b) Describe the principles and procedures of review of literature and precautions in consulting library material. 7

5. a) Distinguish between methods of research and methodology of research. 4

   b) Classify the methods of research. Give various ways of classifying methods of research. Differentiate between longitudinal and cross-sectional approach to educational research and illustrate your answer with examples. 10

6. a) Explain and illustrate the following types of variables :

   8

   i) Experimental variable

   ii) Controlled variable

   iii) Intervening variable

   iv) Moderator variable.

   b) Enumerate the characteristics and uses of an experiment in educational research. Indicate the steps of the Experimental Method. 6

7. a) What are the statistical techniques which are commonly used in educational research ? Enumerate the important considerations for statistical analysis with special references to parametric statistics and non-parametric statistics. 10

    b) Indicate the basis for selecting a statistical technique in analysing data for educational research. 4

8. Write short notes on any *two* of the following : 2 × 7

    a) Benefits of Online Teaching

    b) Advantages of project-based learning

    c) Strengths and weaknesses of blogs and wikis

    d) Application of theories of learning to teaching and learning.

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