

M.E. Fourth Semester (Production Technology & Management) (P.T.) (CBS)
13542 : Research Methodology : 4 SPTM 2

P. Pages : 1

Time : Three Hours



AW - 3700

Max. Marks : 80

- Notes :
1. Answer **three** question from Section A and **three** question from Section B.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.
 4. Illustrate your answer necessary with the help of neat sketches.

SECTION - A

1. a) What do you mean by term 'Research' ? How the everyday thinking does differs from Research ? Explain with suitable example. 7
b) What are the various purposes of research. 7
2. a) What are the steps involved in research process ? Explain. 7
b) Explain different types of data. Brief out the advantages and disadvantages of primary and secondary data. 6
3. What are the various methods of formulation of research tasks ? Explain any one with suitable example. 13
4. What do you mean by Literature Review ? What is the purpose of doing literature review? State various sources of literature review? Explain with suitable example. 13
5. a) Name few principle entities, attributes, and activities to be considered if you were to simulate the operation of factory system. 7
b) Explain with the help of examples static and dynamic physical models. 6

SECTION - B

6. a) What are the primary & derived quantities ? Explain. 7
b) What is principal of homogeneity of dimensional equation ? State various uses of dimensional equation ? 7
7. What do you mean by term dimensional analysis ? Explain the various methods of reduction of variables ? Explain any one. 13
8. What do you mean by ANN ? How can you simulate a phenomenon through ANN model? 13
9. Explain the following models used in engineering research - 13
 - i) Proof of concept model
 - ii) Scale model
 - iii) Experimental model
 - iv) Prototype model
10. a) What are the major sections of a technical paper ? Discuss. 7
b) Compare simulation and analytical methods. 6
