

Total No. of Questions : 6]

SEAT No. :

P6796

[Total No. of Pages : 2

[5872]-201

M.E.

(Computer Engg/AIDS/Computer Engg. Master Data Science)

RESEARCH METHODOLOGY

(2017 Pattern) (Semester - I) (510101)

Time : 3 Hours]

[Max. Marks : 50

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.
- 3) Draw neat diagrams wherever necessary.

Q1) a) What is Research Methodology? What is the research process? Elaborate on the importance of objectives and outcomes of research? [9]

OR

b) What is the significance of the code of ethics in research? What are the characteristics of engineering research? [9]

Q2) a) What is a research plan? What is the use of mathematical modeling in a research plan? [8]

OR

b) What is the significance of following in literature survey [8]

- i) Shodhganga
- ii) Google Scholar
- iii) Citations
- iv) Paraphrasing

Q3) a) What is the hypothesis and the Null hypothesis? How statistical analysis helps in testing of hypothesis? [8]

OR

b) State the use of the following tools [8]

- i) PSPP
- ii) SOFA
- iii) AQUAD
- iv) CAT

P.T.O.

Q4) a) State the importance of optimization in engineering research? With the help of an example, explain what gradient optimization is? [8]

OR

b) State the simplex optimization steps? What are constraints and cost function? State the similarity and differences in simplex and gradient methods of optimization? [8]

Q5) a) What are the guidelines for conducting surveys? How are respondents identified? What are human factors associated with surveys conducted for research? [8]

OR

b) When to use surveys in research? Comment on survey delivery, timelines and questionnaire formation? [8]

Q6) a) What are various reports used for compiling research findings? Discuss the thesis organization with the significance of the appendix in the thesis? [9]

OR

b) Elaborate following research outcomes and when which publication is to be attempted. [9]

i) Patent

ii) Copyright

iii) Research Paper

