Exam.Code: 1046
Sub. Code: 6408

2072

M.E. Computer Science and Engineering (Cyber Security)
Second Semester
CSN-8201: Research Methodology

Time allowed: 3 Hours

Max. Marks: 50

NOTE: *Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Section.*

x-x-x

Q1. Answer the following:-

(5x2)

(a) What is motivation in research?
(b) Briefly explain the quality of good research?
(c) Give the uses and benefits of Research Gate.
(d) Briefly describe the precautions that the researcher should take while interpreting the finding of his/her research.
(e) What is self-plagiarism?

Section A

Q2.

(a) Can decision-oriented research be applied for making a prediction of a threat by an intrusion detection system? Justify. (5)

(b) Explain the research process for carrying out research in the field of Cyber Security.
(5)

Q3.

(a) Differentiate between Parametric and Non-Parametric tests giving suitable examples.
(3)

(b) As a psychologist who works with people who have Down's syndrome, you design a study intended to determine which rewards are most effective for use in training your patients. You select four independent groups of six patients each and record the no. of days it takes to teach them a particular task, with each group receiving one of four types of rewards: Reward 1, Reward 2, Reward 3 and Reward 4. The no. of days is given in the table below. Use the data below to conduct one-way Analysis of Variance. ($F (0.05)$ for $(3,20)$ d.f. is 3.10). (7)

Reward 1	Reward 2	Reward 3	Reward 4
3	6	9	12
5	7	10	13
6	9	15	15
2	7	12	18
1	11	11	15
2	6	10	13

P.T.O.

Q4.

(a) Explain the various methods of data collection. (5)

(b) Suppose of test on hypothesis H_0: μ=200 against H_a: μ>200 is done with 1% level of significance, σ_P=40 and n=16.

   i.   What is the probability that null hypothesis might be accepted when true mean is really 210? What is the power of test for μ=210? How the values of β and 1-β change if test had used %5 level of significance?

   ii. Which is more serious, a Type I and Type II error? (5)

Section B

Q5.

(a) Write short notes on following (6)
   i.   Google Docs
   ii. Latex
   iii. SPSS

(b) Discuss the various Components of a research report. (4)

Q6.

(a) It is assumed that research results better presented by using graphs and plots. Comment. (5)

(b) Explain the precautions that must be taken while writing a research report? (5)

Q7.

(a) What is reference management? How is it done by Mendeley? (5)

(b) What are the ethical issues related publishing research? How are they achieved? (5)

x-x-x