2124
M. E. (Information Technology)
First Semester
MEIT-1201: Research Methodology

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt <u>five</u> questions in all, including Question No. I which is compulsory and selecting two questions from each Part. All questions carry equal marks.

x-x-x

I a) Differentiate between one-time and longitudinal research. Give a suitable example of both.

b) What is the standard format for citing sources in a research paper?

c) What is a formal research design?

d) Discuss meaning of internal and external validity of a research instrument.

e) What is the Pearson's coefficient of correlation?

(5X2)

PART-A

II The following are the number of students in 10 departments: 34, 38, 40, 35, 27, 24, 32, 42, 30, 41. If we want to select a sample of 15 students using departments as clusters and selecting within clusters proportional to size, how many students from each department should be chosen? (Use a starting point of 2).

III a) Distinguish between conceptual and empirical research. (5)

b) Define the following terms: null hypothesis, significance level (5)

IV Discuss which research method would be most suited to conduct research on the placement trends in an engineering institution. How will you determine the sampling strategy and size for this research problem.

PART-B

V A dice is thrown 41952 times, out of this, 25145 yielded a '4' or a '5' or a '6'. Is the dice unbiased?

VI Explain the method of computing statistical ANOVA. In what scenarios is it applied?

VII a) What are the features of a well written research report? (5)

b) Discuss the ethical issues related to publishing. (5)

x-x-x