

MANIPAL UNIVERSITY

SEVENTH SEMESTER B. ARCH. DEGREE EXAMINATION – MAY 2016

SUBJECT: ARC 411/414 – RESEARCH TECHNIQUES
(2010 / 2007 SCHEME)

Saturday, May 21, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ Answer any FIVE FULL Questions.

✍ Illustrate your answer with neat and proportionate sketches.

- 1A. Explain with examples the three main uses of Literature review.
 1B. What are the 4 types of Literature Review?
 1C. What are the key 10 points to be considered while doing a literature review from internet?
 (3+2+5 = 10 marks)
- 2A. The aim is to find the influence of colonial rule in South Canara architecture in Udupi District. Explain in detail what are the phases of Historical Interpretive research with respect to this topic?
 2B. Explain the sources of evidence and value given to it.
 (5+5 = 10 marks)
- 3A. Explain with examples the three techniques used to derive operational perception of people in Manipal University.
 3B. How are experimenters Bias removed in this kind of research?
 3C. How are the findings of the research analyzed, represented and concluded?
 (3+4+3 = 10 marks)
- 4A. What do you mean by random sampling? What are the advantages and disadvantages of Random sampling?
 4B. What is meant by linear regression? Explain Regression in the context of a research experiment done to forecast electrical energy consumption by households based on floor area.
 4C. Knee-space requirement (for comfortable seating on chair in an assembly hall) of a large population is found to be following normal distribution with a mean = 55 cm and standard deviation = 5 cm. What minimum knee-space for seating would you suggest to satisfy 99% of population? Give statistical justification.
 3 + 4 + 3
 (10 marks)
5. It is well known that increase in speed of air-movement will have a desirable effect on thermal comfort in warm-humid environment. A study is being conducted to understand effectiveness of various methods for increasing air-movement in natural ventilation. From the back-ground studies, it is fairly understood that the following factors influence the velocity of air movement:

- i) Area of opening on windward and leeward sides.
- ii) Relative area of opening on windward and leeward sides
- iii) Temperature difference between windward and leeward sides

It is also 'felt' that less area on windward side and more area on the leeward side also increases air velocity inside the room. This is to be verified by an experimental research.

- 5A. Design the research experiment by identifying and defining Dependent, Independent and extraneous variables.
- 5B. Suggest methods of measurement and scale for the dependent and independent variables. Also explain the probable outcomes of this experiment.
- 5C. Explain the effect of any extraneous factor on this research.

(3+5+2 = 10 marks)

6. Explain the following briefly:

- 6A. Hypothesis testing
- 6B. Significance of normal distribution curve
- 6C. Confidence Interval
- 6D. Stratified disproportionate sampling

(2½ marks × 4 = 10 marks)

