School Of Basic And Applied Science

End Term Examination (ETE), December-2016, Semester: Fall, 2016-17

Ph.D Programme/ Batch: All batches.

Course Title: Research Methodology   **Max Marks: 100**

Course Code: RME701   **Time: 03.00 Hrs.**

Instructions:

1. ***In Section A, Question 1 is compulsory****. Attempt any **FIVE** from Questions 2 to 8.*

2. *Section B is compulsory*

3. *Attempt any **THREE** questions from section C*

4. *Attempt any **TWO** questions from section D*

5. *Assume missing data suitably, if any.*

Section A	**(4+10=14 Marks)**

1. a. **Choose the correct option:**   1

   Fundamental research is mainly concerned with

   (a) generalization and formulation of a theory; (b) finding a solution for an immediate problem.

   b. What are the basic principles of experimental design?   1

   c. What is a spreadsheet?   1

   d. What is research report?   1

2. What do you mean by 'Research Design'?   2

3. Distinguish between field editing and central editing.   2

4. Define qualitative methodology.   2

5. What is discourse analysis?   2

6. Distinguish between Type I and Type II errors in hypothesis testing.   2

7. What are the advantages of an electronic spreadsheet?   2

8. What are the different types of research reports?   2

Section B	**(20 Marks)**

9. a. What points should be taken into consideration by a researcher in developing a research design?   5

   b. What is the relevance of qualitative methods in understanding research paradigm?   5

   c. What is the difference between Copying and Moving a range? List the steps you would follow in MS Excel to perform these operations.   5

   d. What are the steps of drafting a report?   5

Section C	**(12X3=36 Marks)**

10. a. Explain why defining a problem is necessary before research design.   6

    b. How does a literature survey help fixing a research topic?   6

11. a. What is a hypothesis? What characteristics it must possess in order to be a good research hypothesis?   4

    b. The specimen of copper wires drawn from a large lot have the following breaking strength (in kg. weight):   578, 572, 570, 568, 572, 578, 570, 596, 544
    Test whether the mean breaking strength of the lot may be taken to be 578 kg. weight. Test at 5 % level of significance.   8

12. a. Write short notes on :   6

(a) Simple Random Sampling

(b) Stratified Random Sampling

    b.   Why are PowerPoint presentations necessary? How does one create a PowerPoint   6
presentation? Can we work with multimedia data in PowerPoint?

13. Write about the Research ethics and plagiarism.   12

Section D   **15X2=30 Marks)**

14. Briefly describe the different steps involved in a research process.   15

15. a. Explain the meaning of Analysis of Variance.   3

    b.   Set up an Analysis of Variance table for the following per acre production data for three   12
varieties of wheat, each grown on 4 plots. Also state if the variety differences are significant.

Per acre production data			
	Variety of Wheat		
Plot of land	A	B	C
1	5	5	6
2	7	5	7
3	4	4	4
4	8	7	5

16. b. Explain the following: 15

(a) Relative Addressing

(b) Absolute Addressing

(c) Statistical functions in MS Excel

(d) What-If Analysis

(e) Regression Analysis

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