

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII(NEW) EXAMINATION – SUMMER 2019****Subject Code:2180410****Date:13/05/2019****Subject Name:Research Methodology****Time:10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define the term "Research". What are its objectives? **03**
(b) What is 'sample design'? Explain Simple random sampling. **04**
(c) Discuss the process of Research giving proper diagram. **07**

- Q.2** (a) Under what circumstances would you recommend a probability sample and stratified sample? **03**
(b) Explain 'Bibliography and its importance' in context of research report. **04**
(c) Narrate about 'Documentation' in the context of a research report. **07**

OR

- (c) Why probability sampling is generally preferred in comparison to non-probability sampling? Explain the procedure of selecting a simple random sample. **07**

- Q.3** (a) Explain the contents covered under research layout. **03**
(b) "A systematic bias results from errors in the sampling procedures". What do you mean by such a systematic bias? **04**
(c) "Interpretation is an art of drawing inferences, depending upon the skill of the researcher". Justify the statement. **07**

OR

- Q.3** (a) Enlist the different forms in which a research work may be reported. **03**
(b) Explain type I and type II error while executing hypothesis. **04**
(c) Enlist non-parametric tests and describe any 2 of them. **07**
- Q.4** (a) Write a brief note on importance of statistical data handling in taking scientific decisions. **03**
(b) What are parametric test? **04**
(c) Write about chi-square and t-test. **07**

OR

- Q.4** (a) What is research problem? How to define it properly? **03**
(b) Explain and illustrate the term research hypothesis. **04**
(c) "The task of defining the research problem follows a sequential pattern". **07**

Explain.

- Q.5** (a) What is essentially required in a good questionnaire? **03**
(b) How does case study method differ from survey method? **04**
(c) Compare survey and experiment. **07**

OR

- Q.5** (a) What are criteria for a good research? **03**
(b) Explain layout of a report or thesis. **04**
(c) Enlist different methods of collecting data. Explain any one with its merits and demerits. **07**

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