

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
Ph.D. COURSE WORK EXAMINATION – SUMMER - 2021

Subject Code: PHD20-01

Date: 10/10/2021

Subject Name: Research Methodology [Engineering]

Time: 11:30 AM – 1:00 PM

Total Marks: 35

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Subject relevant literature, book, research papers are permitted to carry in the exam hall.
5. Use of e-books, e-materials on electronics devices are strictly prohibited.

- Q.1 (a)** What do you understand by qualitative research? Discuss few examples clearly explaining the role of qualitative research in engineering as well as non-engineering. How do you relate and use qualitative research in your research problem of study? **10**
- (b)** Develop research design for your research problem of study. What do you understand by correlational research design? Explain correlational research design with at least one example. **05**
- Q.2 (a)** List out different steps involved in the process of research. What do you understand by quality research? Discuss different parameters to judge quality of research. **05**
- (b)** Briefly explain following parameters or terms: **05**
1. Sensitivity
 2. Accuracy
 3. Reliability
 4. Modeling
 5. Reproducibility
- Q.3 (a)** State different electronic database referred as a part of literature review in your research problem. Also discuss comparative study carried out along with performance parameters included in the same on the basis of literature review in reference to your research problem. **05**
- (b)** How do we identify gaps in research and define research problem as well as formulate research objectives? Mention research gaps identified as well as objectives framed for your research problem of study. **05**
