VCD OG 1022 S.Y.B.S.C(Data Science)-Research Methodology-SEM-III- 75 - 2 1/2 HRS

NB: (1)All questions are compulsory

- (2) Make suitable assumptions wherever necessary and state the assumptions made.
- (3) Answers to the same questions must be written together.
- (4) Numbers to the right indicate marks.
- (5)Draw neat labeled diagrams wherever necessary.

Q1. Attempt any three of the following:

15M

- a. Define research. List different types of research. Explain each with suitable examples.
- b. Distinguish between Reliability and Validity
- c. What are the characteristics of research? Explain each with illustrations.
- d. Write a note on Hypothesis.
- e. Define Variable? How will you ensure accuracy in measuring a variable?
- f. What is the research problem? Explain some sources of Research Problems.

Q2. Attempt any three of the following:

15M

- a. Define sampling? Write a note on Characteristics of good sample design'.
- b. What are the various types of sample design?
- c. Write a note on Methods of Collecting Primary Data'.
- d. What is scaling? Explain classification of scaling.
- e. What is measurement in research? State the classification of measurement scales.
- f. What are the different types of questionnaires? Explain how to construct questionnaires.

Q3. Attempt any three of the following:

15M

- a. What is processing of operations? Explain the classification of processing operations.
- b. Explain the meaning and significance of the concept of "standard error" in sampling analysis.
- c. What is a hypothesis? What characteristics must it possess in order to be a good research hypothesis?
- d. Explain some problems in processing in detail.
- e. Explain how to determine sample tasks.
- f. List and explain different hypothesis tests.

Q4. Attempt any three of the following:

15M

- a. Write a note on SCOPUS?
- b. Explain different types of reference management software.
- c. Explain the layout of the research paper.
- d. What is plagiarism? What is the software for detecting plagiarism?
- e. Write a note on self-plagiarism?
- f. Define copyright. What are the ethical issues relating to publishing.

Q5. Attempt any three of the following:

15M

- a. How to think as a researcher?
- b. Explain the concept of professional standards in the context of ethics in business research.
- c. Explain in brief what are research ethics?
- d. Explain the concept of E-research.
- e. What are the resources for ethical awareness?
- f. Explain qualitative research using online personal interviews.