

Federal University of Technology Minna,  
School of Science and Technology Education  
*Department of Industrial and Technology Education*

Second Semester Examination 2018/2019 Session

COURSE: - Research Methods and Data Processing in Technology Education

COURSE CODE: ITE 326; 3 Units

DURATION: 2 hours, 30 minutes

INSTRUCTION: Answer question **ONE** and other three questions in section **A** and any question in section **B**.

**SECTION A (45 MARKS)**

- 1a What is research? (2 marks)  
Explain the various steps involved in the research process (7 marks)
- b
- c Differentiate between reflecting and scientific thinking (3 marks)  
State six points that may be observed by a researcher in selecting a research problem (3 marks)
- d
- 2a Briefly explain the followings;  
i. Theory  
ii. Concept  
iii. Variables  
iv. Hypothesis (6 marks)  
State four reasons why literature review is important in educational research (4 marks)
- b
- 3a Differentiate between internal and external validity of experimental design (4 marks)
- b Briefly explain the following variables;  
i. Dependent  
ii. Independent  
iii. Moderator  
iv. Intervening (6 marks)
- 4a What is research design? And State three characteristics of survey design (6 marks)  
Explain two approaches of determine test reliability (4 marks)
- b
- 5a Differentiate between probability and non-probability sampling (4 marks)  
Explain four extraneous variables that frequently represent threats to internal validity of a  
research design (6 marks)
- b
- 6 Briefly explain the following instrument;  
i. Questionnaire  
ii. Observation  
iii. Interview  
iv. Test  
v. Measuring scale (10 marks)