

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**FACULTY OF INDUSTRIAL TECHNOLOGY**

**DEPARTMENT OF TECHNICAL TEACHER EDUCATION**

**GENERAL EXAMINATION**

**DESIGN AS A TYPE OF INQUIRY**

**TTE 3123**

**PART III**

**FEBRUARY 2010**

**TIME: 3 HOURS**

**100 MARKS**

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**INSTRUNCTIONS AND DIRECTIONS TO CANDIDATES**

1. Answer **FOUR** questions from this paper.
2. Each question carries 25 marks. Subdivision marks are shown in brackets.
3. Start each answer on a new sheet of paper.
4. Drawings / illustrations must be done on plain A4 drawing / tracing paper provided.
5. Candidates are to bring drawing instruments, pencils, pencil crayons and black pens.

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**QUESTION 1**

(a) Explain the objectives of Design Research. [15 marks]

(b) Discuss FIVE characteristics of quality research. [10 marks]

**QUESTION 2**

- (a) Explain the term 'pilot study' using examples. [ 4 marks]
- (b) Discuss **FIVE** reasons for conducting pilot studies in research. [15 marks]
- (c) Explain **THREE** problems of pilot studies. [ 6 marks]

### **QUESTION 3**

- (a) Explain what research provides to the researchers? [10 marks]
- (b) Explain the following with examples from research:
- (i) developing concepts
  - (ii) hypotheses [ 8 marks]

### **QUESTION 4**

- (a) Explain the following the following research tools with examples from design research.
- (a) observations
  - (b) interviews
  - (c) questionnaires
  - (d) focus group discussions (FGDs)
  - (e) Case studies [25 marks]

### **QUESTION 5**

(a) Define the terms below and explain their importance in design research:

- (i) identifying need (s)
- (ii) presentations
- (iii) probes
- (iv) guidance to respondents
- (v) plan of production

[25 marks]

### **QUESTION 6**

(a) Explain what is involved in a “design and build project”.

[ 5 marks]

(b) Identify **TEN** key stages of a design and build project and explain major activities at each stage.

[20 marks]

**END OF PAPER**