

**FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA**  
**SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION**  
**DEPARTMENT OF INDUSTRIAL AND TECHNOLOGY EDUCATION,**  
SECOND SEMESTER EXAMINATION 2021/2022

**COURSE CODE:** ITE581

**COURSE TITLE:** ENGINEERING DESIGN

**TIME:** 3Hrs

**INSTRUCTIONS:** Attempt all Questions

**QUESTION ONE**

- 1a. what is the meaning and concept of engineering design?
- 1b. Engineering design process is a series of steps that engineers follow to find a solution to a problem. Identify these steps and explain what each process means.

**QUESTION TWO**

2. In the design of most engineering components, there are major consideration or factors necessary before commencement of such projects. List such consideration and comprehensively explain each.

**QUESTION THREE**

*Figure 1 below,*  
3. *on* fig 1, shows the pictorial view of engineering machine component. Draw *^* the full size of the followings

- i. Reproduce the full components to scale 1:1
- ii. All the views in first angle orthographic projection
- iii. Sectional front view in the direction of arrow A – A.

*Moderated by*  
*[Signature]*  
*01/02/2023*