



FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA,  
SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION,  
DEPARTMENT OF INDUSTRIAL & TECHNOLOGY EDUCATION

FIRST SEMESTER 2018/2019 SESSION EXAMINATION

**COURSE CODE: - ITE 371**

**COURSE TITLE: - METAL FABRICATION PROCESSES**

**TIME ALLOWED: - 2 HOURS.**

**INSTRUCTION: - ATTEMPT FOUR (4) QUESTIONS ONLY.**

- (1a). With the aid of neat sketches differentiate between Rolled Steel Channels (RSC) and Rolled Steel Joists (RSJ).
  - b. Describe the process of obtaining a wire from an ingot
  - c. Using relevant diagrams differentiate between Funnel stake and Bick iron stake as metal fabrication tools.
- (2a). Bench shears and Tinsnips appeared to be performing the same function, discuss with relevant examples.
  - b. Briefly describe the process of Riveting and Bolting in metal fabrications
  - c. Using sketches show the following rivet heads: Countersunk, flat, snap, pan and conical.
- (3a). Differentiate between Hide mallet and Hardwood mallet using relevant sketches.
  - b. Describe the use of the following Tinplate joints used in metal fabrications: Folded seam, grooved seam, countersunk lap seam, circular folded seam and circular folded over seam.
  - c. With sketches, differentiate between straight and curved tinsnips.
- (4a). Describe the process of planishing in metal forming.
  - b. Identify and discuss three relevant tools used for planishing process.
  - c. Give reasons why you will prefer to use electric guillotine than using hand shearing machine in cutting sheet metal for fabrication work.
- (5a). As a metal fabrication specialist, convince a layman that Universal Column (UC) is different from Universal Beam (UB) in structural metal fabrication.
  - b. Differentiate between hollowing and raising as method of producing bowls in metal fabrication.
  - c. Draw a neat diagram of combined set and snap used in riveting.
- (6a). Show with sketches a riveted Butt-joint with snap head rivet.
  - b. Draw a detail diagram to show the difference between false wiring and wired edge products
  - c. What is stiffness in sheet metal fabrication? Show one example of where it is used.