



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.