



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

FIRST SEMESTER EXAMINATION 2021/2022 SESSION

**COURSE CODE: - ITE 371**

**COURSE TITLE: - METAL FABRICATION PROCESSES**

**TIME ALLOWED: - 2 HOURS.**

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

- (1a). Draw a detail diagram to show the difference between false wiring and wired edge products
- b. Show with sketches a riveted Butt-joint with snap head rivet.
- c. What is stiffness in sheet metal fabrication? Show one example of where it is used.
- (2a). As a metal fabrication specialist, convince a layman that Universal Column (UC) is different from Universal Beam (UB) in structural metal fabrication.
- b. With the aid of sketches show the differences between riveting and bolting, what is the advantage of bolting over the rivet?
- c. Draw a neat diagram of combined set and snap used in riveting.
- (3a). Describe with the aid of a detail diagram how metal plates can be obtained from an Ingot.
- b. Differentiate the following forms of structural materials: 1. Rolled Steel Angles (RSA), 2. Rolled Steel Channels (RSC), 3. Rolled Steel Joists (RSJ)
- c. Give reasons why you will prefer to use electric guillotine than using hand shearing machine in cutting sheet metal for fabrication work.
- (4a). With the aid of sketches describe the following Tinsplate (Self-secured) joints used in sheet metal fabrication: Folded seam, grooved seam, circular lap seam, circular folded seam, circular folded over seam
- b. Differentiate between beaded edge and wired edge
- c. Using sketches, show the following mallets used in metal fabrication: Hide mallet, Hardwood mallet and Rubber mallet.
- (5a). Describe the function of the following stakes in metal fabrication: Funnel stake, Half-moon stake, Bick iron stake, Hatchet stake and Round bottom stakes
- b. Show with sketches how a wired edge can be prepared on sheet metal using relevant stakes and hand tools
- c. Draw a neat diagram of a straight Tinsnips
- (6a). What is riveting in Metal fabrication?
- b. Using neat sketches, show the following rivets: Snap head, counter sunk head, Pan Head, flat head, and conical head.
- c. Show with sketches stages involved in riveting two metal plates together using snap head rivet

Good Luck