FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA,
SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION,
DEPARTMENT OF INDUSTRIAL & TECHNOLOGY EDUCATION,
FIRST SEMESTER 2017/2018 EXAMINATION

COURSE CODE: - ITE 371
COURSE TITLE: - METAL FABRICATION PROCESSES
TIME ALLOWED: - 2 HOURS.
INSTRUCTION: - *ATTEMPT FOUR (4) QUESTIONS ONLY.*

(1a).   What is riveting in Metal fabrication?
   b.   With the aid of 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

(2a).   Describe the function of the following stakes in metal fabrication: Funnel stake, Half-moon stake, Bick iron stake, Hatchet stake and creasing 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

(3a).   With the aid of sketches describe the following Tinplate (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.

(4a).   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.

(5a).   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 one over the other.
   c.   Draw a neat diagram of combined set and snap used in riveting.

GOOD LUCK