



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

SECOND SEMESTER 2019/2020 SESSION EXAMINATION

**COURSE CODE: - ITE 381**

**COURSE TITLE: - WELDING PROCESSES**

**TIME ALLOWED: - 2 HOURS**

**INSTRUCTION: - ANSWER FOUR (4) QUESTIONS ONLY**

- 1(a). Outline and explain the three (3) cleaning methods recommended for cleaning containers which are to be welded or cut.
  - b. Differentiate between open circuit voltage and arc voltage in electric arc welding.
  - c. With the aid of neat sketches show the cross section of a coated electrode in the process of welding.
- 2(a). With the aid of neat sketches shows the oxy-acetylene welding apparatus.
  - b. Differentiate between Straight polarity and Reversed polarity in DC welding machine
  - c. Outline five (5) relevant precautions to be observed by person supervising or performing oxy-acetylene cutting of any kind.
- 3(a). Describe the process of tinning in soft soldering.
  - b. Differentiate between brazing and soft soldering.
  - c. With the aid of neat diagrams differentiate between hatchet bit and straight bit.
- 4(a). What are the five (5) relevant precautions to be observed when using oxy-acetylene welding equipment?
  - b. List and explain four (4) basic equipment that can be found in oxy-acetylene welding apparatus.
  - c. How do you test for leaks on new welding apparatus?
- 5(a). Clearly differentiate between Tungsten Inert Gas (TIG) and Metal Inert Gas (MIG) with specific reference to their applications.
  - b. Outline five (5) advantages of plasma welding techniques.
  - c. With neat diagrams show neutral, carburizing and oxidizing flames.
- 6(a). Briefly explain the followings as it relates to general safety in welding:
  - i. Protective clothing, ii. Eye protection, iii. Ear protection, iv. Equipment familiarization
  - b. Outline five (5) precautions to be observed when dealing with arc welding equipment.
  - c. Draw the following five (5) basic kinds of weld joints: Butt, Corner, Lap, Tee, and Edge.

**GOODLUCK**