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

COURSE CODE: *- ITE 381*
COURSE TITLE: *- WELDING PROCESSES.*
TIME ALLOWED: *- 2 HOURS.*
INSTRUCTION: *- ATTEMPT FOUR (4) QUESTIONS ONLY.*

1(a). What are the causes and remedy of the following welding defects?
Porosity, under cut, Blow holes, Overlap, and lack of penetration.
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.

2(a). What are the five (5) relevant precautions to be observed when using oxy-acetylene welding equipment?
b. List and explain four (4) basic equipments that can be found in oxy-acetylene welding apparatus.
c. Why is it necessary to cock the cylinders?

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). 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. What are the causes of backfire in oxy-acetylene welding?

5(a). With the aid of neat sketches show the following types of joints used for soldering: Lap seam, joggle seam, grooved seam, single seam and double seam.
b. Differentiate between open circuit voltage and arc voltage in electric arc welding.
c. Outline and discuss the three (3) cleaning methods recommended for cleaning containers which are to be welded or cut.

6(a) with the aid of neat sketches show the oxy-acetylene welding apparatus.
b. Differentiate between Straight polarity and Reversed polarity in DC welding machine
c. Briefly discuss the three (3) welding machines obtainable in Electric Arc welding.

GOOD LUCK