



UNIVERSITY OF MINES AND TECHNOLOGY, TARKWA
SECOND SEMESTER EXAMINATIONS, MAY 2018

COURSE NO: EL 372
COURSE NAME: UTILISATION OF ELECTRICAL POWER
CLASS: EL III **TIME:** 3 HOURS

Name: _____ Index Number: _____

Attempt all questions

QUESTION 1

25 MARKS

- A) What is an electric welding?
- B) List the advantages and disadvantages of electric welding.
- C) With the aid of a well labelled diagram, explain the operation of capacitor discharge circuit for percussion welding.
- D) List seven (7) electric welding accessories required to carry out proper welding operations.

QUESTION 2

25 MARKS

- A)
 - i) What is a switchgear?
 - ii) List the four (4) switchgears in an electrical system.
 - iii) How are switchgears classified? (list five (5) of them)
 - iv) What are the components of a protective system
- B)
 - i) State the functions of a protective gear
 - ii) What are the requirements of protective gear?
 - iii) What type of faults do protective gears protect?
 - iv) What are the disadvantages of oil circuit breakers?

QUESTION 3

25 MARKS

- A)
 - i) What is an electric drive?
 - ii) What are the advantages of an electric drive?

- B) With the aid of block diagrams, explain the operations of an electric drive.
- C) List eight (8) applications of electric drive.
- D) State the differences between an AC drive and a DC drive.

QUESTION 4

25 MARKS

- A)
 - i) What is electro heating?
 - ii) What is dielectric heating?
 - iii) what are the advantages of dielectric heating?
- B) State and explain the advantages of electro heating
- C) State and explain the requirements of a good heating element.
- D) With the aid of a well labelled diagram explain the operation of indirect type induction furnace.

Examiner: Addo