NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI - ABUJA
FACULTY OF SCIENCES

DEPARTMENT OF PURE AND APPLIED SCIENCE

OCT/NOV 2019 EXAMINATIONS

COURSE CODE: **PHY 310**
COURSE TITLE: **ELECTRONICS II**
CREDIT UNIT: **2**
TIME ALLOWED: **(2 HRS)**

INSTRUCTION: *Answer question 1 and any other three questions*

QUESTION 1

(a) What is open loop gain of an amplifier?   (3marks)

(b) Draw a diagram of N- channel and P- channel JFET   (5marks)

(c) What is field effect transistor (FET)?   (3marks)

(d) Describe the operation of power amplifier.   (5marks)

(e) List three (3) ways of applying negative feedback signals to amplifiers.   (6marks)

(f) What is Power gain?   (3marks)

QUESTION 2

(a) What is Amplifier?   (3marks)
(b) Mention four(4) merits of multistage amplifiers   (4marks)
(c) Draw a diagram of cross section of an n-type MOSFET   (5marks)
(d) Mention three(3) terminals found in FET   (3marks)

QUESTION 3
(a) What is filter?   (3marks)
(b) Differentiate between open loop and closed loop multistage amplifier   (5marks)
(c) Draw a diagram of N-channel JFET common source amplifier   (5marks)
(d) Mention two (2) disadvantage of multistage amplifier   (2marks)

QUESTION 4
(a) Sketch a diagram of Class A power amplifier.   (5marks)

(b) List three (3) parametric quantities of an operational amplifier. (3marks)

(c) How is electricity conveyed from the generating station to the consumer? (4marks)

(d) What is direct current? (3marks)

QUESTION 5

(a) Draw a diagram of class AB amplifiers (5marks)

(b) What is voltage regulator? (3marks)

(c) Differentiate between linear and switching regulator (4marks)

(d) Mention three (3) basic types of filters. (3marks)