



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

DEPARTMENT OF PURE AND APPLIED SCIENCE

2023_2 EXAMINATIONS_

COURSE CODE: PHY308

COURSE TITLE: ELECTRONICSI

CREDIT UNIT: 2

TIME ALLOWED: (2 HRS)

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

QUESTION 1

- (a). List some of the factors that the h-parameters depend on. (3 marks)
- (b). Enumerate four (4) uses of multivibrators. (4 marks)
- (c). Briefly describe the characteristics of the BJT operation in the cut-off, saturation, and linear regions. (4.5 marks)
- (d). The frequency of time-period of the oscillatory current depends on two factors. Explain them. (3 marks)
- (e). Highlight three (3) advantages of Negative Feedback. (3 marks)
- (f). Write three (3) applications of Resonance Effect. (3 marks)
- (g). What is the use of a Nyquist plot? (2 marks)
- (h). What is a Choke Input or L-C Filter? (2.5 marks)

QUESTION 2

- (a). What are oscillators? (3 marks)
- (b). Briefly explain what you understand as the Common Base Configuration of a transistor. (4 marks)

Question 3

Write short note on Survey research under the following headings:

- a. The major concerns of a Survey research (6marks).
- b. The aim of Survey research (3 marks)
- c. Major means of data collection (4 marks).
- d. The requirements needed for effective conduct of Survey research (2 marks).

Question 4

- a. Justify why the Survey research is classified as quantitative rather than qualitative research. (5 marks)
- b. Give three (3) advantages and two (2) disadvantages of a Survey research design. (10 marks)

Question 5

- a. State the general characteristics of a population and the processes in the selection of a sample (6 marks)
- b. Explain how you can draw 180 samples from a population of 600 Christians, 400 Muslims and 200 Traditional worshipers using proportionate sampling technique (9 marks)