

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

DEPARTMENT OF PHYSICS

2024 1 EXAMINATION

COURSE CODE: PHY 361
COURSE TITLE: GEOPHYSICS II
CREDIT UNIT: 2
TIME ALLOWED: (2 HRS)

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

QUESTION 1

- ai. State four features that can be mapped using seismic reflection
- ii. What is the option(s) available for a geophysicist in areas where seismic reflection does not yield reliable information?

bi. State other type of elastic wave apart from body wave

Love and Rayleigh

ii. Explain body wave

ci. state two indicators of short break

ii. Using the equation of Snell's law, describe the nature of the refracted ray when the velocity in the second medium is greater than the first, $\sin r$ is equal to 1, and at a greater angle of incidence using a suitable diagram when necessary

QUESTION 2

a. Explain the determinant of damping, and relative motion between coil and casing in a geophone

b. Describe S-wave geophones

QUESTION 3

a. Describe single-channel seismograph

bi. On arrays, write short notes on relative effect, and apparent wavelength