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

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

QUESTION 1

a. List and explain five (5) types of seismic sources (10 marks)

b. Enumerate two methods of acquisition of surface wave data (4 marks)

c. In not more than five lines each, describe the principles of operation of P and surface waves (5 marks)

d. state four (4) types of interaction between waves and subsurface geology (6 marks)

QUESTION 2

Write short notes on the following terminologies

(i) Reflection survey (3 Marks)

(ii) Positioning shots (3 Marks)

(iii) Centre Shot (3 Marks)

(iv) Time–distance plots (3 Marks)

(v) Principal refractors (3 Marks)

QUESTION 3

a. Discuss the practicality of Common Midpoint Processing in Seismic Method (7.5 Marks)

b. List and explain three useful filtering operation of seismic data analysis (7.5 Marks)

QUESTION 4

ai. What is Seismic wave? (2 marks)

ii. Differentiate between two broad types of seismic waves. (3 marks)

b. Discuss the basic concept of seismic reflection (5 marks)

c. State the area of application of seismic reflection (5 marks)

QUESTION 5

a. Briefly describe the basic theory of Electrical resistivity (Diagram required) (7.5 Marks)

b. State five (5) areas of application of this method (7.5 Marks)