



Banha University
 Faculty of Science
 Geology Department
 2nd Year Geophysics

Examination is in
 two pages

Date: ~~Sunday~~ 30/12/2018
 Subj.: Basics of Geophysics
 Subject Code: (G 250)
 Time: 120 Minutes

Part I (Seismic and Electric Methods)

Answer the following questions..... (24 Marks)

- I- How seismic waves are generated in the offshore field? **Write in detail.**
Air gun, Water Gun, Explosive mixtures of Gases, Sparker, Boomer, Marine vibroseises...
 (3 Marks)

- II- There are a number of sources of electric noises that can affect our measurements. **Discuss in detail.**
Electrode Polarization, Telluric Currents, Presence of Nearby Conductors, Low Resistivity at the Near Surface, Near-Electrode Geology and Topography, Current Induction in Measurement Cables.....
 (3 Marks)

- III- Chose the most accurate answer:.....(18 Marks)
 - 1- *Depth variations in resistivity can be detected by increasing current electrode spacing.*
 - a. True
 - b. False
 - 2- *Nearly all geophones currently used for seismic recording in marine (offshore) are of the electromagnetic type.*
 - a. True
 - b. False
 - 3- *Seismic survey for oil exploration is belonging to*
 - a. Geophysical active methods
 - b. Geophysical passive methods
 - c. Geophysical passive and active methods
 - 4- *Electric resistivity survey method is belonging to the passive geophysics*
 - a. True
 - b. False

- 5- The geometry of an array (or geophone group) is designed to :**
- Cancel certain unwanted signals.
 - Enhance the reflected events.
 - Cancel certain unwanted signals and enhance the reflected events.
- 6- Which of the following is NOT a seismic exploration source?**
- Earthquakes
 - Airgun
 - Explosives
- 7- The sample interval unit used during the digital recording is.....**
- millimeter
 - millisecond
 - centimetre
- 8- In resistivity profiles are resistivity surveys in which the electrode spacing is fixed for all readings.**
- True
 - False
- 9- Nearly all hydrophones currently used for seismic recording in marine (onshore) are pressure-sensitive phones (piezoelectric).**
- True
 - False
- 10- If P-wave and S-wave were to go from a solid to a liquid - what would happen to their velocity?**
- P-wave and S-wave decrease
 - P-wave decrease and S-wave decrease to zero
 - P-wave and S-wave increase
- 11- Electrical power lines cause a seismic noise which is termed**
- Natural Noises
 - Cultural Noise
 - Induced Noise
- 12- Sparkers are devices for detecting the seismic waves in marine environment.**
- True
 - False