

Answer all questions

Q1- Parallel magnetic reversal patterns observe on the ocean floor near mid oceanic ridges suggest the:

- a- Formation of new crust in the geologic past;
- b- Presence of mineral deposits in oceanic crust;
- c- Origin of earth's magnetic field in inner core;
- d- Non uniform movement of tectonic plates in the geologic past.

Q2- The aim of VES survey is to show:

- a- Vertical resolution, b- Horizontal resolution, c- Horizontal and Vertical variation,
- d- Vertical variation.

Q3- Bouguor correction is applied to correct for the gravity anomaly due to mass between station

location and:

- a- mean sea level, b- local datum plane, c- base of upper crust, d- Mohovocic discontinuity.

Q4- Which one of the following can be best explored using electromagnetic method?

- a- Oil-bearing strata, b- Coal bearing strata, c- disseminated sulphide deposit, d- massive sulphide deposit.

Q5- The most sensitive instrument for magnetic survey is:

- a- magnetic field balance, b- proton precession magnetometer, c- fluxgate magnetometer,
- d- optically pumped magnetometer.

Q6- The bright spot on a seismic reflection in a sand-shale sequence can be seen over:

- a- Fresh water-bearing sand, b- saline water-bearing sand, c- oil pool, d- gas pool.

Q7- Which of the following is the largest lithosphere plate:?

- a- Antractic plate, b- Eurasian plate, c- Pacific plate, d- African plate.

Q8- The best method for studying basement rock is:

- a- gravity method, b- seismic method, c- electromagnetic method, d- magnetic method,
- e- all of these methods.

Q9- The rock porosity can vary with:

- a- The size of the grains, b- The degree of sorting, c- cementing factor, d- All of them.

Q10- The slowest seismic wave is:

- a- S- wave, b- LR-wave, C- LQ- wave, d- p-wave.

Q11- Depth range of the low velocity zone in km:

- a- 30-60, b-100-400, c- 400-600, d- 600-800.

Q12- For weak zone investigation the geophysical method used:

- a- gravity method, b- magnetic method, c- reflection seismic method,
- d- electromagnetic method, e- refraction seismic method.

Q13- Describe an observation on earth's surface that can ascertain that earth's outer core is fluid ?. Draw suitable diagram.

Q14- Discuss the main causes of gravity value difference between earth poles and equator?

Q15- How can you prove that V_p is greater than V_s ?

Q16- Discuss the followings:

- a- Signal- noise ratio, b- Reconnaissance study, c- Isostasy

Q17: What are the differences between Ductile shear zone and Brittle shear zone?

Q18: Illustrate by drawing a cross section, only the main tectonic zones of Iraq.

Q19: What are the differences between (Geologic; Tectonic; and Topographic) map?

Q20: List the seven major lithospheric plates of our planet.