

#### SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR

Siddharth Nagar, Narayanavanam Road – 517583

## **QUESTION BANK (DESCRIPTIVE)**

**Subject with Code :** ENGINEERING GEOLOGY(13A01506) Course & Branch: B.Tech - CE

**Regulation:** R13 Year & Sem: III-B.Tech & I-Sem

# <u>UNIT -IV</u>

### **GEOPHYSICAL STUDIES**

<u> </u>	
1) What is vertical electrical sounding? Describe the field work and interpretation of fie	eld data
involved in sounding method.	10 <b>M</b>
2) a) Explain briefly about geothermal method.	10 <b>M</b>
b) Describe the grouting technique for site improvement.	
3) a) Explain about the radio metric method.	10M
b) Describe the Magnetic method of survey.	
4) Write shorts notes on:	10M
a) Electrical method	
b) Ground penetrating radar method.	
5) What are the objects of geophysical investigations? Enumerate the various geophysical me	thods of
subsurface investigations? Discuss the usefulness of various surface techniques?	10 <b>M</b>
6) a) Explain the importance of geophysical studies?	10 <b>M</b>
b) Explain the principles of geo physical study by Gravity method?	
7) Explain the various types Seismic Methods and its advantages and limitations?	10 <b>M</b>
8) Explain magnetic method and their advantages and limitations?	10 <b>M</b>
9) Describe the principle of gravity method with the help of a neat sketch? What are the	
parameters measured? Also explain the different kinds of gravity methods that are followed du	
investigations?	10M
10) a) What is seismic method?	2M
b) Write on Wenner and Schlumberger types of electrode configuration?	2M
c) Define electrical method?	2M
d) List out the importance of Electrical resistivity method?	2M
e) Illustrate the applications of magnetic method?	2M

Prepared by:

Dr. S.SIDDIRAJU

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### **QUESTION BANK (OBJECTIVE)**

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D) Ground water and ore body at deeper depth  8) Subsurface geophysical method is  A) Magnetic method B) Ground penetrating radar C) Seismic method D) Borehole logging  9) If a material of resistance 'R' has a cross sectional area 'A' and a length 'L' then its resistivity $\rho$ can be expressed as  []  A) $\frac{RA}{L}$ B) $\frac{LA}{R}$ C) $\frac{KA^2}{L}$ D) $\frac{KA^2}{L^2}$ 10) The relation between aquifer resistivity $\rho$ and the resistivity of ground water $\rho_w$ and $\alpha$ is the porosity is  []  A) $\frac{\rho}{\rho_w} = \frac{2\alpha}{3-\alpha}$ B) $\frac{\rho}{\rho_w} = \frac{3-\alpha}{2\alpha}$ C) $\frac{\rho_w}{\rho} = \frac{3-\alpha}{2\alpha}$ D) $\frac{\rho_w}{\rho} = \frac{3-\alpha}{2\alpha}$ 11) By using geo physical methods we can measure  []  A) Density B) Magnetism C) Resistivity D) All the above  12) The units of resistivity in metric system are  []  A) Volts B) Amp C) Ohm D) Ohm-m  13) Geo physical method detect differences or anomalies of physical properties within the earth's A) Mantle B) Core C) Crust D) Outer mantle []  14) Geophysical exploration refers to the scientific measurement of physical problems of the earth	1) which of the following lo			
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A) Natural gravity B) artificial gravity C) both a &b D) none
16) In gravity method property of material is controlling physical property [
A) Density B) Pressure C) Temperature D) All
17) In gravity method the gravity is influencedif causative body is heavier [ ]
A) Positively B) Negatively C) Neutral D) All
18) The gravimeter used in relative gravity measured inloaded spring [ ]
A) Pressure B) Density C) Mass D) All 19) Which of the following is a kind of gravity method [ ]
A) Gravity prospecting B) gravity logging C) shipbome gravity D) All
20) The process of applying various corrections, which is obviously necessary is called
A) Reduction of gravity B) reduction of mass C) reduction of pressure D) All [ ]
21) For total measurements magnetometer is used [ ]
A) Neutron precession B) Proton precession C) electron precession D) All
23) Magnetic surveys have [
A) Certain inherent limitations  B) certain herent limitations
C) Both a & b  D) All
24) In electrical methods employing such a physical property is the electrical resistivity
A) A.C Energization B) D.C energization C) Both a & b D) All [ ]
25) The geological problem like locating and tracing of faults are employed to find solution
A) Magnetic investigations B) Pressure investigations C) Both a & b D) All [ ] 26) Electrical method is successful in dealing with the problems like [ ]
26) Electrical method is successful in dealing with the problems like [ A) Groundwater studies B) surface water studies C) Both a & b D) All
27) What is an instrument used to study earthquakes?
A) Epicenter B) Foreshock C) Scarp D) Seismograph
28) What is the standardized distance from an earthquake epicenter for measuring Richter magnitudes?
A) 0 km B) 10 km C) 100 km D) 500 km [ ]
29) Where do most earthquakes occur? [ ]
A) Along dikes B) Along faults C) Along folds D) Along joints
30) Which of the following is not associated with earthquake destruction?
A) Fires B) High winds C) Mass wasting D) Trembling earth
31) What is the most earthquake prone state?
A) California B) Florida C) Maine D) North Dakota
32) A positive gravity anomaly indicates: [ ]
A) A deficiency in mass.  B) An excess of mass
C) A reversal of the gravitational field. D) None of these
33) Positive gravity anomalies are often associated with:
A) Ore bodies beneath Earth's surface.  B) Large cavern systems beneath Earth's surface
C) Deep ocean trenches  D) All of these.
34) A positive magnetic anomaly indicates: [ ]
A) A body of magnetic ore. B) An intrusion of gabbro.
C) Mafic rock masses. D) All of the above
35) Basalt seismic wave velocity varies from [ ]
A) 5-6.8 m/s B) 5.2-6.5 m/s C) 6.2-7.2 m/s D) 5-6.5 m/s
36) The unit of gravity is [ ] A) Gal B) Amp C) Ohm D) Ohm-m
37) Loose sand and gravel seismic velocity is [ ]
A) 0.2-0.6 m/s B) 0.1-0.5 m/s C) 0.1-0.4 m/s D) 0.1-0.9 m/s

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				QUESTI	ON BAN	IK <b>2016</b>
38) The m	inimum number	of seismic sta	ations needed to locate an ea	rthquake is:	[	]
A) 8	B) 2	C) 3	D) 1			
39) A seisi	nic gap is:				[	]
A) The tim	ne between large	e earthquakes.				
B) A segm	ent of an active	fault where e	arthquakes have not occurred	d for a long t	ime.	
C) The cer	nter of a tectonic	plate where	earthquakes rarely occur.			
D) A large	chasm opened	by an earthqu	ake.			
40) Which	boundary mark	s a change fro	om 100% solid to 100% liqui	d?	[	]
A) Mantle	outer core	B) Lithos	phere asthenosphere			
C) Crust	. mantle	D) None of	of these			
	Prepared			red by:		
Dr. S.SI					SIDDIRAJU	

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