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Code No. : 13117

**VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD**  
**B.E. (Civil Engg.: CBCS) III-Semester Main Examinations, December-2018**  
**Geology**

Time: 3 hours

Max. Marks: 60

Note: Answer ALL questions in Part-A and any FIVE from Part-B

Q.No.	Stem of the question	M	L	CO	PO
<b>Part-A (10 × 2 = 20 Marks)</b>					
1.	Write the chemical composition of Orthoclase and Olivine.	2	1	1	1
2.	Differentiate between the stratification and cross bedding.	2	1	1	1
3.	What is an axial plane and plunge of the fold?	2	1	2	1
4.	Define the terms extension and release joints.	2	1	2	1
5.	Define water table and perched water table.	2	1	3	1
6.	In Schlumberger configuration, the current and the voltage values are obtained for AB/2= 10m and MN/2=1m separation are 13.5ma, 3.5mv respectively. Calculate the resistivity of stratum.	2	4	3	3
7.	Define the terms heel and toe of the dam.	2	1	4	1
8.	Classify the various types of dams.	2	2	4	1
9.	What are seismic waves?	2	1	5	1
10.	Explain the causes of land slides.	2	2	5	1
<b>Part-B (5 × 8 = 40 Marks)</b>					
11. a)	Discuss the various physical properties that are used in the identification of minerals.	5	2	1	1
b)	Categorise the various structures exhibited by metamorphic rocks along with description.	3	4	1	1
12. a)	Describe the different classification of faults. Add a note on their importance in civil engineering.	5	2	2	7
b)	Categorize the different types of physical weathering with suitable explanation.	3	4	2	7
13. a)	Examine the suitability of various lithological formations in terms of their ground water yield.	4	3	3	1
b)	Differentiate between the confined and unconfined aquifers.	4	4	3	1
14. a)	Discuss the influence of geology in the selection of a dam site.	6	2	4	11
b)	Explain the reservoir induced seismicity.	2	2	4	1
15. a)	Describe in detail the methods of seismic investigation. Add a note on their field arrangements.	6	2	5	3
b)	Calculate the thickness of top layer from the following seismic refraction data: Critical distance=60m. velocity of the shock wave in the top(weathered) layer= 1400m/sec, velocity of the shock wave in the bottom bed rock =4200m/sec	2	4	5	3

Contd...3

16. a)	Describe the various structures exhibited by igneous rocks.	4	2	1	1
b)	Discuss the various types of Indian soils.	4	2	2	1
17.	Answer any <b>two</b> of the following:				
a)	Describe in detail the geological, geophysical and hydrological studies in ground water exploration.	4	2	3	4
b)	Discuss the various causes and remedial measures in the leakage and silting of reservoirs.	4	2	4	3
c)	Examine the role of structural features in tunneling the rocks.	4	3	5	11

M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome

S. No.	Criteria for questions	Percentage
1	Fundamental knowledge (Level-1 & 2)	57
2	Knowledge on application and analysis (Level-3 & 4)	43
3	*Critical thinking and ability to design (Level-5 & 6) (*wherever applicable)	---

