

$H = 1 \text{ kg/cm}^2$

Received on
22/01/2010

$$2.5 \log_e \frac{V}{R} + 5.5$$

$$u = u_{max} + 2.5 \log_e \frac{V}{R}$$



VEERMATA JIJABAI TECHNOLOGICAL INSTITUTE

[Central Technological Institute, Maharashtra State]

Matunga, Mumbai-400 019

SEMESTER EXAMINATION *May 2009* DATE OF EXAM *18th May 2009*
SEMESTER & COURSE *IV S Y B Tech Civil* TIME *2.30 p.m. To 5.30 p.m.*
TIME ALLOWED *3 HRS.* MARKS *100*
SUBJECT : *ENGINEERING GEOLOGY*

- Instructions
1. **Question no. 1 is Compulsory.**
 2. All Question carry equal marks i.e. 20 marks.
 3. Draw neat figure wherever necessary.
 4. Answer to questions should be grouped and written together

- Q1. a. Define the following terms. (Any 5) 10
- i) True dip and apparent dip
 - ii) Epiorogenic and orogenic
 - iii) Concordant igneous bodies
 - iv) Focus and epicenter
 - v) Inliers and outliers
 - vi) Over break
- b. Define Geology. Explain Subdivision of geology 5
- c. Match the minerals with their correct given identifying characteristics. 5

Minerals	Form	Hardness	Group	Cleavage
Kyanite	Rhombohedral	2-3	Carbonate	1 set
Orthoclase	Lamellar	3	Amphibole	Absent
Calcite	Drum shaped	6-7	Mica	2 set
Muscovite	Bladed	9	Amphibole	3 set
Corundum	Tabular	6	Feldspar	2 set

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- Q2. a. Define crystal . Classify the crystal into systems. Enumerate the characteristic elements of the different crystal systems. 5
- b. What are the different types of metamorphism. Explain them. 5
- c. What are the different types of volcanic eruptions. Explain any one of them. 5
- d. Define Igneous rocks. Classify the igneous rocks. Describe the characteristics of different subdivision in tabular form. 5
- Q3. a. **Write short notes on (Any 4)** 20
- i) Formation of Delta
- ii) Internal constitution of earth
- iii) Rock Quality Designation
- iv) Seismology
- v) Hydrological cycle
- vi) Geological Division of India based on the principle of stratigraphy
- Q4. a. Explain Seismic method of geophysical investigation in details. 5
- b. Explain the different structural features of rock bed for dam site conditions. 5
- c. **Solve any one of the following** 10
- 1 Explain the hypothesis of mountain building processes.
- 2 Explain the different governing factors for tunneling condition.
- Q5. a. For a given geological map MAP NO. 1 15
- i) Draw topographical section X-Y
- ii) Write the geography of the map.
- iii) Write the geology of the map illustrating the geology of the older series and younger series, nature of strata, the order of superposition and thickness.
- b. **Solve any one of the following** 5
- 1 Explain the geological action of river in brief.
- 2 What are the different components and types of fault. Explain the different type of relative displacement that occurs due to faulting.