

6. What major geological factors should a geologist consider in construction of a dam? 5
7. What are the special types of mass wasting in cold region? Write classification of landslide based on water content and velocity. 2+3

PART – II (20 Marks)

Answer any *four* questions. 4×5=20

1. Discuss the behavior of natural remanent magnetizations (NRMs) for metamorphic rocks. 4
2. Explain the magnetic cleaning processes to separate the vectors present in natural rock samples. 4
3. How will you select the heating steps for different magnetic minerals during thermal magnetization? What is PCA? 4
4. Explain the internal structure of the Earth on the basis of velocity of seismic waves. 4
5. Explain with a suitable Curie-curve, the presence of multiple magnetic vectors residing in a natural rock samples. 4
6. How do you identify both paramagnetic and ferromagnetic minerals by a specific rock magnetic measurement? 4
7. Explain the behavior of different seismic waves with suitable sketches. 4

B. SC. GEOLOGICAL SCIENCES EXAMINATION, 2024

(3rd Year, 2nd Semester, Special Supplementary)

ENGINEERING GEOLOGY AND SOLID EARTH GEOPHYSICS**PAPER – CORE/TH/14**

Time : Two hours

Full Marks : 40

(Use a separate Answer script for each Part)

PART – I (20 Marks)

Answer any *four* questions. 4×5=20

1. What are the differences between intensity and magnitude scales of an earthquake? How is the epicenter of an earthquake located? 2+3
2. What are the major differences in the nature of destructions due to propagation of Love and Rayleigh seismic waves? Explain your answer with suitable sketches. Which is the faster surface-wave generated during earthquake? 4+1
3. Do you think that the tunnel passing through the core of an antiform is more stable than through the core of a synform? Justify your answer. 5
4. With the help of neat sketches, write the classification of mass wasting based on the type of slope movement. 5
5. Which parameters are considered in determining Rock Structure Rating (RSR) for an engineering geological project? 5

[Turn over