

B.Tech II Year II Semester (R20) Regular & Supplementary Examinations April/May 2024

ENGINEERING GEOLOGY

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- | | |
|---|----|
| (a) Describe at least two types of drainage patterns. | 2M |
| (b) Elaborate various types of weathering. | 2M |
| (c) Describe the Mohs scale of hardness. | 2M |
| (d) Explain the properties of clay minerals. | 2M |
| (e) Define metamorphic rocks. | 2M |
| (f) What are the advantages of granite as a building stone? | 2M |
| (g) Explain the objectives of geophysical investigations. | 2M |
| (h) Define fold with a neat labelled diagram. | 2M |
| (i) Enlist at least two coastal protection structures. | 2M |
| (j) Write a short note on major causes behind landslides. | 2M |

PART – B

(Answer all the questions: 05 X 10 = 50 Marks)

- 2 (a) What are the primary and secondary effects of earthquakes? 5M
- (b) Describe erosional and depositional landforms developed by the wind with neat labelled diagrams (at least two of each). 5M
- OR**
- 3 Write a detailed note on the interior of the earth with a neat labelled diagram. 10M
- 4 (a) Describe the physical properties of Feldspar group of minerals. 5M
- (b) Write a short note on distinctive physical properties of ore minerals. 5M
- OR**
- 5 Write a detailed note on physical properties of minerals used to identify minerals. 10M
- 6 (a) Describe the process of sedimentary rock formation. 5M
- (b) Write a short note on rock cycle with a suitable diagram. 5M
- OR**
- 7 Write a detailed note on various important engineering properties of rocks. 10M
- 8 (a) Describe various types of joints with a neat labelled diagram. 5M
- (b) Explain the working of seismic refraction method. 5M
- OR**
- 9 Explain the earth electric resistivity method and its applications in civil engineering. 10M
- 10 (a) Describe various methods of landslide prevention (at least five). 5M
- (b) What are the major geological problems that occur during tunnel excavation? 5M
- OR**
- 11 Explain the various favourable and unfavourable geological conditions for the dam site selection. 10M

B.Tech II Year II Semester (R20) Regular & Supplementary Examinations August/September 2023

ENGINEERING GEOLOGY

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- | | |
|--|----|
| (a) Define the terms Porosity and Permeability. | 2M |
| (b) What is the role of atmosphere in weathering? | 2M |
| (c) Define the term Mineralogy. | 2M |
| (d) What is specific gravity? How can it be determined for minerals? | 2M |
| (e) What are the physical properties of igneous rocks? | 2M |
| (f) Give brief note about Granite. | 2M |
| (g) Draw the parts of a faulty. | 2M |
| (h) Discuss chevron and drag fold. | 2M |
| (i) What is the purpose of dams? | 2M |
| (j) What is the importance of lining in tunnels? | 2M |

PART – B

(Answer all the questions: 05 X 10 = 50 Marks)

- | | |
|--|----|
| 2 (a) Discuss in brief about the importance of Geology in tackling the civil engineering problems. | 5M |
| (b) Discuss about the intensity and magnitude of earthquakes. | 5M |
| OR | |
| 3 (a) Explain about the Weathering of rocks? | 5M |
| (b) Write short notes on classification and causes of earthquakes. | 5M |
| 4 (a) Explain the formation of minerals with examples | 5M |
| (b) How will you identify Graphite, Chlorite, and Mica? | 5M |
| OR | |
| 5 (a) Explain the quartz group of minerals. | 5M |
| (b) Explain the significance of 'fracture', 'colour', and 'form' in identifying the mineral. | 5M |
| 6 (a) Give a brief account on the classification of rocks. | 5M |
| (b) Explain different types and appearance of Dolerite and Basalt | 5M |
| OR | |
| 7 (a) Write short notes on: (i) Marble (ii) Dolerite. | 5M |
| (b) Explain in detail about the megascopic description, properties of Gneiss and Schist. | 5M |
| 8 (a) Give an account on the description and classification of folds. | 5M |
| (b) Explain important parts of a fold with neat sketch. | 5M |
| OR | |
| 9 (a) Explain the importance of electrical resistivity surveys in Civil Engineering Works. | 5M |
| (b) Explain the parts of Fault with neat sketch. | 5M |
| 10 (a) Write notes on the necessary geological conditions for the following: (i) Reservoirs (ii) Coastal structures. | 5M |
| (b) Discuss the effects of faulting and their civil engineering importance. | 5M |
| OR | |
| 11 (a) Write the applications of remote sensing in Civil Engineering. | 5M |
| (b) Explain the hydrological investigations to assess the ground water potentiality. | 5M |
