

R18

Code No: 153AV

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech II Year I Semester Examinations, September/October - 2023

ENGINEERING GEOLOGY

(Civil Engineering)

Time: 3 Hours

Max. Marks: 75

Note: i) Question paper consists of Part A, Part B.

ii) Part A is compulsory, which carries 25 marks. In Part A, answer all questions.

iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART - A

(25 Marks)

- 1.a) Define weathering and types. [2]
- b) Discuss the role of oxidation in weathering of rocks. [3]
- c) Write the advantages of study of minerals. [2]
- d) Explain the petrographic characteristics of Conglomerate, Sand Stone. [3]
- e) List some geological structures associating with the rocks. [2]
- f) Describe the importance In-situ and drift soils. [3]
- g) Define the terms foci and focus of the earthquakes. [2]
- h) Illustrate the causes and effects of earthquakes. [3]
- i) List some important geophysical methods. [2]
- j) State and explain the causes of failures of a reservoir. [3]

PART - B

(50 Marks)

- 2.a) Enumerate with the help of neat sketches, the process of erosion as performed by glaciers and their features.
- b) Explain and derive the Torque on an Electric Dipole in an Electric field. [5+5]

OR

- 3.a) Describe weathering rock properties and importance of weathering with reference to dams.
- b) Enumerate the importance of mineralogy and petrology in civil engineering. [5+5]

- 4.a) Illustrate the megascopic properties of the following rocks: Pegmatite, Laterite, and Conglomerate.
- b) Classify common structures and textures of sedimentary rock. [5+5]

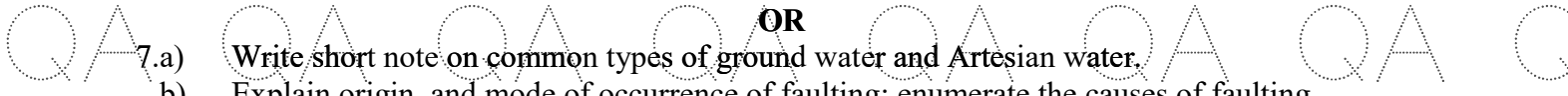
OR

- 5.a) Present briefly concordant bodies, discuss various important concordant forms with neat diagram.
- b) Describe the Study of physical properties of following common rock forming minerals: Feldspar, Quartz, and Flint. [5+5]



- 6.a) What is Cone of depression? Write short note on hydrological cycle.
- b) Discuss various type of unconformity and explain the civil engineering considerations.

[5+5]



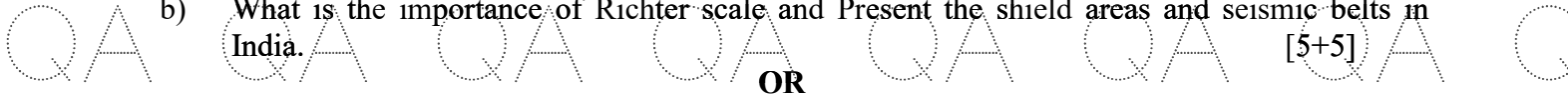
- 7.a) **OR** Write short note on common types of ground water and Artesian water.
- b) Explain origin, and mode of occurrence of faulting; enumerate the causes of faulting.

[5+5]

- 8.a) State and explain seismic waves. Illustrate precautions be taken for building construction in seismic areas.

- b) What is the importance of Richter scale and Present the shield areas and seismic belts in India.

[5+5]



OR

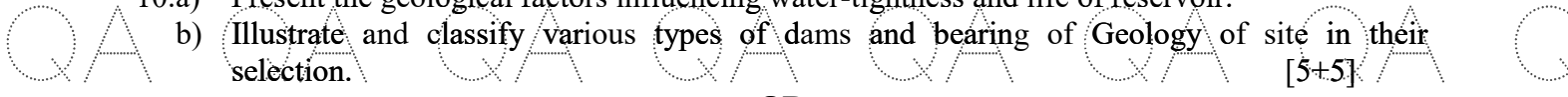
- 9.a) Discuss geometry of refracted path and explain two layers case with the horizontal interface of seismic refraction survey techniques in exploration.

- b) Describe the special importance of Electrical resistivity methods in geophysical studies.[5+5]

- 10.a) Present the geological factors influencing water-tightness and life of reservoir.

- b) Illustrate and classify various types of dams and bearing of Geology of site in their selection.

[5+5]



OR

- 11.a) Discuss Factors contributing to the success of a reservoir.

- b) Discuss the lithological and ground water effects of Tunneling on the ground Role of Geological Considerations.

[5+5]



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