

III B. Tech I Semester Supplementary Examinations, May - 2017

ENGINEERING GEOLOGY

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
 2. Answering the question in **Part-A** is compulsory
 3. Answer any **THREE** Questions from **Part-B**

PART - A

- 1 a) Write any three importance of geology in civil Engineering. [3M]
 b) Define rock and mineral? What is Mohs' scale of hardness? [4M]
 c) Define the following with sketches i) Hade ii) Throw and heave [4M]
 d) Enumerate the cone of depression. [3M]
 e) Write briefly the advantages and uses of geophysical prospecting in civil engineering. [4M]
 f) Write a note on the factors controlling tunneling. [4M]

PART - B

- 2 a) Define weathering? Explain frost action and thermal effects in weathering. [4M]
 b) Describe briefly different process are responsible for physical and chemical weathering. [8M]
 c) Write the products of the rock weathering. [4M]
- 3 a) Define the Porphyritic and poiklitic texture in igneous rocks. [3M]
 b) Enumerate the properties of ore forming minerals i) Galena ii) Pyrolusite iii) Bauxite iv) Hematite [8M]
 c) Write petrographic characteristics of sedimentary rocks i) Sandstone ii) Shale [5M]
- 4 a) Explain the advantages to study the branch of structural geology? Write and explain various faults with the help of neat sketches. [8M]
 b) Enumerate the unconformity its types, mechanism and their importance in civil engineering. [8M]
- 5 a) What is the difference between free ground water and artesian water? Explain the various properties and functions of an aquifer. [8M]
 b) Define focus and epicenter of earthquake? Explain the classification and causes of earthquakes. [8M]
- 6 a) Explain the principles and limitations of geophysical method? Explain the study of gravity method in civil engineering. [8M]
 b) What is the importance of geophysical methods? Explain the study of magnetic method in civil engineering prospecting? [8M]
- 7 a) Explain engineering geological consideration in tunneling? Write the purpose of tunneling. [8M]
 b) Enumerate the objects of dams and various types of dams suitable for achieving different objects. [8M]

