Total number of printed pages–4

53 (CE 305) ENGL

2021

ENGINEERING GEOLOGY

Paper : CE 305

Full Marks : 100

Time : Three hours

The figures in the margin indicate full marks for the questions.

Answer Question No. **1** *and* ***any four*** *from the rest.*

1. Answer the following questions : 2×10=20

   (i) State the role of Geology in Civil Engineering.

   (ii) What is the need of paleontology ?

   (iii) How weight and spacing of atoms in a mineral varies the specific gravity ?

   (iv) What is fault plane ?

Contd.

(v) Define crystallography.

(vi) What is dip and hade?

(vii) What is ETD process in geological work of physical agencies?

(viii) Define the term hanging wall in fault.

(ix) How focus and epicenter are determined during earthquake?

(x) How conchoidal is different from hackly in terms of the broken surface of a mineral?

2. (a) What are the causes of folding and faulting? 4

(b) With the help of a diagram, discuss the various parts of a fault. 6

(c) Discuss the various types of folds occurring within the earth crust. 10

3. (a) In which way, geological problems of a dam site is different from reservoir site? 4

(b) Discuss the essential physical properties that are to be determined for the suitability of any rock as a building stone. 6

(c) How the various structural features affect the selection of a dam site? Discuss. 10

4. (a) Define joints in rocks and their effects on engineering works. 4

(b) State the water bearing capacity of igneous, sedimentary and metamorphic rocks. 6

(c) Discuss in details, the various causes which trigger landslide. 10

5. (a) How rock weathering is connected to physical geology? 4

(b) State the various types of rock weathering. 4

(c) Classify earthquake on the basis of depth of focus. 4

(d) What precautions can be adopted to make the buildings sufficiently earthquake proof? 8

6. *(a)* How metamorphic rocks are formed? 3

(b) What do you understand by metamorphism and what are its types? 7

(c) Define the following terms: 2×5=10

- Disintegration
- Denudation
- Decomposition
- Seismograph
- Intensity of earthquake.

7. *(a)* Discuss the engineering consideration of geological work of wind. 4

(b) Mention how the various physical agents trigger geological work. 8

(c) Explain in details, how the geological work done of wind takes place. 8