

III B. Tech I Semester Regular Examinations, October/November - 2018

ENGINEERING GEOLOGY

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

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- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
 2. Answer **ALL** the question in **Part-A**
 3. Answer any **FOUR** Questions from **Part-B**
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PART -A

1. a) Define the term geology. [2M]
- b) What is meant by specific gravity? [2M]
- c) What is meant by strike? [2M]
- d) What are pellicular waters? Where it occurs? [3M]
- e) What are the parameters of electrical methods? [3M]
- f) What is the importance of over break? [2M]

PART -B

2. a) What are the branches of geology with reference to civil engineering? [7M]
- b) Explain the geological works of rivers. [7M]
3. a) What are the common structures of sedimentary rocks? [7M]
- b) Distinguish between i) shale and slate ii) limestone and marble iii) granite and quartzite [7M]
4. a) What are the parts of joints? Give their types. [7M]
- b) What are the parts uniformities? Give their types. [7M]
5. a) Explain the classification of rocks based on porosity and permeability. [7M]
- b) Describe the ground water exploration techniques. [7M]
6. a) What are the principles of exploration geophysics? [7M]
- b) What are principle, parameter and methods of gravity method? [7M]
7. a) What are the types of dams and give their purpose? [7M]
- b) Explain the influence of rock types for successful construction of dams. [7M]



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PART -A

- | | | | |
|----|----|--------------------------------------------|------|
| 1. | a) | Define the term structural geology. | [2M] |
| | b) | What is meant by fracture? | [2M] |
| | c) | What is meant by dip? | [2M] |
| | d) | What are types of waves? | [3M] |
| | e) | What is the principle of magnetic methods? | [3M] |
| | f) | Draw the top view of buttress dam? | [2M] |

PART -B

- | | | | |
|----|----|---------------------------------------------------------------------------------------|------|
| 2. | a) | What are the physical parameters of weathering process? | [7M] |
| | b) | Explain the development of river and valley development. | [7M] |
| 3. | a) | What are the forms of igneous rocks? | [7M] |
| | b) | Explain the classification and structures of igneous rocks. | [7M] |
| 4. | a) | What are the parts of folds? Give their mechanism of folding. | [7M] |
| | b) | Explain the types of folds with sketches. | [7M] |
| 5. | a) | What are landslides? Explain the internal causes of landslides. | [7M] |
| | b) | Enumerate the classification of earth movements. | [7M] |
| 6. | a) | What is the importance of geo physical investigations? | [7M] |
| | b) | What are the controlling properties, principle and methods of electromagnetic method? | [7M] |
| 7. | a) | What is life of reservoir? | [7M] |
| | b) | Explain the influence of geological structure for successful reservoirs. | [7M] |



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PART -A

1. a) Define petrology. [2M]
- b) What is meant by cleavage? [2M]
- c) What is meant by fault plane? [2M]
- d) What is meant by unconfined water? [3M]
- e) What are the parameters of gravity methods? [3M]
- f) What is the capacity of the reservoir? [2M]

PART -B

2. a) What is the role of atmosphere in weathering, erosion and denudation? [7M]
- b) What are the chemical and biological parameters of weathering process? [7M]
3. a) What are the methods of study of minerals? [7M]
- b) Explain the different typical forms in identification of minerals. [7M]
4. a) What are the parts of faults? Give their mechanism of faulting. [7M]
- b) Explain the types of faults with sketches. [7M]
5. a) What is meant by earthquake and their effects in structures? [7M]
- b) What are the preventive measures taken in the construction of building in earthquake prone areas? [7M]
6. a) What are the factors influencing of electrical resistivity? [7M]
- b) What are the different types of electrical resistive methods? [7M]
7. a) What is the purpose and lining of tunneling? [7M]
- b) Explain the importance of geological structures for successful tunneling. [7M]



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PART -A

- | | | | |
|----|----|-------------------------------------------------|------|
| 1. | a) | Define the term economic geology. | [2M] |
| | b) | What is meant by streak? | [2M] |
| | c) | What is meant by unconformity? | [2M] |
| | d) | What is meant by earth movements? | [3M] |
| | e) | What are the parameters of geo thermal methods? | [3M] |
| | f) | What are the effects of tunneling? | [2M] |

PART -B

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|----|----|-----------------------------------------------------------------------------------------------|------|
| 2. | a) | What are the geological agents? | [7M] |
| | b) | Explain the role of importance of geology in civil engineering. | [7M] |
| 3. | a) | What is the mode of formation of minerals? | [7M] |
| | b) | Write the physical properties of quartz group of mineral. | [7M] |
| 4. | a) | Draw the sketches and parts of anticline, syncline, isoclinal, drag, dome and basin of folds. | [7M] |
| | b) | What are the conformable and unconformable beds? Give their mechanism. | [7M] |
| 5. | a) | What is meant by porosity and permeability? | [7M] |
| | b) | What is water table? Give their types of ground water. | [7M] |
| 6. | a) | What is the importance of engineering geo physics | [7M] |
| | b) | What are the principles, methods of seismic refraction method? | [7M] |
| 7. | a) | What are the competent rocks for safe foundation of dams? | [7M] |
| | b) | Write the importance of ground water condition for tunneling. | [7M] |

