



## Engineering Geology (114111)

P. Pages : 2

Time : Three Hours

Max. Marks : 80

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answer sheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Solve **any two** questions from each unit.
5. Figures to the right indicate full marks.

### UNIT – I

- |    |   |   |
|----|---|---|
| 1. | What is metamorphism? Describe in detail agents and types of metamorphism.                                      | 8 |
| 2. | What is secondary rocks? Explain in detail classification of secondary rocks.                                   | 8 |
| 3. | a) What is Igneous rocks? How they form? What are the rock forming minerals? Explain Felsic and mafic minerals. | 4 |
|    | b) Describe Textures of plutonic Igneous rocks.   | 4 |

### UNIT – II

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|----|---|---|
| 4. | Define fault? How it differ from fracture? Describe with neat sketches types of faults.     | 8 |
| 5. | Define water table. What are the sources of Ground water? Explain in detail Artesian Wells. | 8 |
| 6. | c) Describe structural features resulted due to Igneous intrusion.                          | 4 |
|    | d) Describe types of folds.   | 4 |

**UNIT – III**

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|----|--|---|
| 7. | What is rejuvenation? Describe resulting features of river rejuvenation. | 8 |
| 8. | Describe requirement of good building stories.                           | 8 |
| 9. | e) Explain physiographic divisions of India.                             | 4 |
|    | f) Describe mineral wealth of Dhalwar.                                   | 4 |

**UNIT – IV**

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|-----|--|---|
| 10. | Define landslides? Describe causes and preventive & measures to be taken against landslides. | 8 |
| 11. | Describe in detail surface and subsurface geological investigation.                          | 8 |
| 12. | g) Explain Engineering significance of Limestone and suggest treatment.                      | 4 |
|     | h) Describe in detail Geophysical exploration of resistivity method.                         | 4 |

**UNIT – V**

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|-----|---|---|
| 13. | What are the geological requirement of tunnel? Describe with suitable examples and neat sketches of tunnel through Deccan Trap basalt joint, Fractures. | 8 |
| 14. | What are the treatment of leaky zones if fault, dyke, at Dam site.  | 8 |
| 15. | i) Geological structures influence of geological condition on choice of types and design of dam.  | 4 |
|     | j) Geological requirement of construction of Dam structure.   | 4 |

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