

AYU

2007

GEOLOGY - II (Optional)

100055

Standard : Degree

Total Marks : 200

Nature : Conventional

Duration : 3 Hours

Note :

- (i) Answers must be written in **English**.
- (ii) Question No. 1 is **Compulsory**. Of the remaining questions, attempt **any four** selecting one question from **each section**.
- (iii) Figures to the **RIGHT** indicate marks of the respective question.
- (iv) Number of optional questions upto the prescribed number in the order in which they have been solved will only be assessed. Excess answers will not be assessed.
- (v) Credit will be given for orderly, concise and effective writing.
- (vi) Candidate should not write roll number, any name (including their own), signature, address or any indication of their identity anywhere inside the answer book otherwise he/she will be penalised.
- (vii) For each slab of 10 and 15 marks, the examinee is expected to write answers in 125 and 200 words respectively.

1. Answer any four of the following :

- | | |
|--|----|
| (a) Diagenesis | 10 |
| (b) Oil Trap | 10 |
| (c) Structural Control of Ore Localisation | 10 |
| (d) Mining and Environment Protection | 10 |
| (e) Metamorphic Textures | 10 |

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SECTION - A

2. *Answer the following sub-questions :*

- | | |
|---|----|
| (a) Compare and contrast between Isomorphism and Polymorphism. | 15 |
| (b) Describe the optical properties of Mica mineral in brief. | 10 |
| (c) Elucidate petrographic significance of Porphyritic texture. | 15 |

3. *Answer the following sub-questions :*

- | | |
|---|----|
| (a) Differentiate between the geological importance of Garnet and Olivine group of minerals in brief. | 15 |
| (b) Describe the significance of common minerals found in metamorphic domain in brief. | 10 |
| (c) Describe the intrusive forms of igneous rocks in brief. | 15 |

SECTION - B

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4. *Answer the following sub-questions :*

- | | |
|--|----|
| (a) Describe the significance of hydrothermal vent in the formation of sulfides of copper, iron and zinc deposits. | 15 |
| (b) Write the basic objectives of National Mineral Policy in brief. | 15 |
| (c) Describe the origin and types of coal in brief. | 10 |

5. *Answer the following sub-questions :*

- | | |
|--|----|
| (a) Describe the oxidation and supergene enrichment in brief. | 15 |
| (b) Describe why most of the economic mineral deposits in Maharashtra are located in East Maharashtra. | 15 |
| (c) Describe the coal deposits of Maharashtra. | 10 |

SECTION - C

6. *Answer the following sub-questions :*

- | | |
|--|----|
| (a) Describe the geophysical method(s) used in oil exploration in brief. | 15 |
| (b) Describe the drilling method used in hard rock terrain. | 10 |
| (c) Elucidate the Open Cast Mining methods in short. | 15 |

7. *Answer the following sub-questions :*

- | | |
|--|----|
| (a) Describe the Geochemical Prospecting in brief. | 15 |
| (b) Describe systematic sampling methods in short. | 10 |
| (c) Describe underground mining methods in short. | 15 |

SECTION - D

8. *Answer the following sub-questions :*

- | | |
|---|----|
| (a) Explain the distribution of elements in the earth in brief. | 15 |
| (b) Describe the concept of ecological pyramids. | 10 |
| (c) Explain the probable causes of earthquakes in short. | 15 |

9. *Answer the following sub-questions :*

- | | |
|---|----|
| (a) Describe Atomic Structure of elements. | 15 |
| (b) Explain the impact of anthropogenic activities on water. | 10 |
| (c) Describe the alternative sources of conventional energy in brief. | 15 |

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