

2010

GEOLOGY - II (Optional)

Standard : Degree

Total Marks : 200

Nature : Conventional

Duration : 3 Hours

Note :

- (i) Answer must be written in English
- (ii) Question No.1 is **compulsory**. Of the remaining question, 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 been solved will only be assessed. Excess answers will not be Assessed.
- (v) Credit will be given for orderly, concise and effective writing
- (vi) Candidates 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 penalized.
- (vii) For each slab of 10 and 15 marks, the examinee is expected to write answers in 125 and 200 words.

1. Answer **any four** of the following :

- (a) Diagenesis and lithification. 10
- (b) Origin and entrapment of Petroleum. 10
- (c) Modes of occurrence of ore bodies . 10
- (d) Sustainable development and environment protection. 10
- (e) Agents and types of meta morphism. 10

SECTION - A

2. Answer the following sub-questions :

- (a) Chemical composition and occurrences of ore minerals. 15
- (b) Describe the optical properties of rock forming minerals. 10
- (c) Write an account of magmatic differentiation and assimilation. 15

P.T.O.

3. Answer the following sub-questions :
- (a) Describe the physical properties, chemical composition and occurrences of olivine group of minerals. 15
- (b) Describe the petrological microscope and it's accessories. 10
- (c) Give an account of the Reaction Principle. 15

SECTION - B

4. Answer the following sub-questions :
- (a) Describe the processes of formation of mineral deposits. 15
- (b) Give an account of the basic objectives and salient features of the National Mineral Policy. 15
- (c) Describe the origin and classification of coal. 10
5. Answer the following sub-questions :
- (a) Describe the oxidation and super gene enrichment process. 15
- (b) Give an account of conservation and utilization of the mineral resources. 15
- (c) Describe the coal deposits of India particularly of Maharashtra State. 10

SECTION - C

6. Answer the following sub-questions :
- (a) Describe the various geobotanical methods of prospecting. 15
- (b) Describe the morphology of ore bodies and their relationship with the host rock. 10
- (c) Describe various methods of underground mining. 15
7. Answer the following sub-question.
- (a) Describe the various geochemical methods of prospecting. 15
- (b) Describe the various methods of sampling and assaying. 10
- (c) Write an account of open cast mining methods. 15

SECTION - D

8. Answer the following sub-questions :
- (a) Describe the geochemical classification and distribution of elements in the earth. 15
- (b) Describe the impact of anthropogenic activities on air, water and soil resources. 10
- (c) Describe the various methods of conservation of energy. 15
9. Answer the following sub-questions :
- (a) Describe the geochemical cycle. 15
- (b) Describe the concept of ecosystem biotic communities. 10
- (c) Describe the various mining hazards and their mitigation. 15

- o O o -