

### III/GEOL (iii)

( 2 )

2 0 1 6

( 3rd Semester )

GEOLOGY

THIRD PAPER

( **Petrology and Economic Geology** )

Full Marks : 55

Time : 2½ hours

( PART : B—DESCRIPTIVE )

( Marks : 35 )

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

Answer **five** questions, selecting **one** from each Unit

UNIT—I

1. Write short notes on any *two* of the following :  $3\frac{1}{2}\times 2=7$ 
  - (a) CIPW classification of igneous rocks
  - (b) Composition and types of magma
  - (c) Petrography of syenite

2. Write short notes on any *two* of the following :  $3\frac{1}{2}\times 2=7$ 
  - (a) Texture of igneous rocks based on granularity
  - (b) Bowen's reaction principle
  - (c) Dykes

UNIT—II

3. Give accounts on any *two* of the following :  $3\frac{1}{2}\times 2=7$ 
  - (a) Petrography of conglomerate
  - (b) Grain size classification of sedimentary rocks
  - (c) Classification of sedimentary rocks
4. Discuss the petrography of sandstone in detail. 7

UNIT—III

5. Describe the agents of metamorphism with suitable examples. 7
6. Write short notes on any *two* of the following :  $3\frac{1}{2}\times 2=7$ 
  - (a) Metamorphic texture
  - (b) Gneissose structure
  - (c) Isograds
  - (d) Quartzite

G7/60a

( Turn Over )

G7/60a

( Continued )

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UNIT—IV

7. Describe in brief the various factors that control availability of economic minerals. 7
8. Describe the origin, occurrence and distribution of copper in India. 7

UNIT—V

9. Describe in detail the origin of coal. Add a note on its distribution in India. 4+3=7
10. What are renewable and non-renewable resources of energy? Write the advantages and disadvantages of wind energy. 2+5=7

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Subject Code : **III**/GEOL (iii)

Booklet No. **A**

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Date Stamp .....

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**To be filled in by the Candidate**

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DEGREE 3rd Semester  
(Arts / Science / Commerce /  
..... ) Exam., **2016**  
Subject .....  
Paper .....

**To be filled in by the Candidate**  
DEGREE 3rd Semester  
(Arts / Science / Commerce /  
..... ) Exam., **2016**  
Roll No. ....  
Regn. No. ....  
Subject .....  
Paper .....  
Descriptive Type  
Booklet No. B .....

**INSTRUCTIONS TO CANDIDATES**

- 1. The Booklet No. of this script should be quoted in the answer script meant for descriptive type questions and vice versa.
- 2. This paper should be ANSWERED FIRST and submitted within 45 minutes of the commencement of the Examination.
- 3. While answering the questions of this booklet, any cutting, erasing, overwriting or furnishing more than one answer is prohibited. Any rough work, if required, should be done only on the main Answer Book. Instructions given in each question should be followed for answering that question only.

Signature of  
Scrutiniser(s)

Signature of  
Examiner(s)

Signature of  
Invigilator(s)

### **III/ GEOL (iii)**

**2 0 1 6**

( 3rd Semester )

#### **GEOLOGY**

THIRD PAPER

**( Petrology and Economic Geology )**

( PART : A—OBJECTIVE )

( Marks : 20 )

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

SECTION—I

( Marks : 5 )

- 1.** Choose the correct answer and put its number within the brackets provided : 1×5=5

(a) Graphic granite is an example of

(i) congruent melting

(ii) incongruent melting

(iii) eutectic melting

(iv) solid solution

[       ]

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(b) Rocks consisting chiefly of material of sand grade are called

(i) arenaceous rocks

(ii) rudaceous rocks

(iii) argillaceous rocks

(iv) silt rocks [            ]

(c) Metamorphic changes in which the dynamic or lateral pressure caused by earth movement is the dominating agent where heat and fluids play only secondary roles are called

(i) thermal metamorphism

(ii) dynamic or clastic metamorphism

(iii) metasomatism

(iv) retrogressive metamorphism [            ]

(d) A mineral used for making pigment is

(i) ochre

(ii) asbestos

(iii) borax

(iv) graphite [            ]

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(e) The minimum height of the waterfalls for generating hydroelectric power is

(i) 8 metre

(ii) 11 metre

(iii) 9 metre

(iv) 10 metre

[       ]

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SECTION—II

( Marks : 15 )

2. Write on the following in about 3 or 4 sentences each : 3×5=15
- (a) Eutectic point

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(b) Stratification

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(c) Schistose structure

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(d) Syngenetic and epigenetic minerals

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(e) Geothermal energy

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G7—300/60

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