2017

(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 the following : 3½×2=7

(a) Classification of igneous rock based on chemical composition

(b) Magmatic differentiation

2. What is granite? Discuss the petrography of granite in detail. 2+5=7

UNIT—II

3. Write short notes on the following : 3½×2=7

(a) Clastic and non-clastic sedimentary rocks

(b) Graded bedding

4. Write short notes on the following : 3½×2=7

(a) Genetic classification of sedimentary rocks

(b) Petrography of shale

UNIT—III

5. What is metamorphism? Discuss the different types of metamorphism. 1+6=7

6. Write notes on any *two* of the following : 3½×2=7

(a) Isograds

(b) Schistose texture

(c) Gneiss

UNIT—IV

7. Describe in detail the common forms of ore deposits. 7

8. Write notes on any *two* of the following : 3½×2=7

(a) Zone of supergene enrichment

(b) Distribution of iron ores in India

(c) Gangue and tenor

UNIT—V

9. Write notes on the following : 3½×2=7

(a) Renewable resources

(b) Cap rock

10. Write a note on any *one* of the following : 7

(a) Wind energy

(b) Geothermal energy

(c) Water energy

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Subject Code : GEOL/III/03

Booklet No. A

Date Stamp .....

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To be filled in by the Candidate

DEGREE 3rd Semester
(Arts / Science / Commerce / .....) Exam., **2017**

Subject .....

Paper .....

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, over-writing 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.**

To be filled in by the Candidate

DEGREE 3rd Semester
(Arts / Science / Commerce / .....) Exam., **2017**

Roll No. .....

Regn. No. .....

Subject .....

Paper .....

Descriptive Type

Booklet No. B .....

Signature of Scrutiniser(s)

Signature of Examiner(s)

Signature of Invigilator(s)

/125

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(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—A

(*Marks* : 5)

1. Choose the correct answer and put a Tick (✓) mark within the brackets provided : 1×5=5

(a) Peridotite is a/an

(i) volcanic rock ( )

(ii) plutonic basic rock ( )

(iii) plutonic ultrabasic rock ( )

(iv) acidic rock ( )

(b) One of the most common characteristics of sedimentary rocks is

(i) loose grain ( )

(ii) stratification ( )

(iii) fine grain ( )

(iv) coarse grain ( )

(c) The concept of metamorphic facies was proposed by

(i) Eskola ( )

(ii) Bowen ( )

(iii) Verhoogen ( )

(iv) Goldschmidt ( )

(d) Hydrothermal solutions are

(i) end products of magmatic fluids ( )

(ii) early products of magmatic fluids ( )

(iii) late products of magmatic fluids ( )

(iv) All of the above ( )

(e) In a hydropower plant

(i) kinetic energy possessed by stored water is converted into potential energy ( )

(ii) potential energy possessed by stored water is converted into electricity ( )

(iii) electricity is extracted from water ( )

(iv) water is converted into steam ( )

SECTION—B

(*Marks* : 15)

2. Write notes on the following in *3–4* sentences each : 3×5=15

(a) Bowen's reaction series

(b) Petrography of limestone

(c) Barrovian metamorphism

(d) Metallogenic epoch

(e) Biomass energy

★★★