



Name :

Roll No. :

Invigilator's Signature :

CS/B.Tech (CT)/SEM-3/CT-302/2009-10

2009

GEOLOGY

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

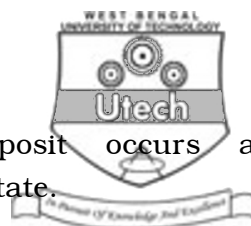
GROUP – A

(Multiple Choice Type Questions)

1. Answer any one of the following :

A. Fill in the blanks : 10 × 1 = 10

- i) The calcined dolomite containing CaO & MgO is known as
- ii) Aragonite is a polymorph of
- iii) Salem is famous for ceramic mineral
- iv) Orthoclase crystallizes in the system.
- v) Banded constituents of coal are known as
- vi) The purer variety of compact and massive variety of Talc is called
- vii) The iron-rich magnesites are called



- viii) World's largest Kyanite deposit occurs at in the Jharkhand state.
- ix) The a -axis of Orthorhombic system is known as
- x) Sandstone according to grain size is an sedimentary rock.

B. Write *T* for *True* or *F* for *False* : 10 × 1 = 10

- i) Nepheline-syenite is a plutonic igneous rock.
- ii) When an igneous rock is made up of cryptocrystalline grains it is called holocrystalline.
- iii) Dyke is a concordant igneous body.
- iv) Salem is famous for the mineral magnesite.
- v) In the Moh's scale 7 is the hardness of feldspar.
- vi) P-wave does make maximum destruction during earthquake.
- vii) Peat is the first step of coal formation.
- viii) Alabaster is a variety of magnesite.
- ix) SiO_2 — content of Dunite is > 44%.
- x) Albite is a polymorph of Anorthite.

GROUP – B
(Short Answer Type Questions)

2. Answer any *one* question of the following.

A. Write short notes on the following : 5 × 3 = 15

- i) Triclinic system.
- ii) Pyramid face.
- iii) Batholiths.



- iv) Isomorphism.
- v) Crystallinity of igneous rock.

B. Answer the following : 5 × 3 = 15

- i) Nepheline-syenite is incorporated in ceramic bodies. — Why ?
- ii) Ganister is suitable for silica bricks. — Why ?
- iii) Talc cannot be separated from its impurities by gravity separation method. — Why ? By which process Talc is separated from its impurities.
- iv) Wollastonite is used in producing cold-setting foams and wall board and also as an extender in both oil and water based emulsion. — Why ?
- v) Potash feldspar is preferred in ceramic bodies and soda feldspar in glazes. — Why ?

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. 3 × 15 = 45

3. Give the colour, cleavage and silicate structure of the following minerals : 3 × 5
- a) Garnet
 - b) Biotite
 - c) Beryl
 - d) Orthoclase
 - e) Talc.



4. a) What are metamorphic rocks ? 2
- b) Describe with neat diagram the isograds and zones of metamorphism. 8
- c) Show the different divisions of the earth's interior with a suitable diagram. 5
5. a) What is lithosphere ? 2
- b) What are the different seismic waves ? 3
- c) Discuss the different seismic waves briefly. 5
- d) Discuss briefly the process of assimilation of magma. 5
6. a) Write the composition, varieties and origin of gypsum. 1 + 2 + 3
- b) Write the important uses of alumino-silicate group of minerals. 4
- c) Write the varieties and characteristics of Magnesite. 2 + 3
7. a) What is magma ? On what factors crystallization of magma depends ? 2 + 2
- b) Write in brief with a diagram the eutectic relation of a binary magma. 6
- c) What is lithotype of coal ? Describe the lithotypes of coal. 1 + 4
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