2019/TDC/EVEN/GELDSC/ GELGEC–201T/068

TDC (CBCS) Even Semester Exam., 2019

GEOLOGY

(2nd Semester)

Course No. : GELDSC–201T/GELGEC–201T

(Crystallography and Mineralogy)

Full Marks : 50
Pass Marks : 20

Time : 3 hours

The figures in the margin indicate full marks for the questions

UNIT—I

1. Define any *three* of the following : 1×3=3

(a) Crystal faces

(b) Crystal forms

(c) Solid angle

(d) Interfacial angle

2. Write a note on crystal parameters. 2

OR

3. Write on the measurement of interfacial angle of a crystal. 2

4. Explain Weiss and Miller system of notations. 5

OR

5. Write a note on lettering and order of the crystallographic axes. 5

UNIT—II

6. Write symmetry elements of any *three* of the following types : 1×3=3

(a) Galena type

(b) Beryl type

(c) Barytes type

(d) Gypsum type

7. Write a note on any *one* of the following : 2

(a) Symmetry of zircon type and most common form

(b) Common forms of cubic system

8. Describe symmetry elements of the normal class of either trigonal or system. Add a note on respective common forms. 5

UNIT—III

9. Write notes on any *three* of the following : 1×3=3

(a) Minerals and mineraloids

(b) Mohs' scale of hardness

(c) Cleavage in minerals

(d) Rock crystal

10. Write chemical composition and most common habit of any *one* of the following minerals : 2

(a) Garnet

(b) Biotite

11. Write chemical compositions and diagnostic physical properties of any *two* of the following minerals : 2½×2=5

(a) Hypersthene

(b) Hornblende

(c) Epidote

UNIT—IV

12. Write on any *three* of the following parts of petrological microscope : 1×3=3

(a) Analyzer and polarizer

(b) Microscope stage

(c) Condenser lense

(d) Objective lense

13. Write a note on any *one* of the following : 2

(a) Polarized light

(b) Crossed nicols

14. Write explanatory notes on any *two* of the following : 2½×2=5

(a) Extinction angle

(b) Pleochroism

(c) Anisotropism

UNIT—V

15. Name any three rock-forming minerals. 3

16. Mention cleavage pattern in any *one* of the following minerals : 2

(a) Augite

(b) Hornblende

17. Write on the optical properties of any *two* of the following minerals : $2\frac{1}{2}\times2=5$

(a) Calcite

(b) Augite

(c) Quartz

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