

**18U411**

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Name: .....

Reg. No.....

**FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2020**

(Regular/Supplementary/Improvement)

(CUCBCSS-UG)

**CC15U GL4 B07 - MINERALOGY**

(Geology - Core Course)

(2015 Admission onwards)

Time: Three Hours

Maximum: 80 Marks

I. Answer *all* questions:

1. The chemical composition of rutile.
2. A mineral in thin section which shows cross hatched twinning.
3. Mineral with cherry-red streak.
4. A mineral showing play of colours.
5. The chromium bearing garnet.
6. The mineral having chemical composition  $\text{Ca}_5(\text{PO}_4)_3\text{F}$
7. A mineral which is known as heavy spar.
8. Acute angle between two optic axis is termed as
9. The birefringence of quartz is
10. Name the high pressure polymorph of  $\text{Al}_2\text{SiO}_5$ .

**(10 x 1 = 10 Marks)**

II. Define any *ten* questions in one or two sentences:

11. Cleavage
12. Optic axis
13. Gem minerals
14. Piezoelectricity
15. Mineraloids
16. Magnetite
17. Lustre
18. Cohesion
19. Hardness
20. Percussion figure
21. Interference colour
22. Sign of elongation

**(10 x 2 = 20 Marks)**

III. Write short essay on any *five* of the following questions:

23. Walker's Steelyard Balance.
24. Polymorphism and Pseudomorphism.
25. Types of bonding.
26. Uniaxial and biaxial minerals.
27. Isotropic and anisotropic minerals.
28. Garnet group.
29. Type of extinctions.
30. Mica minerals.

**(5 x 6 = 30 Marks)**

IV. Write essays on any *two* of the following:

31. Write an essay about the various silicate structure present in minerals with appropriate examples and neat sketches.
32. Describe olivine group of minerals with particular reference to their chemical composition, physical properties and mode of occurrence.
33. Write an essay about the optical properties of isotropic and anisotropic minerals observed under parallel and crossed nicols.
34. Describe in detail about the mineral chemistry, structure and physical properties of amphibole group of minerals

**(2 x 10 = 20 Marks)**

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