

**B.Sc. Semester-IV Examination, 2022-23****GEOLOGY [Honours]**

Course ID : 42011 Course Code : SH/GEL/401/C-8(T)

Course Title : Metamorphic Petrology

Time : 1 Hour 15 Minutes

Full Marks : 25

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **five** questions of the following:  $1 \times 5 = 5$ 
  - a) Define metamorphism as per IUGS-SCMR.
  - b) Mention the lower and upper limits of pressure and temperature during metamorphism.
  - c) What is phyllonite?
  - d) What is orthogneiss?
  - e) Write the Barrovian zonal sequence.
  - f) Define migmatite.
  - g) Define contact aureole.
  - h) Name two characteristic minerals of eclogite.

2. Answer any **two** questions of the following:  $5 \times 2 = 10$ 
  - a) Write a brief note on the crystalloblastic series.
  - b) Write short notes on : (i) granoblastic texture and (ii) symplectite
  - c) Briefly describe the role of temperature in metamorphism.
  - d) Write a brief note on paired metamorphic belts.
3. Answer any **one** question of the following:  $10 \times 1 = 10$ 
  - a) Describe different types of mineral reactions that take place during metamorphism.
  - b) State the mineralogical and textural changes that take place during progressive metamorphism of mafic rocks from greenschist facies to granulite facies conditions.