SH-I/GEL/101/C-1/(PR)/19

B.Sc. 1st Semester (Honours) Practical Examination, 2019-20

GEOLOGY

Course ID : 12021 **Course Code : SHGEL-101C-1(P)**

Course Title: Earth System Science Lab

Time: 2 Hours **Full Marks: 15**

The figures in the right hand side margin indicate marks.

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

Answer all the *questions.*

1. Name the geomorphic features at the points A, B, C and D of the given topographic map. Draw a section along the XY line. 4+6=10

2. Laboratory Notebook 5

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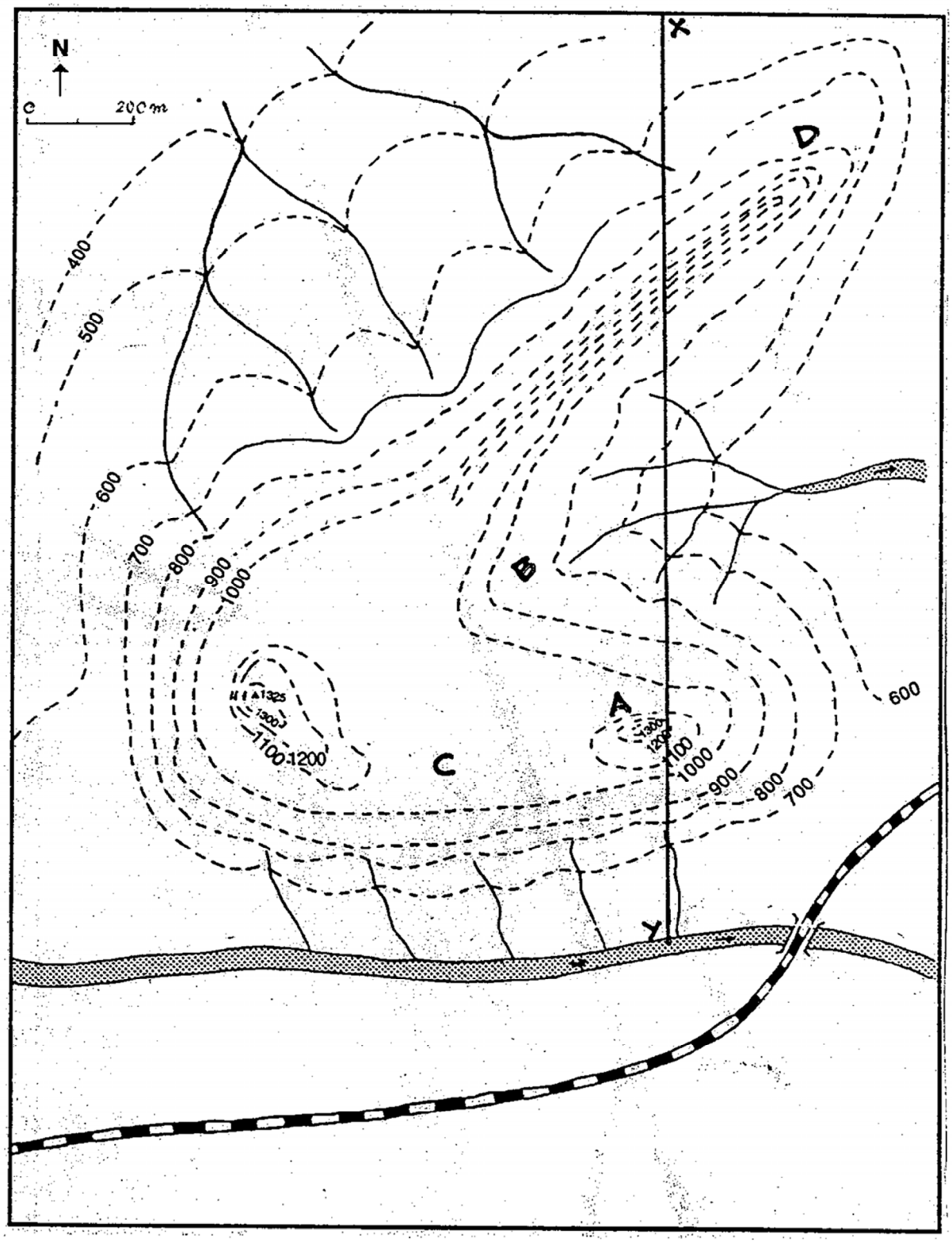
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SH-I/GEL/102/C-2/(PR)/19

B.Sc. 1st Semester (Honours) Practical Examination, 2019-20

GEOLOGY

Course ID : 12022 **Course Code : SHGEL-102C-2(P)**

Course Title: Mineral Science Lab

Time: 2 Hours **Full Marks: 15**

The figures in the right hand side margin indicate marks.

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

Answer all *the questions.*

1. Describe the physical properties of the given mineral in hand specimen and identify it. 4+1=5

2. Describe the optical properties of the given mineral in thin section and identify it. 4+1=5

3. Laboratory Notebook 5

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SH-I/GEL/101/C-1/19

B.Sc. 1st Semester (Honours) Examination, 2019-20

GEOLOGY

Course ID : 12011 **Course Code : SHGEL-101C-1**

Course Title: Earth System Science

Time: 1 Hour 15 Minutes **Full Marks: 25**

The figures in the right hand side margin indicate marks.

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

1. Answer *any five* of the following questions: 1×5=5

(a) Name the four spheres of the Earth Super-system, which are involved in geochemical cycle.

(b) What is seismic shadow zone?

(c) What is the approximate depth of Lehmann discontinuity?

(d) What is asteroid belt?

(e) What is Oddo-Harkins rule?

(f) Who is known as the 'Father of the Modern Geology'?

(g) What is the age of the oldest rock record on earth?

(h) What is the basis of Richter's scale for measurement of earthquake?

2. Answer *any two* of the following questions: 5×2=10

(a) Write a brief note on different types of plate boundary.

(b) Write a classification of meteorites based on their composition.

(c) Furnish subdivisions of Palaeozoic Era in a tabular form.

(d) Describe the 'Elastic Rebound' theory with necessary sketch.

3. Answer *any one* question of the following: 10×1=10

(a) Briefly describe the ways by which the relative time of geological events can be determined.

(b) Describe different types of anti-seismic constructions.

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SH-I/GEL/102/C-2/19

B.Sc. 1st Semester (Honours) Examination, 2019-20

GEOLOGY

Course ID : 12012 **Course Code : SHGEL-102C-2**

Course Title: Mineral Science

Time: 1 Hour 15 Minutes **Full Marks: 25**

The figures in the right hand side margin indicate marks.

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

1. Answer *any five* of the following questions: 1×5=5

(a) What is a mineral?

(b) What does the acronym FCC stand for?

(c) Define dome face of a crystal.

(d) Which mineral has hardness (H) 5 in Mohs Scale of Hardness?

(e) Name one mineral which shows both piezoelectricity and pyroelectricity.

(f) Write one example of uniaxial positive mineral.

(g) Mention one mineral which usually occurs in bladded form.

(h) Name the crystal systems in which the biaxial minerals crystallize.

2. Answer *any two* of the following questions: 5×2=10

(a) Describe the symmetry elements of normal classes of seven crystal systems.

(b) Briefly describe the conventional unit cells of the 14 Bravais Lattices in tabular form.

(c) Write short notes on: 2.5+2.5=5

(i) Non-primitive unit cell

(ii) Law of constancy of interfacial angles

(d) Describe the principle of construction of Nicol prism.

3. Answer *any one* of the following questions: 10×1=10

(a) Write down the relationship among ionic radius ratio and coordination number. Diagrammatically show various arrangements of cations and anion in different coordination number.

(b) Briefly discuss with diagram the principle of use of petrological microscope.

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