

B.Sc. 3rd Semester (Honours) Examination, 2019-20

GEOLOGY

Course ID : 32012

Course Code : SHGEL-302C-6 (T)

Course Title: Sedimentology

Time: 1 Hour 15 Minutes

Full Marks: 25

The figures in the right hand side margin indicate full marks.

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

1. Write *any five* of the following questions: 1×5=5
 - (a) Name the most abundant sedimentary rock.
 - (b) What is the size interval of sand?
 - (c) Name two primary sedimentary structures that indicate sub-aerial exposure condition.
 - (d) Define sphericity.
 - (e) What is micrite?
 - (f) What is stromatolite?
 - (g) What is turbidite?
 - (h) What is conglomerate?

 2. Answer *any two* of the following questions: 5×2=10
 - (a) What are the different modes of transportation of sedimentary particles?
 - (b) Define matrix of a sandstone. State Dickinson's classification of matrix.
 - (c) Define roundness of a grain and prove that roundness of a perfectly spherical grain is 1.
 - (d) Give a comprehensive classification of sedimentary rocks.

 3. Answer *any one* of the following questions: 10×1=10
 - (a) Briefly describe the characteristics of sedimentary domain with special emphases on processes involved, pressure-temperature conditions, products, texture and structure.
 - (b) Describe the use of primary sedimentary structures in determination of top and bottom of a sedimentary succession.
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B.Sc. 3rd Semester (Honours) Practical Examination, 2019-20

GEOLOGY

Course ID : 32022

Course Code : SHGEL-302C-6 (P)

Course Title: Sedimentology Lab.

Time: 2 Hour

Full Marks: 15

The figures in the right hand side margin indicate full marks.

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

Answer all the questions.

1. Describe the given sedimentary rock in hand specimen and name the rock. 4
 2. Describe the given thin section of a sedimentary rock mentioning its composition and texture.
Name the rock. 5+1=6
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B.Sc. 3rd Semester (Honours) Examination, 2019-20

GEOLOGY

Course ID : 32013

Course Code : SHGEL-303C-7 (T)

Course Title: Palaeontology

Time: 1 Hour 15 Minutes

Full Marks: 25

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

1. Write *any five* of the following questions: 1×5=5
 - (a) What is the meaning of original term, from which the word 'fossil' has derived?
 - (b) Define trace fossils.
 - (c) What is coprolite?
 - (d) Define index fossil.
 - (e) What do you mean by 'Cambrian Explosion'?
 - (f) What is goniatitic suture?
 - (g) Define biozone.
 - (h) What is cast?

 2. Answer *any two* of the following questions: 5×2=10
 - (a) Describe the essential characteristics for recognition of a material as fossil and different stages of taphonomy.
 - (b) Briefly discuss about the dentition pattern of pelecypod.
 - (c) Describe the major causes of Permo-Triassic mass extinction.
 - (d) Write a short note on Pre-Gondwana flora.

 3. Answer *any one* of the following questions: 10×1=10
 - (a) Describe different components of taxonomy. Mention the merits and demerits of taxonomy.
 - (b) Describe different modes of preservation of fossils.
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B.Sc. 3rd Semester (Honours) Practical Examination, 2019-20

GEOLOGY

Course ID : 32023

Course Code : SHGEL-303C-7 (P)

Course Title: Palaeontology Lab.

Time: 2 Hours

Full Marks: 15

The figures in the right hand side margin indicate full marks.

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

Answer all the questions.

1. Identify and describe the morphological features of the two given fossil specimens with neat sketches. 10

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B.Sc. 3rd Semester (Honours) Examination, 2019-20**GEOLOGY****Course ID : 32011****Course Code : SHGEL-301C-5**

Course Title: Igneous Petrology

Time: 1 Hour 15 Minutes**Full Marks: 25***The figures in the right hand side margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Write *any five* of the following questions: 1×5=5
 - (a) Why basaltic magmas are less viscous than granitic magmas?
 - (b) Name the plutonic igneous rock composed of olivine and plagioclase.
 - (c) Mention one felsic mineral which is not commonly found to be associated with quartz in igneous rock.
 - (d) Name one igneous rock which generally contains zoned plagioclase.
 - (e) Name two discordant igneous rock bodies.
 - (f) Define variation diagram.
 - (g) Name an igneous rock which is produced only by assimilation.
 - (h) Which is the volcanic equivalent of peridotite?

2. Answer *any two* of the following questions: 5×2=10
 - (a) Describe with sketches the primary structures used for determination of right side up of a stratigraphic succession.
 - (b) How can you distinguish between gabbro and diorite though they are plotted in the same field in the IUGS classification igneous rocks?
 - (c) Define Peacock's Alkali Lime Index (PALI). Describe the classification of igneous rocks based on PALI.
 - (d) Compare between I-and S-type granite.

3. Answer *any one* of the following questions: 10×1=10
 - (a) Briefly discuss the processes responsible for the formation of primary igneous textures.
 - (b) Describe the principles of IUGS classification of plutonic igneous rocks with $M < 90$.

B.Sc. 3rd Semester (Honours) Practical Examination, 2019-20

GEOLOGY

Course ID : 32021

Course Code : SHGEL-301C-5 (P)

Course Title: Igneous Petrology Lab.

Time: 2 Hours

Full Marks: 15

The figures in the right hand side margin indicate full marks.

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

Answer all the questions.

1. Identify the minerals in the given hand specimen of igneous rock. Describe the physical properties of the minerals and name the rock. 2+1+1=4
 2. Identify the minerals in the given thin section of igneous rock. Describe the optical properties of the minerals, texture and name the rock. 2+2+1+1=6
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