

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
M.Sc., Winter 2018-19 Examination

Semester: 1
Subject Code: 11211103
Subject Name: Igneous Petrology

Date: 05/12/2018
Time: 10:30am to 01:00pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1. A) Essay type/ Brief note (4x2) (Each of 04 marks) (08)**
 (a) Describe the processes in magmatic differentiation.
 (b) Origin of Magma.
- Q.1. B) Answer the following questions (Any two)**
 (a) Short note/ Brief note (2x2)/ Schematically label the figures (2x2) (Each of 02 marks) (04)
 1. Define Phase.
 2. What is primary magma?
 (b) Write a short note on Caldera with examples. (04)
 (c) Composite volcano. (04)
- Q.2. A) Answer the following questions.**
 (a) Short note/ Brief note (2x2). (Each of 02 marks) (04)
 1. What is magma diversification?
 2. Define Eutectic crystallization in magma
 (b) Write a short note on types of Inequigranular textures in igneous rocks. (04)
- Q.2. B) Answer the following questions (Any two)**
 (a) Multiple choice questions. (Each of 01 marks) (03)
 1. Delayed crystallization of glass is known as _____.
 a) Devitrification b) Neocrystallization c) Nucleation d) Vesiculation
 2. _____ is the term used for unsorted deposits of bombs accumulated near the volcanic vent.
 a) Agglomerate b) Clast c) Vitrophyre d) Ash
 3. _____ is also known olivine rich basalts.
 a) Picrite b) Granite c) Gabbro d) Rhyolite
 (b) Short note on Gibbs Phase Rule. (03)
 (c) Short note on IUGS classification of volcanic rocks. (03)
- Q.3. A) Essay type/ Brief note (4x2) (Each of 04 marks) (08)**
 (a) Describe IUGS classification of plutonic rocks in details.
 (b) Write a note on Ophiolite suite with examples.
- Q.3. B) Answer the following questions (Any two)**
 (a) Short note/ Brief note (2x2). (Each of 02 marks) (04)
 1. Define crystal liquid fractionation
 2. What are sub-alkaline rocks? Give suitable examples.
 (b) Short note on Autoclastic Process. (04)
 (c) Short note on Binary Systems. (04)
- Q.4. A) Answer the following questions.**
 (a) Fill in the blanks. (Each of 02 marks) (04)
 1. Pyroclastic fragments greater than 64 mm are also known as _____.
 2. Spanish peaks in Colorado is an example of _____.
 (b) Short note on pyroclastic processes. (04)
- Q.4. B) Answer the following questions (Any two)**
 (a) Short note/ Multiple choice questions. (Each of 01 marks) (03)
 1. Air fall deposits are also known as _____.
 a) Pyroclastic fall b) juvenile deposits c) accidental fragments d) surge
 2. Base surges occur due to _____ eruptions.
 a) Autoclastic b) Pyroclastic c) Fissure d) Phreatomagmatic
 3. The process of separation of liquid from liquid is called as _____.
 a) Assimilation b) Magma mixing c) Liquid immiscibility d) Flow segregation
 (b) Short note on intrusive forms of intrusion (03)
 (c) Short note Chemical classification of igneous rocks (03)