Seat No: _____ Enrollment No: _____

PARUL UNIVERSITY

FACULTY OF APPLIED SCIENCE

M.Sc., Winter 2018-19 Examination

Semester: 1 **Date: 02/12/2019**
Subject Code: 11211103 **Time: 10:30am to 1:00pm**
Subject Name: Igneous Petrology **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 IUGS classification of plutonic rocks in detail
(b) Short Note on 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 MORB?
(b) Write a short note on Caldera with examples **(04)**
(c) Short Note on Composite volcano **(04)**

Q.2. A) Answer the following questions.
(a) Short note/ Brief note (2x2)/ Fill in the blanks. (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) Short note/ 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 the rock with salt and pepper appearance.
a) Diorite b) Granite c) Andesite 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 the processes in magmatic differentiation
(b) Write a note on Ophiolite suite with examples

Q.3. 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 pyroclastic flow
2. What are sub-alkaline rocks? Give suitable examples.
(b) Short note on Pyroclastic Process **(04)**
(c) Short note on Binary Systems **(04)**

Q.4. A) Answer the following questions.
(a) Short note/ Brief note (2x2)/ 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 Autoclastic 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. Chemical incorporation of wall rocks into the magma is known as _____
a) Assimilation b) Magma mixing c) Differention d) Flow segregation
(b) Short note on intrusive forms of intrusion **(03)**
(c) Short note on Chemical classification of igneous rocks. **(03)**