

**Ph.D. GEOLOGY
(PHDGY)**

00415 **Term-End Examination**

June, 2018

RGYE-104 : PETROLOGY

Time : 3 hours

Maximum Marks : 100

Note : Answer any *five* questions. All questions carry equal marks. Draw well labelled diagrams wherever required.

1. Discuss elaborately the IUGS classification of phaneritic rocks. 20
2. Write in detail about the magmatism that takes place at constructive plate margins. Support your answer with a well labelled diagram. 20
3. Discuss in detail the primary sedimentary structures commonly associated with shallow water deposits, giving suitable diagrams. 20
4. Discuss the concept of maturity of sediments. Add a note on mineralogical and textural attributes which are indicative of the maturity of sands. 20
5. Explain different types of metamorphism. Give a brief account of their controlling factors. 20

6. What are metamorphic fluids ? Discuss the nature and role of metamorphic fluids. 20
7. Write short notes on any **four** of the following : 4×5=20
- (a) Retrograde Metamorphism
 - (b) Lithification
 - (c) Ophiolites in India
 - (d) Occurrence of Blueschist
 - (e) Agents of Chemical Weathering
 - (f) Origin of Deccan Traps
8. Answer briefly any **five** of the following : 5×4=20
- (a) What is the difference between ophitic and subophitic texture ?
 - (b) What is the mode of emplacement of kimberlitic rocks in India ?
 - (c) What is spinifex texture ?
 - (d) What are volcanoclastic rocks ?
 - (e) Name the most stable mineral found on the Earth. Explain.
 - (f) What do you understand by heavy mineral assemblage ?
 - (g) Write a note on the mineral assemblage found in eclogite facies rock.
 - (h) Give the distribution of charnockite rocks found in India.
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