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Enrolment No:			
UNIVERSITY OF PETROLEUM AND ENERGY STUDIES End Semester Examination, December 2022			
Course: Igneous and Metamorphic process Program: M.Sc., Petroleum Geosciences Course Code: PEGS-7022 No of pages :02		Semester: I Time : 03 hrs. Max. Marks: 100	
Instructions: Carefully read the questions before answer. All the questions are compulsory in section A and Section B. (Q. Number 6, 7 and 8 compulsory in Q.9 answer one Q.9a OR Q.9 b) In section C (Q.10 is compulsory and Q.11 answer one Q 11a OR Q,11 b)			
SECTION A		(5Qx4M=20Marks)	
S. No.			CO
Q 1	Explain the following terms in context with petrology; I. Pressure ii Temperature.	4	CO1
Q 2	Fill in the blanks with suitable answer: I. Rock containing enstatite and hypersthene along with plagioclases is called..... II. Hydrothermal deposits are mostly.....deposit III. The slaty cleavage is also known as..... cleavage IV. The term represent both cleavage and schistosity is called.....	4	CO2
Q 3	Distinguish between the following terms: a) Ophitic and Sub-Ophitic texture b) Myrmekitic and symplectite	4	CO1
Q 4	Select correct choice (True or False) for the following questions: a. The phacolith is concordant igneous intrusive body b. The porphyroblast traps the material as inclusions, forming a poikiloblast. c. In study state flow the properties of substance will be change d. The cryptocrystalline substances is found in igneous and metamorphic rocks..	4	CO2
Q 5	Chose the correct answer from the given (MCQ) choice : I. Wall rocks surrounding a magmatic intrusion become hot by a. Radiation b. conduction c. convection II. Bowen's reaction series indicate the process of... in magma a. Fractional b. Gravity c, Liquid III. The Gneissic rocks formed from igneous rocks is called as a. Paragneiss b. Metagneiss c. Orthogneiss IV. The structures similar to lens-like shape structure is a. Cataclast b. Augen c. Corona	4	CO2
SECTION B		(4Qx10M= 40 Marks)	
(Q. Number 6, 7 and 8 compulsory in Q.9 answer one Q.9a OR Q.9 b)			

Q 6	Discuss in brief the classification and significance of following terms in metamorphic petrology: Thermodynamic process and fluid flow.	10	CO3
Q 7	Describe the classification of metamorphic grades with example and importance.	10	CO3
Q 8	Explain the agents of metamorphic process and their significance in petrology.	10	CO4
Q 9	a). Draw a neat sketch of following terms and explain the significance in context with metamorphic process: a. Porphyroblastic texture b. Nematoblastic texture c. Coronitic texture d. Granulitic texture OR b) Construct QAPF diagram and plot the classification of igneous rocks.	10	CO4
SECTION-C (Q.10 is compulsory and Q.11 answer one Q 11a OR Q,11 b) 2Qx20M=40 Marks)			
Q 10	Discuss in brief the classification of the following types of metamorphic rocks with example: a. marble b. schist c. phyllite d. quartzites e. soapstone and gneiss.	20	CO5
Q.11	a) Explain the classification of metamorphism in context with their process and significance. OR b) Discuss in brief the formation process and application of following terms in context with Igneous and metamorphic process: a, Skarn b. Hornfels c. Migmatite d, Orthogenesis and Paragenesis e. Protolith f. Mylonite and fault gouge.	20	CO6