

Name:
Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December- 2021

Course Name: Mineral Science
Programme Name: B. Sc, Geology (Hons)
Course Code: PEGS 1002

Semester: I
Time: 03 hrs
Max. Marks: 100

SECTION A (Scan and upload)

(5Qx 4M = 20 Marks)

Q 1	a. Bertrand lens are used to observe ----- b. Minerals in which country is not self-sufficient, known as ----- c. Striations are characteristic of ----- d. Appearance of alternate dark & light patches in Plagioclase termed as -----	04	CO3
Q 2	Mark True/ False a. Pyrite exhibits pleochroism b. Psilomelane exhibits white streak c. Different colors in minerals is due to inclusions d. All minerals are essentially crystals	04	CO1
Q 3	Mark True/ False a. Mica Minerals are phyllo-silicates b. Hydrocarbon gases are the last products in oil cooking c. Placer deposits can be of residual origin d. Cubic minerals are isotropic in nature	04	CO1
Q 4	a. Rock crystal belongs to ----- mineral group b. ----- cleavage is found in quartz c. Representative of the formula for halite is ----- d. Augite is an example of _____	04	CO2
Q 5	a. Sandpaper is an example of ----- abrasive. b. Ruby is the gemstone of ----- c. Quartz is used in watch is due to its ----- property d. Six fibrous silicate minerals come under -----group.	04	CO2

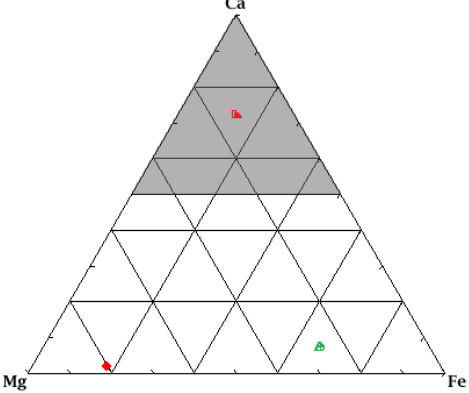
SECTION B (Scan and upload)

(4Qx10M = 40 Marks)

Q 6	Does coal take part in diamond formation? Yes/ Validate the statement with suitable justification/s.	10	CO3
Q 7	Define symmetry elements in minerals. Cubic system has 23 symmetry elements, validate the same	10	CO4
Q 8	List the common ore minerals of Copper. With suitable sketch, illustrate the formation of copper oxide and sulphide minerals.	10	CO1
Q 9	With neat sketch, explain play of light while		

	<p>i. Leaving polarizer ii. Analyzer is in</p> <p>Assume the sample is mounted on the stage in both these conditions.</p> <p style="text-align: center;">OR</p> <p>Co-relate the weathering susceptibility of olivine with its mode/ condition of formation.</p>	10	CO2
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SECTION C (Scan and upload)	(2Qx20M = 40 Marks)
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Q 10	<div style="text-align: center;">  </div> <p>Define solid solution series. Elaborate the solid solution series of Ortho-pyroxenes. Using the triangle, find out the tentative composition (proper naming) of three points marked.</p>	5+5+ 10=20	CO4
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Q 11	<p>With sketch, define solidus & liquidus curve in Phase Diagram</p> <p style="text-align: center;">OR</p> <p>Examine & validate the statement “Uni-component system should have a maximum of two degree of freedoms”.</p>	20	CO3
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