
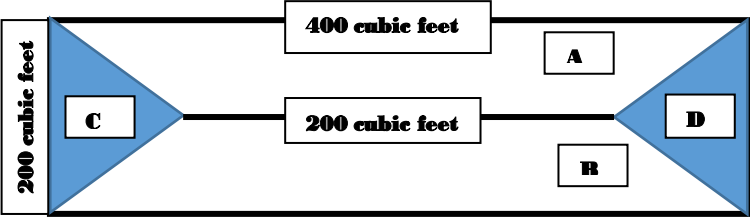


Name:			
Enrolment No:			
UNIVERSITY OF PETROLEUM AND ENERGY STUDIES End Semester Examination, December 2022			
Course: Exploration Geology Program: B.Sc., Hon's in Geology Course Code: PEGS-3029D No of pages :02		Semester: V Time : 03 hrs. Max. Marks: 100	
Instructions: Carefully read the questions 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 &c)			
SECTION A		(5Qx4M=20Marks)	
S. No.			CO
Q 1	Explain the following terms in context with Exploration geology; i. Size and Shape ii. Contour map	4	CO1
Q 2	Fill in the blanks with suitable answer: I. The.....point is the imaginary point directly above the particular location on the celestial body II. The.....maps are made at an isochronous surface or within a coeval interval. III. A.....province is the entity of mineral deposits that formed during a plate tectonic setting IV. A.....deposits are developed due to replacement, alteration, and contact metasomatic.	4	CO2
Q 3	Distinguish between the following terms: a) Diagenetic and Syngenetic b) Pegmatitic and Pneumatolytic veins	4	CO1
Q 4	Select correct choice (True or False) for the following questions: a. The drift deposits are the youngest geological deposits formed recent geological time, b. A deposit formed by high-temperature magmatic emanations along a sedimentary contact. c. VMS deposits often form as clusters over a large intrusive hydrothermal source d. Flux residues are deposits composed primarily of zinc chloride and appear black or grey	4	CO2
Q 5	Chose the correct answer from the given (MCQ) choice : 1. The lithophile elements are found in the silicate cell of the earth. a. Core-mantle b. core-crust c. mantle-crust 2. A small amount of explosive or electronic equipment, which is use in blasting rocks. a. Dynamite b. ANFO c. Detonator 3. The diameter of geoprobe drill is ranging from a. 1.5 to 2.5 b. 1.0 to 2 c. 2 to 3.5 4. Spoil is removed from inside the encasement by means of a. Boring auger b. Rotary auger c. Shell auger	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	Discus in brief procedure, merits and demerits of the following methods of analysis in exploration geology. SEM and XRD	10	CO3
Q 7	Describe the types of blasting techniques used in exploration geology and their significances.	10	CO3
Q 8	Explain in brief the significance of following classification of drilling in exploration geology. 1. Auger drilling 2. Persuasion drilling 3. Rotary drilling 4. Diamond core drilling.	10	CO4
Q 9	a). Discus the various steps of sample preparation, process and errors in sampling techniques. <p style="text-align: center;">OR</p> b) Describe in detail the specific requirements and precaution during excavation.	10	CO4
SECTION-C (Q.10 is compulsory and Q.11 answer one Q 11a OR Q,11 b &c) 2Qx20M=40 Marks)			
Q 10	Discus in brief the role and significance of following terms in context with ore geochemical analysis. 1. Geochemical cycles, 2. Soil survey 3. EH-PH 4. Water chemistry (TDS, BOD, DO, salinity).	20	CO5
Q.11	a) Explain in brief the various methods of geophysical survey used in exploration geology in context with procedure, advantages and disadvantages. <p style="text-align: center;">OR</p> b) Describe the types of Ore reserve estimation techniques and their signification in quantitative and qualitative ore estimation. c) The diagram represent outcrop sections of copper deposits. The outcrop section is divide into four blocks based on their grade and thickness.	20	CO6
 <p>Grade and thickness of blocks as follows: A= Grade 6.9% and thickness 5.5 ft², B=grade 6.5% and thickness 6.8ft², C= grade 7.5% and thickness 4.5ft² and D =grade 7.8 and thickness 4.8ft². Assume tonnage factor is 12 cubic feet for ton. Calculate the volume, area, average grade and tonnage of copper deposits.</p>			