

Name:	
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2018

Course: UNDERGROUND METAL MINING Course Code: MIEG 412 Semester: VII
Programme: B.TECH. IN MINING ENGG. (Indian) Time: 03 hrs.
Max. Marks: 100
Instructions: Answers must be brief and to the point.

SECTION A: 20 MARKS

		Marks	CO
Q1. a)	What are the problems if excavations are driven to the Hangwall area and within the Ore?	[4]	CO1
b)	Write the disadvantages of Open Raising method.	[4]	CO2
c)	Explain briefly Two-compartment raising method.	[4]	CO2
d)	Distinguish between Supported and Caving methods.	[4]	CO4
e)	Differentiate the conditions for Sublevel stoping and Sublevel caving operation.	[4]	CO4

SECTION B: 40 MARKS

Q2.	Narrate the development principles for a U/G Metal Mine.	[10]	CO1
Q3.	Providing suitable Overhand stoping method conditions, discuss the unit operations.	[10]	CO3
Q4.	Describe the different types of Scheduling. What are the areas that have to consider for each scheduling?	[10]	CO6
Q5.	Enumerate the development and operation in Underhand Cut and Fill stoping.	[10]	CO5
OR			
Q6. a)	What is the importance of Draw control operation? Narrate the same with an example.	[2+4+4]	CO5
b)	What are the conditions for Square set stoping?		

SECTION-C: : 40 MARKS

Q7. a)	Summarize the various steps to be followed for Mine Planning in metal mines. Incorporate the planning with Economic and Risk analysis.	[12+4]	CO6
b)	Define: Project Phase, Deliverables, Levels in relation to Scheduling.	[4]	
Q8. a)	Write the problems for Square set stoping.	[5]	CO5
b)	Given conditions Ore quality: Low-grade, Depth of the ore body: medium Ore body Dip: 55 ^o -70 ^o , Ore strength: Weak to Moderately strong. With above conditions, suggest a suitable method, and justify a) Development and b) Unit operations.	[9+6]	
OR			

Name:	
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2018

Course: UNDERGROUND METAL MINING Course code: MIEG 412 Semester: VII
Programme: B.TECH. IN MINING ENGG. (Indian) Time: 03 hrs.
Max. Marks: 100

Instructions: Answers must be brief and to the point.

SECTION A: 20 MARKS

		Marks	CO
Q1. a)	Define: Draw point, Finger raise.	[4]	CO1
b)	Draw a neat schematic diagram of underground metal mine development and show: Stope, Orepass, Ore bin, Ramp.	[4]	CO1
c)	Enumerate the differences of Incline and Decline and Raise and Winze?	[4]	CO3
d)	Write a note on Ore bin.	[4]	CO3
e)	Differentiate between Sublevel stoping and Shrinkage stoping.	[4]	CO4

SECTION B: 40 MARKS

Q2.	Explain the general differences of Coal and Metal Mining operations.	[10]	CO1
Q4. a)	Discuss the parts of an Alimak Raise Climber.	[7+3]	CO2
b)	Briefly explain the process of raising using Alimak raise climber.		
Q4.	Describe the different types of Scheduling. What are the areas that have to consider for each scheduling?	[10]	CO6
Q5.	Briefly explain the Sublevel stoping operation.	[10]	CO4
OR			
Q6. a)	What is the importance of Draw control operation of an ore? Give an example.	[6+4]	CO4
b)	What are the conditions for Square set stoping?		

SECTION-C: : 40 MARKS

Q7. a)	Assuming your conditions, discuss the factors and steps for designing the stope.	[10]	CO2
b)	Discuss, with examples, various factors for selection of Metal Mining methods.	[10]	CO4
Q8. a)	Write the suitable conditions of Block caving.	[5]	CO5
b)	A low-grade, medium deep orebody is dipping steeply, has a moderately strong ore/rock strength. Suggest a suitable method, explain Development and Unit operations.	[9+6]	
OR			
Q9. a)	Write the suitable conditions of Square set stoping operation.	[5]	CO5
b)	A high-grade, deep orebody is dipping at steeply, has a weak ore/rock strength. Suggest a suitable method, explain with Development and Unit operations.	[9+6]	