Name: Enrolment No:	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Course: Mine Planning & Design **Semester:** IV
Program: B.Tech. in Mining Engineering **Time:** 03 hrs.
Course Code: PEMI 2005 **Max. Marks:** 100
Instructions: As specified for each sections

SECTION A (Answer ALL)

S. No.		Marks	CO
Q1. a)	Show the relation to influence cost at different phases and stages of mine Planning.	5	CO1
b)	State the Essential Functions of the feasibility report.	5	CO1
c)	List the advantages of a Stowing plant.	5	CO5
d)	Define the objectives of the Production Planning.	5	CO6
SECTION B (Answer 2, 3, 4 and either 5 or 6)			
Q2.	State the Guidelines for preparing the Mine Maps.	10	CO2
Q3. a) b)	Discuss ANY TWO Softwares which are commonly used in Mine Planning & Design. Illustrate Unconstrained Optimization technique.	8+2	CO3
Q4. a) b)	Outline the steps to reduce Energy Consumption in mines. Discuss the approaches for estimating Power and Energy requirements.	6+4	CO4
Q5.	Explain the Factors for Bulk Material system design including handling and transport.	10	CO5
	OR		
Q6.	Describe briefly the various components of a CHP/OHP and their purposes.	10	CO5
SECTION-C (Answer 7 and either 8 or 9)			
Q7. a) b)	Assuming your conditions for a Longwall coal working face, prepare the list of machines needed and their purpose in the district. Also, Design their position at face showing a schematic diagram and Estimate the power requirements in the District. Explain the characteristics of Stowing materials.	4+4+6 6	CO4 CO5
Q8. a) b)	Illustrate the parameters and steps to calculate the Life of Mine. Prepare a checklist showing criteria for the Sampling Techniques and Data.	10+10	CO6
	OR		
Q9. a) b)	Analyze the concept of Production Scheduling with an example. Correlate Environmental components of Sustainable Developments in Mining.	10+10	CO6

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SECTION A (Answer ALL)

S. No.		Marks	CO
Q1. a)	Discuss the Mineral Supply Process with a flowchart.	5	CO1
b)	Explain the Floating Cone Technique briefly.	5	CO3
c)	Show FIVE steps to reduce the energy consumption in Mines.	5	CO4
d)	List the activities of the Global Mining Initiative.	5	CO6
SECTION B (Answer 2, 3, 4 and 5 or 6)			
Q2.	Describe ANY FIVE Reclamations Standards used in Mines.	10	CO1
Q3. a) b)	List the features to be shown on General Mine Map. What is Compositing? Discuss and differentiate between two composite methods.	5+5	CO2
Q4. a) b)	Explain briefly the method of cost optimization for a uniformly graded deposit. Explain Pit Optimization and its general concepts.	5+5	CO3
Q5.	Assuming your conditions, summarize the various parameters needed for an economic design when a mine is operated by TWO inclines.	10	CO4
	OR		
Q6.	Assuming your conditions, summarize the various features needed for Mine Access design when a mine is operated by Shaft.	10	CO4
SECTION-C (Answer 7 and either 8 or 9)			
Q7. a) b)	Assuming your conditions for a Bord & Pillar coal working face, prepare the list of machines needed and their purpose in the district. Also, Design their position at face showing a schematic diagram and Estimate the power requirements in the District. Explain the components of Hydraulic stowing process briefly.	4+4+4 8	CO5
Q8. a) b)	Illustrate the parameters and steps to calculate the Life of Mine. Prepare a checklist showing criteria for Estimation and Reporting of Ore Reserves.	10+10	CO6
	OR		
Q9. a)	Describe the process of Production Scheduling with an example.	10+10	CO6

b)	List the actions to be taken for Sustainable Development in future.		