

Code No.: 407C2

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)
Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad**IV B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, APRIL-2019**Subject: Planning of Underground Coal Mining Project

Branch: MINING

Time: 3 hours

Max. Marks: 75

PART – A**I. Answer ALL questions of the following**

5x1Mark=5 Marks

1. What is mining?
2. Write Taylor's equation for mine life.
3. What is LHD?
4. What is longwall mining?
5. Define sub-critical subsidence

II. Answer ALL questions of the following

10x2Mark=20 Marks

1. State the regulation associated with coal mine life.
2. Explain briefly, the importance of feasibility report?
3. Mention the factors to be considered to determine the size of pillar in bord & pillar method of mining.
4. State the factors influence the life of the mine.
5. What is the basic difference between BG method and B&P method of mining?
6. How the geological factors affect the subsidence?
7. Name the types of power supports deployed near longwall face.
8. What is the current cutting rate of various continuous miners in India?
9. What are the main causes of subsidence damage?
10. Differentiate between subsidence and sinkhole.

PART-B**Answer ALL questions of the following**

5x10 Marks= 50Marks

1. Discuss in brief the longterm planning of underground coal mine project.
OR
2. Differentiate between planning of underground mine and planning of surface mine.
3. Explain in detail, the factors influencing the choice of coal mining methods.
OR
4. Explain in detail, how the life of an underground coal mine is determined (based on total cost/ton)?
5. Discuss in brief the applicability conditions of SDL in underground coal mining operation.
OR
6. A coal seam of 10m thick, dipping at 1 in 9, is laying at a depth of 180m from surface. It is planned to extract the coal seam by "Blasting Gallery" method. Explain the method in detail with suitable layout by giving following details. Assume relevant data, wherever necessary.
a) drilling and blasting b) loading and transportation c) machinery and supports used
7. Discuss the economics of longwall mining including production compared to B&P mining.
OR
8. Discuss on the method of drivage of gate roadways of a fully mechanized Longwall face. Assume relevant data, wherever necessary.
9. Explain the different components of subsidence with the help of neat subsidence diagram.
OR
10. Suggest and explain the method of mining to reduce the risk of subsidence.

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)
Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad

IV B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, APRIL-2019**Subject: Mine Health & Safety Engineering****Branch: MINING****Time: 3 hours****Max. Marks: 75****PART – A****I. Answer ALL questions of the following****5x1Mark=5 Marks**

1. What is the cost of accident?
2. HAZOP stand for?
3. What is the safety Audit
4. What is the scope for opencast mining accidents?
5. What do you mean by Inundation?

II. Answer ALL questions of the following**10x2Mark=20 Marks**

1. What are the direct costs involved in Accident?
2. What is meant by economic analysis of accident?
3. What do you understand by the term accident report?
4. What is meant by safety analysis
5. How the human behaviors affect the accident?
6. What is the duty of safety committee?
7. Major causes of roof fall accidents?
8. What are subsidence monitoring methods?
9. How an earthling is done for heavy electrical machines?
10. Write any four causes of fire accidents in underground mines?

PART-B**Answer ALL questions of the following****5x10 Marks= 50Marks**

1. Name some safety precautions to be taken by the workers in underground?

OR

2. Give a accident report of roof fall in Indian mines.
3. What is FTA and how you will use this in Risk analysis?

OR

4. Explain in detail how the safety organization in the mines?
5. What are the employee's duties in terms of health and safety according to Section 22of the mine health safety act?

OR

6. What are safety audit and safety policies?
7. Explain the major causes and precautions to avoid the accidents due to ground movements?

OR

8. What are Common causes of accidents in open cast mines? Write the preventive measures of Accidents due to ground movement?
9. What are the precaution to be taken to avoid accidents due to explosives?

OR

10. What are the dangers from surface and underground water?

Code No.: 40725

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)
Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad**IV B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, APRIL-2019**Subject: Mine Ground Control

Branch: MINING

Time: 3 hours

Max. Marks: 75

PART – A**I. Answer ALL questions of the following****5x1Mark=5 Marks**

1. What are the constraints on ground control?
2. What is the purpose of bore hole extensometer?
3. List out different props used in fractured strata.
4. What is the purpose of embankments in mines?
5. What is Subsidence?

II. Answer ALL questions of the following**10x2Mark=20 Marks**

1. What are the different techniques practicing in mines to control ground?
2. What are the instruments used to observe the ground control?
3. What are the different stresses acting on working front in underground mines?
4. What is meant by creep?
5. Explain the principle of operation of hydraulic props.
6. Differentiate friction and hydraulic props.
7. Write a short note on circular slope failure.
8. Describe the importance of embankments in mines.
9. What are the different types of subsidence?
10. Define rock bursts and bumps.

PART-B**Answer ALL questions of the following****5x10 Marks= 50Marks**

1. Explain the importance of ground control in mines. Discuss different ground control practices adopted in Indian mines.

OR

2. What are the different characteristics of coal strata and explain them.
3. What do you know about fracture mechanics? Explain.

OR

4. Briefly describe about pressure arch theory.
5. Explain briefly about roof bolt mechanism.

OR

6. Explain the Installation procedure of a resin grouted rock bolt.
7. What are the different types of slope failure?

OR

8. Explain about the design of waste dumps and embankments.
9. What are the different methods to predict and measure subsidence?

OR

10. Explain different types of rock bursts.