Code No.: **40725** **MR14**

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, NOVEMBER-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. Mention the difference between Rock mechanics and Ground control.
2. Explain about the creep behavior of rock.
3. What are different types of supports used in underground mines?
4. What are the factors affecting dump stability?
5. Define bump.

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

1. What are the constraints on ground control design?
2. What are the different techniques practicing in mines to control ground?
3. How load on pillar can be determined?
4. List out the instruments used for in-situ stress measurement
5. How stress is distributed on Arch supports?
6. Define caving? Is caving is necessary in pillar workings?
7. What are the precautions taken for stability of underground opening?
8. Why pillar dimensions increase as depth increases?
9. How subsidence will vary with time?
10. What are the precautions should taken for avoiding the subsidence?

PART-B

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

1. What are the different ground control practices we have to observe in underground coal mines?

OR

2. What are the instruments used to observe the ground control and explain about any one of them.
3. What is meant by convergence? Which instruments are used in detecting it? Explain.

OR

4. What are the different instruments available for stress measurement in mines? Explain the measures to control roof falls in mines.
5. Describe briefly about hydraulic supports.

OR

6. Explain chock shield support with neat sketch.
7. Elaborate the procedures to prevent failure for waste dumps.

OR

8. Discuss the factor affecting pillar design in underground mines. State statutory provisions to be followed during pillar design.
9. What are the precautionary measures to be taken up to prevent subsidence?

OR

10. Explain the factors affecting subsidence. Also explain measures to prevent the damage due to subsidence.

Code No.: **307C1** **MR13**

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

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Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad

IV B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, NOVEMBER-2019

Subject: **Planning of Surface Mining Project**

Branch: **Mining**

Time: 3 hours **Max. Marks: 75**

PART – A

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

1. What do you understand by Master Plan?
2. What is meant by NPV?
3. What is meant by Berm?
4. Define EIA.
5. Name any two blast patterns used in surface mines.

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

1. What are the different phases of mine planning?
2. What are the environmental conditions we have to consider while opening of opencast mines?
3. Briefly describe different types of reserves.
4. What are the different techniques available for reserve estimation?
5. What are the different machines used for haul road maintenance?
6. What is the purpose of mine handling plant?
7. What are the occupational diseases caused by mining?
8. Define EIA.
9. Write a short note on nonel technology.
10. Define the terms magazine and detonator.

PART-B

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

1. Explain different types of planning with suitable examples.

(OR)

2. Explain the different contents to be covered in feasibility report.
3. What is meant by reserve estimation? Explain about any one method?

(OR)

4. What are the different factors to be taken care for selecting mining machinery?
5. With a neat sketch briefly explain the working of Dozer.

OR

6. Discuss the different parameters for maintenance of haul roads.
7. What are the different environmental issues we witness in surface mines? How can we reduce them to minimum?

(OR)

8. Assuming your own condition, with a neat sketch explain reclamation of mine with wet strata.
9. Explain different factors to be considered for mine closure planning. What are the statutory provisions with respect to mine closure planning?

OR

10. Sketch and describe electronic detonator operation and applications.

Code No.: **407D2**

MR14

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

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Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad

IV B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, NOVEMBER-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. Define the accidents in mines?
2. What is a major accident
3. What is the importance of the training?
4. What is a box cut in open cast?
5. What is an exploder?

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

1. What are the common disasters seen in underground coal mine?
2. How accidents can be prevented?
3. Explain the safety management in the mines?
4. What are risk management techniques?
5. How the human behaviors affect the accident?
6. Define safety policy?
7. What is subsidence monitoring?
8. What are the reasons of Roof fall in an underground mine?
9. What are the surface causes of inundation in the mines?
10. What are the underground causes of water inundation in the mines?

PART-B

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

1. What are the costs involved in accidents Explain in detail?

OR

2. Give a accident report of inundation in Indian mines.

3. Briefly explain the safety analysis techniques used in mines?

OR

4. What are the Risk minimization techniques?

5. Describe the terms

   a) Safety policies

   b) Safety audit

OR

6. As a Manager what safety steps do you carry out for the safety of workers working belowground?

7. Explain the major causes of Accidents in open cast mines?

OR

8. Explain in detail causes and precautions of haulage accidents in detail?

9. What are the common causes and preventive measures of accidents due to inrush of water?

OR

10. What are the controlled blasting techniques used in open cast mines?

Code No.: **407C3**

MR14

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

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Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad

IV B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, NOVEMBER-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 the importance of mine planning?
2. How mine life is decided?
3. Which drilling pattern is used in Blasting Gallery Methods?
4. What is longwall mining?
5. What is subsidence monitoring?

II. Answer ALL questions of the following **10x2Marks=20 Marks**

1. Distinguish between short range planning and conceptual planning.
2. What are the principles of mine planning?
3. How geological factors affect the mining projects?
4. What is life of a mine?
5. What are the parameters considered for selecting SDL?
6. Write the full form of LHD.
7. Explain the elements of long wall panel with a neat sketch.
8. List problems encountered during using continuous miners in underground coal mines?
9. Mention the different types of mine subsidence.
10. What are the main causes of subsidence damage?

PART-B

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

1. What are the social impacts due to mining activities? Justify your answer with a case study for each impact.

OR

2. What are the environmental impacts due to mining activities? Justify your answer with a case study.
3. What do you mean by blasting off the solids? Give layout of Board and Pillar workings worked by blasting off the solids.

OR

4. What are the different methods of mine planning? State the applicability, advantages and disadvantages?

5. Explain the operation of LHD in underground coal mining.

OR

6. Explain in brief the extraction operation by continuous miner.
7. How panel size is decided in Longwall system of mining? It is being planned for operation by Longwall mining system for a production of 3000 tonnes per day from a coal seam (3m thick and occurring at a depth of 300m), Assume required relevant information and give layout of developments and machines requirement against targeted production

OR

8. Discuss in detail, the influence of time on subsidence over a Longwall Panel at depth of 250m from the surface. Assume other relevant data, wherever necessary.
9. Briefly explain the protective measures to control the subsidence.

OR

10. Discuss in brief the consequences of mine subsidence.