Code No.: **30B01/40B01**

MR13 & MR14

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)

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

III B.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS, NOVEMBER-2018

Subject: **Managerial Economics And Financial Analysis**

Branch: **Common to ME, IT & MINING**

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

PART – A

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

1. Define Managerial Economics?
2. What is a Variable Cost?
3. What is Monopoly?
4. Define Sole Proprietorship?
5. What is a Ledger?

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

1. What is Law of Demand?
2. What are the methods of Demand Forecasting?
3. What is a Fixed Cost?
4. Define Explicit and Implicit costs?
5. Define Monopolistic Competition?
6. What is a Marginal Cost?
7. What is Partnership Firm?
8. Explain the Pay Back Period Method?
9. Define the Financial accountancy?
10. Explain the Inventory Turnover Ratio?

PART-B

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

1. Illustrate how Managerial Economics helps in solving Managerial problems?

OR

2. What do you understand by "Demand "? What are different types of Demand?

3. Define Production function. Discuss in detail the different types of production functions?

OR

4. Define Break Even Analysis? State the assumptions in Break Even Analysis?

5. What is a perfect competition? Explain its Features?

OR

6. Define Cost. Explain the Different cost Concepts used in the process of Cost Analysis?

7. What is a Joint Stock Company? Explain its Features?

OR

8. Calculate the Accounting Rate of Return (OR) Average Rate of Return for project A?

	Project A
Investment	Rs 30000
Expected Life (No Salvage Value)	5 Years

Projected Net Incomes (After Interest, Depreciation and Taxes)

Years	**Net Incomes**
1	3000
2	3000
3	2000
4	1000
5	1000

9. Journalize the following Transactions in the books of Venkatesh

2015	April 1	Venkatesh commenced Business with Rs.300000
	April 3	Purchased Furniture Rs 20000
	April 5	Purchased Goods worth Rs 60000
	April 8	Purchased Goods from Raghu Rs 30000
	April 10	Paid Stationary Rs 5000
	April 15	Sold goods to Rama Rao Rs 10000
	April 18	Cash Sales Rs 60000
	April 20	Deposited into Bank Rs 20000
	April 28	Paid Rent Rs 6000
	April 30	Paid Advertisement Rs 8000

OR

10. The following is the Balance sheet of a firm. Calculate current Ratio and Liquid Ratio?

Liabilities	**Amount**	**Assets**	**Amount**
Share Capital	30000	Fixed Assets	16500
Creditors	8000	Cash	1000
Bills Payable	2000	Book Debts.	6000
Provision for Tax	3500	Bills Receivable	2000
		Stock	17500
		Prepaid Expenses	500
Total	**43500**	**Total**	**43500**

Code No.: **40712**

MR14

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)

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

III B.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2018

Subject: **MIN E MECHANIZATION-I**

Branch: **MINING**

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

PART – A

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

1. Function of a Coupling
2. Safety appliances in Rope Haulage
3. Application of Aerial Ropeway
4. Principle of Conveyor
5. Types of Drills

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

1. What are the elements of a mechanical power transmission?
2. Explain the importance of Brake in mining machinery?
3. List out statutory requirements of haulage in Rope hauling?
4. How do you maintain wire ropes?
5. What are the different types of crossings that laid out in track laying?
6. Explain the different types of aerial ropeways?
7. What are the constructional features of compressed air locomotives?
8. Sketch an outline of a battery operated locomotive?
9. List out main features of Jumbo drill?
10. What are the safety features of blast hole drill?

PART-B

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

1. What are the different parts of a mine shaft? Explain each with a neat sketch? Enumerate the safety devices and safety fittings of a man winding shaft and man winding engine?

(OR)

2. Differentiate between Hydraulic Power and Pneumatic Power transmission systems? Explain the different types of prime movers and functions in mining technology and specify its applications?

3. What is the purpose of recapping a winding rope? At what interval this has to be done and what is the length of the rope to be cut off? Show by simple sketches, the action of a safety hook to be placed between rope and cage of winding?

(OR)

4. Describe the relative merits of skip and cage winding? Describe the constructional procedures involved in making wire ropes suitable to Mines? Explain the limitations involved in rope haulages?

5. Describe different types of aerial ropeways, their construction and application of each? Explain the principle involved in turnout and crossings?

(OR)

6. What are the basic principles involved in track laying? How do you determine correct rail size? How do you set a smooth rail curve using offsets.

7. Explain the principle involved in Conveyors? Describe short essay on Shuttle Cars dealing with their construction, installation and treatment in use. Note especially points connected with Safety.

(OR)

8. Specify the conditions which are favorable to locomotive haulages in mines? Describe the different types of bridge conveyors with neat sketch and write short essay on their applicability?

9. Explain the construction and essential features of hydraulic blast hole drill? Describe the procedure involved in stone drilling? Mention the different types of machines used for extraction of lignite?

(OR)

10. Explain the different types of drill machines used in mining technology? How the directional drilling is carried out in mines? Explain any one drill used for coal surface mining with a neat sketch ?

Code No.: **40709**

MR14

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)

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

III B.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS, DECMBER-2018

Subject: **MINE ENVIRONMENTAL ENGINEERING -I**

Branch: **MINING**

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

PART – A

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

1. What is firedamp? Give its explosibility limits?
2. What is equivalent orifice?
3. What are uses of booster fan?
4. What is descensional ventilation?
5. What is meant by 'saturation ratio?

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

1. Write the physiological effects of white damp and black damp?
2. What is the principle of operation of M.S.A. Methanometer?
3. What is Laminar flow?
4. Write any two artificial aids to NVP?
5. What is difference between auxilary fan and booster fan?
6. Draw the pv characteristic curve for fans in parallel?
7. Distinguish between 'Accessional' and 'Descensional' ventilation systems.
8. What do mean by homotropal and antitropal ventilation?
9. What is the role of stopping's in Ventilation control?
10. write about smoke generator?

PART-B

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

Q1.A) Find the percentages of blackdamp, whitedamp, firedamp and air in a mine air Sample having the following analysis? O_2 = 19.11 % ; N_2 = 79.14% ; CO_2 = 0.25% ; CO = 0.02% CH_4 = 1.58% What is the composition of blackdamp?

B) Write about sources of heat in mines?

(OR)

Q2. What is methane layering? Explain about methane drainage?

Q3. **(a)** Explain the Natural Ventilation System and give the formula for NVP?

b) A DC shaft is 465m deep and the average temperature of the down going air is 300 C. The UC shaft has equal depth but the average air temperature in that shaft is 370 C. What assistance, expressed in HP does this difference in air temperature render when the air passing the DC shafts 100 m3/sec (assume average barometric pressure in DC shaft to be 750 mm of HG

(OR)

Q4. Explain the various causes of 'natural ventilation' in underground mines?

Q5. What are the factors considering in selecting mine fan?

(OR)

Q6. a) Write short notes on series and parallel operation of mine fans?

b) Compare the Forcing and Exhaust systems of ventilation system?

c) What are advantages and disadvantages of using Mine Fans on surface?

Q7. Explain the boundary and central systems of ventilation with neat diagrams?

(OR)

Q8.a) Write the standard of ventilation as per Regulation 130 of CMR 1957?

b) What is meant by fan characteristic cure and fan operating point?

Q9. a) What is Ventilation Survey? How is carried out in Mines? What are the different instruments required for the same?

b) Explain different air measuring instruments used in mines?

(OR)

Q10. Explain Ventilation layout for coal mining and metal mining with neat sketch?

Code No.: **40710**

MR14

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)

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

III B.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS, DECEMBER-2018

Subject: **SURFACE MINING TECHNOLOGY**

Branch: **MINING**

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

PART – A

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

1. Define stripping ratio.
2. What should be the height and width of benches for opencast mine as per mines rules and regulation.
3. Write the name of any four machineries/equipments used as excavator for opencast project.
4. Explain briefly limitations for used of a Scraper for opencast project.
5. Write any five heavy earth moving machineries.

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

1. What are the factors for selection of surface mining?
2. Explain different components of mine life.
3. Write a note on slope stability in opencast mine.
4. Explain factors for selection of ripper for an opencast mine.
5. Explain briefly the different components of a surface miner.
6. Explain different conveyors transport system for opencast mine.
7. Write an essay on placer mining and sea bed mining.
8. Explain briefly hydralicking and dredging exploitation system
9. Explain different environmental problems due to surface mining.
10. Explain some recent development in deployment of heavy earth moving machinery.

PART-B

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

1. Write the name of any four largest mechanised surface mine of India. Explain the role of surface mine for mining industry of our country.

Or

2. For an openpit mining the value of metal is Rs. 210 per Kg, and recoverable grade is 1.2%. Production cost per tonne of ore inclusive of Mining and processing but excluding stripping is Rs. 2000. If the break even stripping ratio is 3.49 m^3/tn,then calculate the stripping cost.

3. Define drilling. Explain in details different drilling pattern used for surface mine.

Or

4. Define powder factor. A coal heading 4m wide and 2.5m high has an advance of 1m per cycle. The amount of explosive used in blasting is 6 kg. If specific gravity of coal is 1.5, then calculate the powder factor.

5. Describe the working of the Bucket Wheel Excavator. Discuss its applicability and its performance in coal and lignite industry.

Or

6. A dragline to remove 300000 m^3 of rock per month on the bank volume basis. Consider the following data for the dragline operation.
   Effective working hours per month = 420
   Bucket fill factor = 0.85
   Cycle time = 70sec
   Swell factor of rock = 1.20
   Calculate minimum bucket capacity of dragline in m^3.

7. Explain briefly the basic components of a dumper. A dump truck powered by 350kw engine is running at a speed of 35 km/h. considering the transmission efficiency of the truck as 85%. Calculate the rim pull of the truck in kN.

Or

8. Explain **any two:-**
   a. Openpit crusher
   b. Grader and its limitation for opencast mine
   c. Different types of payloader equipments for opencast mine

9. Give a detail comparison between opencast and underground mines.

Or

10. Explain **any two:-**
    a. Safety features of HEMM
    b. Remedial measures for environmental problems due to surface mining
    c. Provision regarding for surface mining

Code No.: **40711**

MR14

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)

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

III B.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS, NOVEMBER-2018

Subject: **Under Ground Coal Mining Technology**

Branch: **MINNING**

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

PART – A

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

1. Drift
2. Bridge conveyor
3. Goaf edge supports
4. Heaving of the seam
5. Horizontal mining system

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

1. What are the supports used in development of coal seam?
2. What are the factors which decide to go for the semi mechanized mining of coal seams?
3. Define different methods of working of coal seams by underground?
4. What are the factors to decide for the support of development in a coal seam?
5. Explain the different methods of extraction of coal seams which is about 20 m. thicknesses.
6. What is the percentage of extraction of coal while development in a seam of 5m. the conditions are the gallery width is 4m height is 3m and the pillar size is 40m center to center?
7. What is shaft pillar?
8. What are the different machines available for the extraction of coal by underground? explain about one of the machine?
9. What is the angle of draw and how it affects the surface?
10. Write about gates in longwall method of working?

PART-B

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

1. Explain the arrangements for the stowing in mines?

OR

2. Compare between Stowing and caving ?

3. A seam having thickness of 15 ma and the gradient is 1in 2.5. Plan for the extraction of coal for the production ? what precautions are required to take?

OR

4. Explain the depillaring of the thick seam which is having 9m.?

5. Explain the support system in longwall panel ?

OR

6. Explain fully about the depillaring by caving with diagrams?

7. Explain in detail how you will sink a shaft up to a depth of 300m depth?

OR

8. Explain about the following

   a. Plough

   b. Jumbo drill

   c. Hydraulic gradient in stowing

   d. What is palpitation?

9. What are the precautions to be taken while driving a tunnel/ cross measure drift approaching the waterlogged areas?

OR

10. Explain about the blasting galliery method of working in a thick seam? What are the precaution to be taken while working?