

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 REGULAR END EXAMINATIONS, NOVEMBER-2018Subject: Engineering Economics and Accountancy

Branch: Common to ME & MINING

Time: 3 hours

Max. Marks: 60

PART – A

Answer ALL questions of the following

5x2Mark=10 Marks

1. What is Demand Function?
2. What do you mean by Angle of Incidence?
3. Trace equilibrium price and quantity curves under perfect competition with the help of demand-supply schedule and graph.
4. Illustrate Types of capital?
5. What are the Liquidity Ratios's

PART-B

Answer any 5 questions of the following

5x 10 Marks= 50Marks

1. a) What are the characteristics of managerial economics? [5M]
b) Factors influencing demand [5M]
2. a) Describe how point elasticity is more focused than arc elasticity. [5M]
b) Compare income elasticity and cross elasticity with the help of suitable examples and graphs. [5M]
3. a) Differentiate Isoquants and Isocost curves? [3M]
b) Depict graph for short run cost output relations covering AVC, AFC, ATC & MC curves and define fixed and variable costs [4M]
c) Determine BEP volume and sales volume that is required to get a target profit of Rs. 20.00 Lakhs, if Fixed Cost is Rs.10.00 Lakhs, Per Unit is Rs.50/- and Variable Cost Per Unit is Rs.40/-. [3M]
4. a) Compare internal and external economies and diseconomies of scale of production. [5M]
b) Explain Cobb-Douglas Production Function along with its assumption and what returns to industry it expects? [5M]
5. a) Compare Very Short Period, Short Period and Long Period Markets [3M]
b) Compare Features of Monopoly and Monopolistic market structures. [3M]
c) Differentiate Going Rate Pricing, Market Skimming, Market Penetration and Cross Subsidization types of pricing methods. [4M]
6. a. What is monopolistic competition? Explain its features briefly. [5M]
b. What is demand oriented pricing. Explain each of them. [5M]
7. a) Explain, what are the factors determining working capital? [5M]
b) What are the discounted cash flows and explain the time value of money. [5M]
8. a) Define accounting Cycle. [5M]
b) What are the advantages of double entry book - keeping system? [5M]

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III B.TECH I SEMESTER REGULAR AND SUPPLEMENTARY EXAMINATIONS,**DECEMBER-2018**Subject: Mine Ventilation

Branch: MINING

Time: 3 hours

Max. Marks: 60

PART – A

Answer ALL questions of the following

5x2Mark=10 Marks

1. Explain briefly various types of damp.
2. State the laws of mine air friction?
3. What is meant by mechanical ventilation?
4. Distinguish between ascensional ventilation and decensional ventilation
5. What is meant by ventilation survey?

PART-B

Answer any FIVE Questions of the following

5x 10 Marks= 50Marks

1. The analysis of a sample of air from old workings is reported as follows: Oxygen 15%, Carbon dioxide – 3.5%, Methane – 3.57% and nitrogen – 77.93%. Find the percentage of air and black damp in the sample as well as the composition of black damp.
2. What is motive column? Derive the expression for motive column. A total quantity of 5000 m³/min is passing in five splits as follows splits A: 3.5x2.5x100 m, B: 4.5x2.5x100 m, split C: 4.5x3x150 m, split D: 4.5x3x200 m split E: 3x2.5x50 m. Calculate quantity in each splits.
3. Explain, with a suitable figure, the construction and operation of a centrifugal fan? What are its application, advantages and limitations?
4. Explain, with suitable layout, ascensional, decensional, homotropical and antitropical ventilation, giving their application, advantages and disadvantages.
5. Design the ventilation planning for sub level stoping method. Assume your own conditions
A 200 m longwall face is ventilated by two gate roads each 300m long. Calculate the quantity
6. a) What is methane layering. Write a short note on methane layering number
b) What is humidity? Explain the procedure in detail to determine the relative humidity in underground mines.
7. What is artificial ventilation? Discuss the artificial ventilation for a mine of 200 m deep. A mine is ventilated by a fan producing 6000 m³/min at 75 mm w-g. The fan runs at a speed of 200 rpm. Calculate the quantity and w-g, if the fan is speeded up to 300 rpm.
8. a) Distinguish between forcing and exhaust fan
b) Output control in fans

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III B.TECH I SEMESTER REGULAR END EXAMINATIONS, DECEMBER -2018

Subject: Underground Coal Mining Technology

Branch: MINING

Time: 3 hours

Max. Marks: 60

PART – A

Answer ALL questions of the following

5x2Mark=10 Marks

1. What are different modes of opening deposits lying below 200 m deep?
2. Draw a layout of Bord and Pillar panel.
3. What is the difference between a panel and a district in underground coal mining?
4. Give a neat layout of long wall equipment
5. What are the advantages of self-advancing supports and where they are more useful

PART-B

Answer any FIVE Questions of the following

5x 10 Marks= 50Marks

1. What are different factors to be taken into consideration while planning Underground coal mining operations?
2. What are the factors affecting the selection of equipment for coal seam development? Draw a label neat sketch of a continuous miners.
3. What are the different preparatory arrangements needed for starting depillaring operations?
4. Briefly explain about horizon mining? Its advantages and disadvantages?
5. Write a short note on any two of the following
 - (a) LHD
 - (b) Shuttle Car
 - (c) Mechanized Stowing
6. (a) Briefly explain blasting gallery method for extraction of thick coal seam.
 - (b) List factors influencing choice of pillar extraction techniques
7. (a) Write a note on AFC
 - (b) What are the different methods of drivage of gate roads? Explain one
8. Differentiate between bord & pillar and long wall method

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**III B.TECH I SEMESTER REGULAR AND SUPPLEMENTARY EXAMINATIONS,
DECEMBER -2018**Subject: Drilling and Blasting

Branch: Mining

Time: 3 hours

Max. Marks: 60

PART – A

Answer ALL questions of the following

5x2Mark=10 Marks

1. Mention the purpose of Fishing Tools.
2. Why flushing is required during drilling?
3. Distinguish between ANFO and HANFO
4. What is contour blasting?
5. List out different types of controlled blasting techniques in open cast mining.

PART-B

Answer any FIVE Questions of the following

5x 10 Marks= 50Marks

1. (a)What is core recovery? Describe various types of core recovery process in exploratory drilling method with neat sketch.(6)
(b) What is bore hole surveying in exploratory drilling method?(4)
2. What are different types of drilling equipment used in exploration drilling? Explain about one such type of equipment with a neat diagram?
3. (a)Explain the mechanics of rotary percussive drilling.(6)
(b) Write down the methods of reconditioning of drill bits.(4)
4. Briefly explain about rotary drilling with a neat diagram.
5. (a)An emulsion explosive of specific gravity 1.25 is used for blasting in an iron ore formation having P wave velocity of 3000 m/s and specific gravity of 3.20.For explosive impedance to rock impedance ratio of 0.5, Calculate the desired velocity of detonation of the explosive in m/s. (5)
(b) Explain the procedure to follow during transportation of explosives as per DGMS. (5)
6. Explain about three of the following
a)Lox b) crimper c) gunpowder d) Detonating cords
7. (a) What are the different types of initiating systems? Briefly describe detonating cord based initiation system.
(b) Briefly explain blasting gallery method.
8. Write a short note on any two of the following
(a) Dimensional stone blasting
(b) Fragmentation analysis
(c) Presplitting

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**III B.TECH I SEMESTER REGULAR AND SUPPLEMENTARY EXAMINATIONS,
DECEMBER-2018**Subject: Surface Mining Technology

Branch: MINING

Time: 3 hours

Max. Marks: 60

PART – A

Answer ALL questions of the following

5x2Mark=10 Marks

1. Define overall stripping ratio.
2. Write the limitations of shovel dumper combination.
3. Write briefly about Cycle time
4. What is the purpose of scrapper?
5. Write briefly about Dredging

PART-B

Answer any FIVE Questions of the following

5x 10 Marks= 50Marks

1. Explain stripping ratio? How it will influence the production of an opencast mine?
2. What is surface mining? Describe the procedure for evaluation of the deposit.
3. A coal deposit is being extracted with opencast mine having 10 benches, the height of bench, angle of bench and width of bench are 15m, 70° and 50m respectively. Determine the overall slope angle of the mine.
4. Draw a neat diagram showing the bench parameters and also discuss all the bench parameters of a surface mine.
5. What is cyclic method? List out the machinery required to get production of 2 million tonnes of coal from an opencast mine having gradient of 1 in 10 and seams having thickness of 6, 4m and 3m at a depth of 150m, 160 and 170 respectively.
6. Explain the working principle of pay loader with a neat sketch?
7. Explain the basic design principles of opencast mines?
8. What are the different environmental problems caused due to drilling and blasting and explain the environmental impacts due to surface mining.

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III B.TECH I SEMESTER REGULAR AND SUPPLEMENTARY EXAMINATIONS, NOVEMBER-2018Subject: Mining Machinery

Branch: MINING

Time: 3 hours

Max. Marks: 60

PART – A

Answer ALL questions of the following

5x2Mark=10 Marks

1. Compare hydraulic and pneumatic powers.
2. What is rope recapping?
3. What do you mean by diamond crossing
4. Compare rope haulages with locomotives.
5. What do you mean by drillability?

PART-B

Answer any FIVE Questions of the following

5x 10 Marks= 50Marks

1. a) Write the applications of epicyclic gearing and draw schematic diagram.
b) Write a note on clutch and brake.
2. Explain the method of rope slicing in endless rope haulages with necessary sketches.
3. a) State differences between mono-cable and bi cable aerial ropeways.
b) State the applications of aerial ropeways in mines.
4. a) What are the different loco motives used in mines? Compare them. Give their relative merits, demerits and fields of applications.
b) Compare transmission of power by belt (flat & "V"), chain and rope and also give the fields of application of each of it
5. a) Give the specifications and operating parameters of a hand held electric drill used in underground coal mines. (2 Marks)
b) What are the reasons for the popularity of pneumatic drills in Indian mines in spite of their several disadvantages? Also give the demerits of pneumatic drills. (3 Marks)
c) Give the diagram of a hand held electric drill used in underground coal mines. (3 Marks)
d) Give the operating parameters and size of the hole a Jackhammer can drill. (2 Marks)
6. a) What is a Hydraulic power? Describe in detail one Hydraulic Equipment with sketches?
b) Write the different laws governing compression and expansion of gasses.
7. Write short notes on dimension of drum, pulley and rollers used for haulage purpose
8. a) Name the different components of rail track including a three-way junction and indicate the functions of each of their components. Also name the different tools used for track laying along with the purpose of each of it.
b) What are the different types of buckets used in aerial ropeways, Explain ?