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APR-MAY

B. E. (Eighth Semester) Examination, 2020

(New Scheme)

(Mining Engg. Branch)

MINING MACHINERY-III

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt any two questions from each unit.

Each question carries 8 marks.

Unit-I

- 1. Give a detailed classification of face machinery used in underground coal mines. Comment on drill jumbo.**

2. With a neat diagram illustrate the construction and working of an electric coal drills. Explain the types of drill bits used in drilling machine.
3. Discuss in detail the process of cutting coal by a coal cutting machine. Discuss the obsolescency of coal cutting machines in Indian Coal Mining.

Unit-II

1. With a neat diagram illustrate the constructional features and method of loading of Gathering Arm Loader.
2. Differentiate between SDL and LHD. Explain the construction of rocker shovel.
3. Write short notes on :
 - (a) Cavo Loader
 - (b) SDL
 - (c) Shuttle car
 - (d) Underground trucks

Unit-III

[3]

1. Give a detailed introduction to cutter-loader machines.
Explain the mechanics of cutting by a cutter loader machine.
2. Illustrate the constructional features of shearer.
Supplement your answer with a diagram.
3. With a neat diagram describe the construction and working of a road header.

Unit-IV

1. Derive an expression for work done due to adiabatic and isothermal compression.
2. Explain the construction and working of rotary compressor.
3. Write short notes on :
 - (a) Unloading arrangement of compressor
 - (b) Inbye compressor

Unit-V

1. With neat diagrams illustrate the construction of Gate End Box.

2. Discuss in detail the different types of circuit breakers.
3. Differentiate between flame proof enclosure and intrinsically safe circuit. Write a short note on flexible cables used in mining.

Unit-7

1. Explain the construction and working of mine compressor.
2. Write short notes on:
(a) Handling arrangement of compressor
(b) Mine compressor

Unit-7

1. With neat diagram show the construction of Gate Tank Box.