CBCS Scheme

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15MN52

Fifth Semester B.E. Degree Examination, Dec.2019/Jan.2020
Mine Mechanization - II

Time: 3 hrs. Max. Marks: 80

Note: ***Answer any FIVE full questions, choosing ONE full question from each module.***

Module-1

1 a. Explain the construction and working of a centrifugal pump, with neat sketch. **(12 Marks)**

b. What are the sources of water into mine? What are the methods to prevent the water into mine? **(04 Marks)**

OR

2 a. Explain the characteristics curves of centrifugal pump, with various curves. **(10 Marks)**

b. A turbine pump has 5 impellers of 33.02cm diameter running at 1440 rpm. The delivery branch is 17.78 cm bore and the suction branch is 20.32cm bore. For what rate of delivery and head should this pump suitable. Assume Manometric Co-efficient is 0.6. **(06 Marks)**

Module-2

3 a. With sketch of a road header, explain the code of practices for working roadheader. **(10 Marks)**

b. Explain the following components of a shearer :
i) Electric motors ii) Gear head iii) Cutting drum. **(06 Marks)**

OR

4 a. Explain the working principle of a coal plough with a neat sketch. **(08 Marks)**

b. Explain the working principle of coal cutting machine, with a neat sketch. **(08 Marks)**

Module-3

5 a. Explain the working principle of a chock support, with a neat sketch. **(08 Marks)**

b. Explain the working principle of a chock shield support, with a neat sketch. **(08 Marks)**

OR

6 a. Explain the working principle of a L.P.D.T, with a neat sketch. **(08 Marks)**

b. Explain the working principle of L.H.D , with a neat sketch. **(08 Marks)**

Module-4

7 a. Explain the working of a Belt conveyor, with a neat sketch. **(08 Marks)**

b. Explain the high angle conveyor, with a neat sketch. **(08 Marks)**

OR

8 a. Explain with a neat sketch, the working principle of Side discharge loader. **(08 Marks)**

b. Explain with a neat sketch, the working principle of Rocker Shovel. **(08 Marks)**

Module-5

9 a. Explain briefly about the Machinery Maintenance in Mining industry. **(08 Marks)**

b. Explain the safety aspects to be considered for Mining machineries. **(08 Marks)**

OR

10 a. Explain briefly the Automation systems used in mines. **(08 Marks)**

b. Explain briefly about the CAD. **(08 Marks)**

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