

Model Question Paper-2 with effect from 2019-20 (CBCS Scheme)

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Fourth Semester B.E. Degree Examination Mining Machinery

TIME: 03 Hours

Max. Marks: 100

Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

Module -1			*Bloom's Taxonomy Level	Marks
Q.01	a	Explain on what basis, the wire ropes are selected for effective and safe utilization in mines?	L2	10
	b	Describe how reliance capel is to be fitted on a winding rope.	L2	10
OR				
Q.02	a	With the neat sketches, explain the different types of clips used for attaching the tubs in endless rope haulage.	L2	10
	b	What safety devices are to be provided on the haulage roadways to prevent runaway of tubs?	L1	4
	c	Discuss briefly the construction and operation of any two safety devices with the help of diagrams.	L2	6
Module-2				
Q. 03	a	With the help of line diagram, explain the arrangement of belt conveyor along with its limitations.	L2	10
	b	Write the formulae to calculate capacity and power required for belt conveyors.	L1	2
	c	Calculate the carrying capacity for coal of a 1000mm belt conveyor when the cross-section of the load is of 0.075 sq. m and the belt moves at a speed of 125 m/min.	L3	8
OR				
Q.04	a	Determine the effective H.P. exerted by a locomotive engine which draws a train up an incline of 1 in 200 at the rate of 50 km/hr. The weight of the engine and train is 90 tonnes, and the frictional resistance is 6 Kg/tonne.	L4	10
	b	Maintenance of tracks in underground mines is important. Why? How they do that	L1, L2	3+7
Module-3				
Q. 05	a	List out the advantages and disadvantages of friction winding.	L1	6
	b	A loaded cage weighing 18 tonnes starts from the bottom of a shaft 700m deep with an acceleration of 1.2 m/second sq. the rope weights 12kg/m and has a breaking strain of 184 tonnes. Calculate the maximum pull in the rope and compare its actual factor of safety with the static factor of safety.	L4	14
OR				
Q. 06	a	List out different types of pumps used in underground mines.	L1	4
	b	Explain in detail the construction and functional details of centrifugal pump with their advantages and disadvantages with a neat sketch.	L2	16
Module-4				
Q. 07	a	Discuss in details the construction and operation of DERDS with the help	L2	10

		of neat labeled diagram.		
	b	Discuss in details the construction of a continuous miner with the help of neat labeled diagram along with limitations.	L2	10
OR				
Q. 08	a	Discuss in details the construction and operation of LHD with the help of neat labeled diagram.	L2	10
	b	Discuss in details the construction and operation of LPDT with the help of neat labeled diagram.	L2	10
Module-5				
Q. 09	a	List out different types of dumpers used in opencast mines.	L1	5
	b	Explain any one type of dumper, stating its specifications and its limitations.	L2	15
OR				
Q. 10	a	Discuss in details the construction and operation of a continuous surface miner with the help of neat labeled diagram.	L2	12
	b	Compare surface miner and Bucket wheel excavator used in surface mines and explain its relative merits, demerits and field of applications.	L4	08

*Bloom's Taxonomy Level: Indicate as L1, L2, L3, L4, etc. It is also desirable to indicate the COs and POs to be attained by every bit of questions.