

Name:	
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, August 2020

Programme: B. TECH (Mining Engineering)
Course: Mine Hoisting
Course Code: MIEG 432

Semester: VIII
Time: 03 hrs.
Max. Marks: 100

Instructions: All questions are compulsory

SECTION A

S. No.	Multiple Choice Questions	Marks	CO
Q 1	The pulley commonly used for endless haulages is (a) Clifton Pulley (b) V-Grooved Pulley (c) Fowler's pulley (d) All	2	CO1
Q 2	Which brake possess low inertia, fast response, and extremely smooth and precise in operation (a) Hydraulic Brakes (b) Compressed air operated brakes (c) Disc brake (d) Shoe or drum type brakes	2	CO1
Q 3	The equation of the power between a belt and a pulley system is expressed as (a) $P = (T_1 - T_2)V$ (b) $P = (T_1 + T_2)V$ (c) $P = (T_1 * T_2)V$ (d) $P = (T_1 / T_2)V$	2	CO1
Q 4	The gravitational and frictional force are acting on the braking system during (a) Braking force built up period (b) Time for deceleration (c) Brake dead time (d) All	2	CO1
Q 5	The maximum operating distance for Main & Tail Rope Haulage is (a) 40 km (b) 20 km (c) 30 km (d) 60 km	2	CO2
Q 6	Coping with larger outputs is possible in the rope haulages (a) Over rope endless rope haulage (b) Single drum direct rope haulage (c) Gravity rope haulage (d) None	2	CO2

Q 7	The safety device used to prevents runaway in case of spring catch is (a) Stop blocks (b) Back catches (c) Jazz rail (d) Buffers	2	CO2
Q 8	The power of Diesel Locomotive varies from (a) 10-20 kW (b) 50-75 kW (c) 02-05 kW (d) 100-200 kW	2	CO2
Q 9	Which of the following is the operation in which the suction pipe, casing of the pump and the portion of the delivery valve are completely filled with the liquid which is to be pumped so that no air is left in the casing (a) Levelling (b) Pouring (c) Priming (d) Filling	2	CO3
Q 10	Which pump is the hybrid product between ram pump and turbine pump (a) Face Pump (b) Reciprocating Pump (c) Centrifugal Pump (d) Magator Pump	2	CO3
Q 11	Which pump consists of three rotative single acting ram pumps mounted on a same bed plate and connected to common suction and delivery pipes (a) Mono Pump (b) Duplex Pump (c) Three Throw Ram Pump (d) Drill Pump	2	CO3
Q 12	Which pump is suitable to deal with gritty water (a) Drill Pump (b) Reciprocating Pump (c) Centrifugal Pump (d) Quintuplex Pump	2	CO3
Q 13	The length of long wall coal cutter is (a) 4 m (b) 2.4 m (c) 6 m (d) 3.4 m	2	CO4
Q 14	The maximum cut using the reversible picks is (a) 200 cuts (b) 500 cuts (c) 1000 cuts (d) 2000 cuts	2	CO4
Q 15	The angle of the picks and their arrangement in the chain of the coal cutting machine depends upon (a) Material to be cut	2	CO4

	(b) Position of cut (c) Both (d) None		
SECTION B			
Q 6	Define the following pulley used in mines? (a) Clifton Pulley (b) V-Grooved Pulley (c) Fowler's pulley	3+3+4	CO1
Q 7	Discuss about the following locomotives used in the mines and their advantages as well as disadvantages: (a) Diesel Locomotive (b) Electric Locomotive	2+1.5+1.5+2 +1.5+1.5	CO2
Q 8	Describe centrifugal pumps and write their working mechanism, advantages, disadvantages and application.	3+2+1.5+1.5 +2	CO3
Q 9	Write in details about the double acting ram pump used in mines and its advantages and disadvantages. OR Write in details about the three-throw ram pump used in mines and its application, advantages and disadvantages	4+3+3 4+2+2+2	CO3
Q 10	Write in details about the following coal cutting machine used in mines: (a) Percussive coal cutter (b) Arc wall coal cutter	5+5	CO4
SECTION-C			
Q 10	(a) Write in detailed about the following Locomotives used in mines and their advantages and disadvantages: (i.) Electric Battery Locomotive (ii.) Compressed Air Locomotive (b) Discuss the following in details (i.) Exhaust conditioner and flame trap (ii.) Manholes OR Write detailed notes on the following unit of the coal cutting machine used in mines: (a) The Cutting Unit (b) The Hauling Unit (c) The Drilling Unit	5+5+5+5 7+6+7	CO2 CO4