

## Model Question Paper -1 with effect from 2020-21(CBCS Scheme)

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### Fifth Semester B.E. Degree Examination Underground Coal Mining

TIME: 03 Hours

Max. Marks: 100

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

Module – 1			
<b>Q.1</b>	(a)	Discuss the current status of coal mining industry in India.	5
	(b)	Describe the rank and grade of coal available in India.	5
	(c)	Explain opening up of coal seams by surface drifts or incline.	10
<b>OR</b>			
<b>Q.2</b>	(a)	Discuss the factors involved in opening of Coal Seams by Adits	10
	(b)	Explain the Basic Underground Coal Mining Methods.	5
	(c)	Summaries the Factors influencing choice of mining methods.	5
<b>Module – 2</b>			
<b>Q.3</b>	(a)	Discuss about the Bord and Pillar Mining System.	5
	(b)	Explain the factors affecting the design of Bord and pillar working.	5
	(c)	Explain Blasting of the solid method of development in Bord and Pillar Mining?	10
<b>OR</b>			
<b>Q.4</b>	(a)	Explain with a layout, the method of development in Bord and Pillar Mining by using continuous Miners?	10
	(b)	Explain the preparatory arrangement required for depillaring.	5
	(c)	Describe the principles of pillar extraction in bord and pillar mining system.	5
<b>Module – 3</b>			
<b>Q.5</b>	(a)	Explain the different variants of Longwall Face layouts.	10

	(b)	Explain with a diagrammatic illustration, double unit longwall face working.	10
<b>OR</b>			
<b>Q.6</b>	(a)	Explain the applications, advantages and disadvantages of longwall mining.	5
	(b)	Summaries the factors affecting length and width of longwall panel.	5
	(c)	Explain with a diagram, mining by single unit longwall face system.	10
<b>Module – 4</b>			
<b>Q.7</b>		With neat sketches, explain the characteristics of types of immediate roofencountered in long wall panels during extraction.	20
<b>OR</b>			
<b>Q.8</b>	(a)	Discuss the support system used inlongwall face and gate roads.	10
	(b)	Explain with a neat sketch, method of working a thin coal seam by long wall mining.	10
<b>Module – 5</b>			
<b>Q.9</b>	(a)	Explain Blasting Gallery method of Mining thick seam.	10
	(b)	Discuss the applications and limitations of Hydraulic Mining.	10
<b>OR</b>			
<b>Q.10</b>	(a)	Explain with a neat sketch Horizon mining.	10
	(b)	Describe the conditions suitable for underground gasification of coal.	10

Table showing the Bloom's Taxonomy Level, Course Outcome and Programme Outcome				
Question		Bloom's Taxonomy Level attached	Course Outcome	Programme Outcome
Q.1	(a)	Understand	CO1	PO7
	(b)	Remember	CO1	PO1
	(c)	Analyze	CO1	PO2
Q.2	(a)	Understand	CO1	PO1
	(b)	Analyze	CO1	PO2
	(c)	Analyze	CO1	PO7
Q.3	(a)	Understand	CO2	PO2
	(b)	Analyze	CO2	PO7
	(c)	Understand	CO2	PO3
Q.4	(a)	Analyze	CO2	PO3
	(b)	Analyze	CO2	PO2
	(c)	Remember	CO2	PO3
Q.5	(a)	Analyze	CO3	PO8
	(b)	Analyze	CO3	PO2
Q.6	(a)	Understand	CO3	PO1
	(b)	Analyze	CO3	PO2
	(c)	Analyze	CO3	PO6
Q.7		Analyze	CO3	PO12
Q.8	(a)	Understand	CO3	PO2
	(b)	Analyze	CO3	PO1
Q.9	(a)	Analyze	CO4	PO3
	(b)	Understand	CO4	PO2
Q.10	(a)	Analyze	CO4	PO2
	(b)	Remember	CO4	PO3
Bloom's Taxonomy Levels	<b>Lower order thinking skills</b>			
	Remembering( knowledge): $L_1$	Understanding Comprehension): $L_2$	Applying (Application): $L_3$	
	<b>Higher order thinking skills</b>			
	Analyzing (Analysis): $L_4$	Valuating (Evaluation): $L_5$	Creating (Synthesis): $L_6$	

