Roll No. | | | | | | | | | | |

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. /B.Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, NOV / DEC 2024

MINING ENGINEERING
Seventh Semester
MI 5013-ENVIRONMENTAL MANAGEMENT FOR SUSTAINABLE MINING
(Regulation 2019)

Time:3hrs Max.Marks: 100

CO1	The students will have basic knowledge on concepts of ecology.
CO2	The students will have knowledge about various pollutants including acid rain, greenhouse gases, etc
CO3	The students will have knowledge about impacts of pollution.
CO4	The students will have adequate knowledge on cost benefit analysis, environmental administration, etc.
CO5	The students will have knowledge on pollution its control and ecological systems along with related laws

BL – Bloom's Taxonomy Levels
(L1-Remembering, L2-Understanding, L3-Applying, L4-Analysing, L5-Evaluating, L6-Creating)

PART- A(10x2=20Marks)
(Answer all Questions)

Q.No.	Questions	Marks	CO	BL
1	Illustrate the eco-friendly practices to be adopted in mining operations to promote the sustainable mining method.	2	CO1	L1
2	Classify the biotic and abiotic components.	2	CO1	L2
3	Define the term 'environmental resilience'.	2	CO2	L3
4	Write short notes on acid mine drainage.	2	CO2	L3
5	State the scope of field application of geo-textile.	2	CO3	L3
6	Mention the significance of mine water management in coal mining industry.	2	CO3	L2
7	Elaborate the role of NABET to maintain the quality assurance of environmental data.	2	CO4	L3
8	What do you mean by CRZ zone, as per notification 2011 and 2019?	2	CO4	L2
9	What are the colour category in CEPI for specific location?	2	CO5	L3
10	Depict the significance of ecosystem services.	2	CO5	L3

PART- B(5x 13=65Marks)
(Restrict to a maximum of 2 subdivisions)

Q.No.	Questions	Marks	CO	BL
11 (a)	Describe in detail the principles, concept and significance of cumulative environment impact assessment. Distinguish between environment impact assessment and strategic environment impact assessment.	13	CO1	L2
	OR			
11 (b)	Describe the details of legislation related to protection, preservation and conservation of forest and hill areas in Tamil Nadu.	13	CO1	L2

12 (a)	Describe in detail of instrumentation and measurement of air pollutants to determine the air quality from the mining operations in core and buffer zone as per CPCB guidelines. Also, discuss the control and preventive measures for air pollution.	**13**	CO2	L3
	OR			
12 (b)	Discuss in detail of environmental pollutants due to mining operations in surface and underground working environment. Also, describe the sources, hazards, sampling and analysis of pollutants and their effect on human health.	**13**	CO2	L3
13 (a)	Explain the scientific procedure to determine the ground induced blast vibration with numerical expression for predictor equation and neat sketches and graphs in core and buffer zones as per DGMS guidelines.	**13**	CO3	L3
	OR			
13 (b)	Explain the scientific procedure to determine the noise from the mining operations in order to plot the noise map of ambient noise in core zone with neat sketches and graphs.	**13**	CO3	L3
14 (a)	Describe the salient role and responsibilities of SEIAA members. Also, explain need of green fund collection from the mining projects.	**13**	CO4	L4
	OR			
14 (b)	Explain in detail of scope and standard flowchart for estimation of Environmental Damage Compensation (EDC) as per CPCB guidelines with a case study.	**13**	CO4	L4
15 (a)	Discuss in detail procedure to be adopted after the terms of reference issued for the mining project. Also, indicate the significance and time of completion of TOR.	**13**	CO5	L2
	OR			
15 (b)	Discuss in detail of statutory provisions in Environment Protection Act, Air Act and Water Act for the mining project.	**13**	CO5	L2

PART- C(1x 15=15Marks)

(Q.No.16 is compulsory)

Q.No.	Questions	Marks	CO	BL
16.	Discuss in detail of procedure to be followed to obtain the environmental clearance for a mining project located in hillock terrain where the reserved forest is located at the distance of 3km and HTL line is exist at the distance of 350m from the core zone of proposed site.	**15**	CO5	L5