SET A

Name: **Enrolment No:**	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Programme: B. Tech (Mining Engineering) — **Semester: VI**
Course: Mine Environmental Engineering — **Time: 03 hrs**
Course Code: MIEG 323 — **Max. Marks: 100**
Instructions: All questions are compulsory

SECTION A

S. No.		Marks	CO
Q 1	Discuss the source of air pollution and its impact on mine environment?	**4**	**CO1**
Q 2	Describe sources and effects of noise pollution in brief?	**4**	**CO2**
Q 3	Discuss biochemical oxygen demand (BOD) and chemical oxygen demand (COD) in brief?	**2+2**	**CO3**
Q 4	Discuss the overburden material and Tailings in brief?	**2+2**	**CO4**
Q 5	Explain the use of Sustainable Development Framework (SDF) in mining sector?	**4**	**CO5**
	SECTION B		
Q 6	Describe the working principle, advantages and disadvantages of the electrostatic precipitator with neat sketch?	**10**	**CO1**
Q 7	Determine the day-night equivalent value of sound level (L_{dn}) at a location where three-hourly day average values of noise in dB are 48, 54, 56, 52, 61 and three-hourly night average values in dB are 36, 42, and 48 respectively.	**10**	**CO2**
Q 8	(a) Describe the following water pollution from mining i) Acid Mine Drainage ii) Heavy Metal Contamination & Leaching iii) Processing Chemicals Pollution iv) Erosion and Sedimentation (b) Determine the five days 20°C BOD if BOD of a sewage incubated from one day at 30°C has been found to be 100 mg/L. Assume K = 0.12 (base 10) at 20°C, and θ = 1.056.	**6+4**	**CO3**
Q 9	(a) Describe in detail the following tailing disposal method i) Tailings Impoundments ii) Upstream Method iii) Downstream Method iv) Centerline Method OR (b) Explain in details about Forestry Reclamation Approach and Holistic Approach for land reclamation process in mines?	**2.5+2.5+2.5 +2.5** **5+5**	**CO4**

SECTION-C			
Q 10	(a) Explain in details the key principles of the Sustainable Development Framework (SDF) for the mining sector? (b) Explain the expected long-term outcomes of the Sustainable Development Framework (SDF) for the mining sector?	**16+4**	**CO5**
Q 11	(a) Explain in detail the process and benefits of the Environmental Impact Assessments (EIA) in mining sector? (b) Explain in detail the different checklist of the environmental impact scoping in mining sector? OR (a) Describe in detail the objectives and different issues for mine closer plan? (b) Explain in detail the different guidelines for mine closer plan?	**10 + 10** **10 + 10**	**CO6**

SET B

Name: **Enrolment No:**	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Programme: B. Tech (Mining Engineering) **Semester: VI**
Course: Mine Environmental Engineering **Time: 03 hrs**
Course Code: MIEG 323 **Max. Marks: 100**
Instructions: All questions are compulsory

SECTION A

S. No.		Marks	CO
Q 1	Write short notes on Particulate Matter?	**4**	**CO1**
Q 2	Write down the different sources and effects of noise pollutions in mining sector?	**2+2**	**CO2**
Q 3	Write short notes on biochemical oxygen demand (BOD) and chemical oxygen demand (COD)?	**2+2**	**CO3**
Q 4	Discuss the overburden material and its disposal in mines?	**4**	**CO4**
Q 5	Write down the eight major key principles of the Sustainable Development Framework (SDF) for the mining sector?	**4**	**CO5**
	SECTION B		
Q 6	Describe the working principle, advantages and disadvantages of the fabric filters with neat sketch?	**10**	**CO1**
Q 7	(a) The noise levels at a particular location are 65 dB, 70 dB and 78 dB measured during an hour of the day. Find out the average noise levels at that location. (b) Find out the noise level in dB if the sound pressure level of a particular location is measured at 5×10^{-4} N/m^2.	**5+5**	**CO2**
Q 8	Describe the following water pollution from mining (i) Acid Mine Drainage (ii) Heavy Metal Contamination & Leaching (iii) Processing Chemicals Pollution (iv) Erosion and Sedimentation	**2.5+2.5+ 2.5+2.5**	**CO3**
Q 9	(a) Explain in details the major types of waste generated in mines and their disposal plan? OR (b) Explain in details about mine reclamation approach for land process in mines?	**10** **10**	**CO4**
	SECTION-C		
Q 10	(a) Discuss in details the major key principles involved in the Sustainable Development Framework (SDF) for the mining sector? (b) List out the long-term outcomes of the Sustainable Development Framework (SDF) for the mining sector?	**10+10**	**CO5**
Q 11	(a) Explain in detail the process and benefits of the Environmental Impact	**20**	**CO6**

	Assessments (EIA) in mining sector? OR (b) Describe in detail the guidelines for mine closer plan?	**20**	