

Enrollment No.....



Faculty of Engineering
End Sem Examination Dec 2024
CE3CO26 Environmental Engineering -II

Programme: B.Tech.

Branch/Specialisation: CE

Duration: 3 Hrs.**Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

		Marks	BL	PO	CO	PSO
Q.1	i. The process that involves connecting pipelines and sewer appurtenances to transport waste to sewage treatment centres is called-	1	2	7	3	2
	(a) Sewage construction					
	(b) Pipelines construction					
	(c) Sewer construction					
	(d) Connecting pipelines					
	ii. Sewer systems can also be referred as-	1	1	7	1	2
	(a) Sewage					
	(b) Sewerage					
	(c) Storm					
	(d) Wastewater					
	iii. What does BOD stand for?	1	1	7	1	2
	(a) Biological Oxygen Depicit					
	(b) Basic Oxygen Demand					
	(c) Biochemical Oxygen Demand					
	(d) Biological Organic Demand					
	iv. Which of the following parameters is primarily used to measure the organic matter in water?	1	1	7	2	2
	(a) COD					
	(b) BOD					
	(c) TOC					
	(d) All of these					
	v. What does the term "BOD" indicate in the context of sewage?	1	2	7	1	2
	(a) The amount of organic matter present					
	(b) The presence of heavy metals					
	(c) The total number of microorganisms					
	(d) The pH level of the sewage					

[2]

vi.	Which of the following is a physical characteristic of sewage?	1	2	7	1	2
	(a) BOD					
	(b) Color					
	(c) pH					
	(d) Total Suspended Solids (TSS)					
vii.	In the activated sludge process, what is primarily being cultivated?	1	2	7	4	2
	(a) Solids					
	(b) Sludge					
	(c) Microorganisms					
	(d) Nutrients					
viii.	Which of the following processes is used for sludge conditioning?	1	2	7	4	2
	(a) Filtration					
	(b) Aeration					
	(c) Stabilization					
	(d) Chemical addition					
ix.	Which of the following is a major source of air pollution?	1	1	7	1	2
	(a) Industrial emissions					
	(b) Vegetation					
	(c) Ocean waves					
	(d) Solar radiation					
x.	Which of the following is an example of a secondary pollutant?	1	1	7	1	2
	(a) Carbon monoxide (CO)					
	(b) Ozone (O ₃)					
	(c) Nitrogen oxides (NO _x)					
	(d) Sulfur dioxide (SO ₂)					
Q.2	i. What is storm water quantity?	2	1	7	1	2
	ii. Explain in brief conservancy and water carriage system.	8	1	7	1	2
OR	iii. What are the different fluctuations in sewage flow?	8	2	7	3	2
Q.3	i. What is oxygen sag analysis?	2	1	7	2	2
	ii. What are the physical parameters chemical parameters and biological parameters?	8	2	7	4	2
OR	iii. What is the difference between BOD and COD?	8	2	7	4	2

[3]

Q.4	i. Explain skimming tank in brief.	2	1	7	1	2
	ii. What is the secondary process of sewage treatment?	8	1	7	3	2
OR	iii. Discuss screening and grit chamber in brief.	8	1	7	3	2
Q.5	i. What is sludge disposal?	4	1	7	3	2
	ii. What is an activated sludge process?	6	1	7	3	2
OR	iii. Discuss in brief oxidation pond and ditch.	6	1	7	4	2
Q.6	Attempt any two:					
	i. What are the sources of air pollution?	5	1	7	1	2
	ii. Write down different types of air pollutants and explain any one of them.	5	1	7	1	2
	iii. What are gravitational settling chambers?	5	1	7	4	2

Marking Scheme
CE3CO26 Environmental Engineering-II

Q.1	i)	a) Sewage construction d) Sewer construction	1
	ii)	b) Sewerage	1
	iii)	c) Biochemical Oxygen Demand	1
	iv)	d) All of the above	1
	v)	a) The amount of organic matter present	1
	vi)	b) Color d) TSS	1
	vii)	c) Microorganisms	1
	viii)	d) Chemical addition	1
	ix)	a) Industrial emissions	1
	x)	b) Ozone (O ₃)	1

Q.2	i.	What is storm water Quantity?	2
		Definition 2 marks	
	ii.	Explain in brief Conservancy and?	8
		Definition of Conservancy 4 marks	
		Definition of Water carriage system 4 marks	
OR	iii.	What are the different fluctuations in sewage flow?	
		Definition 3 marks	
		types 5 marks	

Q.3	i.	What is oxygen sag analysis?	2
		Definition 2 marks	
	ii.	What are the physical parameters chemical parameters and biological parameters?	8

Definition 2 marks

Each definition 2 marks

OR	iii.	What is the BOD and COD and also difference between BOD and COD?	8
----	------	--	---

Definition 4 marks

Differences 4 marks

Q.4	i.	Explain in brief skimming tank?	2
-----	----	---------------------------------	---

Definition 2 marks

	ii.	What is the secondary process of sewage treatment?	8
--	-----	--	---

Definition 4 marks

Treatment process 4 marks

OR	iii.	Discuss in brief?	8
----	------	-------------------	---

Definition 4 marks

screening and grit chamber 4 marks

Q.5	i.	What is sludge disposal?	4
-----	----	--------------------------	---

Definition 4 marks

	ii.	What is an activated sludge process?	6
--	-----	--------------------------------------	---

Definition & explanation 6 marks

OR	iii.	Discuss in brief oxidation pond and ditch?	6
----	------	--	---

Definition & explanation 6 marks

Q.6		Attempt any two:	
-----	--	------------------	--

	i.	What are the sources of air pollution?	5
--	----	--	---

Definition & explanation 5 marks

	ii.	How many types of air pollutants? Explain any one?	5
--	-----	--	---

Definition & explanation 5 marks

	iii.	What are gravitational settling chambers?	5
--	------	---	---

Definition & explanation 5 marks

[2]

[3]
