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MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
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VII SEMESTER B.TECH. (CIVIL ENGINEERING)
END SEMESTER EXAMINATION NOV 2022
SUBJECT: INDUSTRIAL WASTE WATER TREATMENT
PE-IV [CIE-4057]

REVISED CREDIT SYSTEM

(/ 11 / 2022)

Time:

Max Marks: 50

Instructions to Candidates:

- ❖ Answer **ALL** the questions.
- ❖ Missing data may be suitably assumed.
- ❖ Draw neat sketches wherever necessary.

SL. NO.	QUESTIONS	MARKS	CO's	BL
1A.	Discuss the general characteristics of industrial wastewater.	05	CO2	2
1B.	With a sketch of DO profile, explain different zones of pollution in stream.	03	CO1	2
1C.	What are unit operations and unit processes? Give examples.	02	CO2	3
2A.	What are volume reduction techniques for industrial wastewater? Explain any two in detail.	05	CO3	3
2B.	Define self-purification of streams and explain the factors supporting it.	03	CO1	1
2C.	Mention some measures that can be taken to reduce the likelihood of accidents and severity in industries.	02	CO3	2
3A.	Explain the following unit operations: i) Sedimentation ii) Equalization iii) Flow proportioning	05	CO2	3
3B.	Explain the sources and characteristics of waste from fisheries.	03	CO3	2

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3C.	What are the different liquors produced during the process of paper manufacturing?	02	CO4	2
4A.	Illustrate with a flow chart the process of manufacturing dairy products in a dairy industry.	05	CO4	3
4B.	Explain the steps of dry operations in production of yarn from raw cotton.	03	CO4	3
4C.	Give the sources of pollutants and characteristics of waste from thermal power plants.	02	CO4	2
5A.	Explain in brief with a flow chart the process of sugar manufacturing.	05	CO4	3
5B.	Explain the Common effluent treatment plant and its pros and cons.	03	CO5	2
5C.	Define hazardous waste and explain its characteristics.	02	CO5	2