

(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2026

(Second Semester)

Branch – **ENVIRONMENTAL SCIENCE**

WATER POLLUTION AND MANAGEMENT

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks

(10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	The percentage of fresh water in the earth is a) 20% b) 11.5 % c) 95% d) 2.5%	K1	CO1
	2	Water is known as universal solvent is due its a) Density b) Polarity c) Buoyancy d) Conductivity	K1	CO1
2	3	Which of the following is PCP contamination in water? a) Sulphate and nitrate b) Triclosan c) Mercury d) Dioxin	K2	CO2
	4	Which of the following is an example of nonpoint source pollution? a) Flume channel b) Water from sewage treatment plant c) Agricultural fertilizer runoff d) Municipal waste runoff	K2	CO2
3	5	What is the typical pore size range of membrane filters for effective removal of bacteria from liquids? a) 0.5 µm – 1 µm b) 0.01 µm – 0.1 µm c) 0.2 µm – 0.45 µm d) Above 10 µm	K1	CO3
	6	Trickling filters offer significant advantages over activated sludge processes (ASP) by a) Effective Pollutant Removal b) 70% additional nutrient removal c) 30–50% lower energy consumption d) Removal of salts	K2	CO3
4	7	Ion exchange process is mainly employed to remove a) Organic wastes b) Heavy metals c) Oil and grease d) calcium, magnesium, sodium	K1	CO4
	8	Modern incinerator operates in following temperature a) 850-1100 °C b) 200-500 °C c) 3000 - 4000 °C d) 2000 - 3000 °C	K1	CO4
5	9	What does "RTU" stand for in a water monitoring SCADA system? a) Remote Terminal Unit b) Real Terminal Unit c) Real Time Utility d) Ready Time Unit	K2	CO5
	10	Blue water footprint represents a) Water used in industrial processes, not agricultural b) Domestic utilization of water c) Volume of surface water consumed to produce goods and services d) Quantity of water in Oceans	K2	CO5

Cont...

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

(5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Distinguish between surface flow and sub-surface flow.	K3	CO1
	(OR)			
	11.b.	Categorize water shed, tributaries and river basin with an illustration.		
2	12.a.	Why eutrophication is an ecological issue?	K3	CO2
	(OR)			
	12.b.	Elucidate the impacts of thermal pollution.		
3	13.a.	Determine the efficiency of flocculation and coagulation in terms of pollutants.	K5	CO3
	(OR)			
	13.b.	Explain and interpret why certain coastal regions in India suffer from ground water contamination.		
4	14.a.	Choose the best treatment available for phosphorous removal and justify with reasoning.	K5	CO4
	(OR)			
	14.b.	Describe and support the design and working of constructed wetland.		
5	15.a.	Compile the components of MBBR and identify its edge over other treatment methods.	K6	CO5
	(OR)			
	15.b.	Explain the role of water audit in industries.		

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks

(3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Define the unique physical properties of water and relate its role in environmental processes and human well-being.	K4	CO1
2	17	Analyze in contrast the differences between point and non-point sources of pollution. Discuss their environmental and health impacts.	K4	CO2
3	18	Compare anaerobic treatment technologies and suggest the best for municipal sewage.	K5	CO3
4	19	Classify the sludge treatment stages and its mechanism with efficiencies.	K5	CO4
5	20	Analyze and synthesize the best traditional systems for water conservation and management.	K6	CO5

Z-Z-Z

END