

Branch -CHEMISTRY

ENVIRONMENTAL CHEMISTRY

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	_____ is the study of interaction between living organisms and their environment (i) Biology (ii) Ecology (iii) Geology (iv) Sociology	K1	CO1
	2	_____ is the major reservoir of Phosphorous in the phosphorus cycle (i) Atmosphere (ii) Oceans (iii) Rocks (iv) Plants	K2	CO1
2	3	_____ gas is mainly responsible for the greenhouse effect (i) Nitrogen (ii) Carbon dioxide (iii) Hydrogen (iv) Helium	K1	CO2
	4	The brown gas responsible for photochemical smog formation is _____ (i) SO ₂ (ii) CO (iii) NO ₂ (iv) O ₂	K2	CO2
3	5	Pollution caused by suspended solids that increase water turbidity is called _____ pollution (i) Physical (ii) chemical (iii) biological (iv) physiological	K1	CO3
	6	Organic wastes that reduce dissolved oxygen in water are called as _____ (i) Nutrients (ii) Sediments (iii) Oxygen demanding wastes (iv) Inorganic salts	K2	CO3
4	7	Which method of desalination is based on semi-permeable membrane ? (i) Electrodialysis (ii) Reverse osmosis (iii) Coagulation (iv) Sedimentation	K1	CO3
	8	The biological treatment process using microorganisms and aeration is called as _____ (i) Primary treatment (ii) Activated sludge process (iii) Screening (iv) Coagulation	K2	CO3
5	9	Pollution of soil by excessive use of chemical fertilizers is mainly due to _____ (i) Industrial waste (ii) Agricultural practices (iii) Radioactive waste (iv) Urban sewage	K1	CO4
	10	The long-term inherited effect of radiation is _____ (i) Somatic effect (ii) Genetic effect (iii) Thermal effect (iv) Chemical effect	K2	CO4

Cont...

Answer **ALL** questions
ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Illustrate the oxygen cycle along with its importance.	K4	CO1
		(OR)		
	11.b.	Analyze the objectives and principles of environmental education.		
2	12.a.	Explain the formation and effects of London smog.	K5	CO2
		(OR)		
	12.b.	Explain the formation of ozone and the mechanism of ozone depletion.		
3	13.a.	Outline the eutrophication, its types and effects.	K2	CO3
		(OR)		
	13.b.	Infer the sources and effects of thermal pollution.		
4	14.a.	Make a note on chemical, physical methods of sterilization and terms of chlorination.	K2	CO3
		(OR)		
	14.b.	How is hardness of water determined? Explain in detail the removal of hardness by ion exchange method.		
5	15.a.	Identify the classification of pesticides and explain the environmental effects of pesticide pollution.	K3	CO4
		(OR)		
	15.b.	Describe the effects of industrial pollutants and urban waste on soil.		

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	Inspect health and environment, women and environment, and environmental protection actions in detail.	K4	CO1
2	17	Explain the control and analysis methods of CO _x , NO _x , SO _x , hydrocarbons and particulate pollutants.	K5	CO2
3	18	Elaborate the effects of any five organic pollutants.	K2	CO3
4	19	Outline the sewage, its composition and treatment for sewage.	K2	CO3
5	20	With reference to industrial waste, agricultural practices and chemical & metallic pollutants, discuss soil pollution in detail.	K3	CO4

Z-Z-Z END