PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

PG DEGREE EXAMINATION DECEMBER 2025
(Third Semester)

TRANS DISCIPLINARY COURSE
(Common to PG Programmes)

ELEMENTS OF ENVIRONMENTAL POLLUTION

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** marks (10 × 1 = 10)

Question No.	Question	K Level	CO
1	Which of the following is a biotic component of the environment? a) Air b) Water c) Soil d) Plants	K1	CO1
2	The concept of 5Rs in sustainable development includes: a) Reduce, Reuse, Recycle, Refuse, Recover b) Read, Record, Recall, Revise, Repeat c) Repair, Replace, React, Rebuild, Reinvest d) Reduce, Repair, Reuse, Rewrite, Reinvest	K1	CO1
3	Which of the following is a secondary air pollutant formed by chemical reactions in the atmosphere? a) Carbon monoxide b) Sulphur dioxide c) Ozone (O_3) d) Lead (Pb)	K2	CO2
4	Noise pollution is considered harmful mainly because it: a) Increases soil fertility b) Enhances photosynthesis in plants c) Causes stress, hearing loss, and reduced concentration in humans d) Improves human immune system	K2	CO1
5	What is eutrophication? a) Increase in dissolved oxygen in water b) Enrichment of water by nutrients leading to excessive growth of algae c) Reduction of water temperature d) Process of water purification in STP	K1	CO1
6	Which of the following is a point source of water pollution? a) Agricultural runoff b) Atmospheric deposition c) Rainwater carrying pesticides d) Industrial effluent discharge	K2	CO2
7	Which of the following is an example of natural soil pollution? a) Volcanic ash b) Industrial waste c) Pesticides d) Plastic dumping	K1	CO2
8	Bioremediation is a process that: a) Uses plants to clean soil b) Uses microorganisms to degrade pollutants c) Uses chemicals to neutralize soil pH d) Adds fertilizers to improve soil fertility	K2	CO1
9	Vermicomposting is a process that uses: a) Microorganisms to treat industrial effluent b) Chemicals to neutralize waste c) Worms to decompose organic waste d) Sunlight to dry solid waste	K1	CO1
10	Biogas production from solid waste is primarily useful for: a) Increasing soil fertility b) Generating renewable energy c) Reducing water pollution d) Producing industrial chemicals	K2	CO1

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions

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

Question No.	Question	K Level	CO
11.a.	Analyse the effectiveness of 4R concepts in achieving sustainable development.	K4	CO2
	(OR)		
11.b.	Compare point source and non-point source pollution with suitable examples.		
12.a.	Evaluate the role of greenhouse gases in global warming and climate change, with emphasis on human contributions.	K4	CO2
	(OR)		
12.b.	Analyze how primary and secondary air pollutants differ in origin and impact, with suitable examples.		
13.a.	Critically assess the impacts of eutrophication on aquatic ecosystems.	K5	CO4
	(OR)		
13.b.	Critically assess the role of Biological Oxygen Demand (BOD) as an indicator of water quality.		
14.a.	Critically examine the role of organic farming in reducing soil pollution compared to inorganic farming.	K5	CO4
	(OR)		
14.b.	Evaluate the effectiveness of bioremediation over phytoremediation in treating contaminated soils.		
15.a.	Examine the long-term ecological consequences of soil pollution on food security.	K6	CO4
	(OR)		
15.b.	Justify the need for integrating bioremediation technologies in modern waste management systems.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Question No.	Question	K Level	CO
16	Analyze the major types of environmental pollution -air, water, thermal, and noise by discussing their sources and assessing their effects on human health and the environment.	K4	CO3
17	Examine the causes, effects, and control strategies of noise pollution with reference to public health and urban development.	K4	CO4
18	Critically assess the effects of soil pollution on human health, plants, animals, and groundwater. Propose integrated strategies for soil remediation.	K5	CO5
19	Evaluate the effectiveness of Sewage Treatment Plants (STPs) and Effluent Treatment Plants (ETPs) in controlling water pollution. Suggest improvements.	K5	CO4
20	Evaluate the effectiveness of bioremediation and phytoremediation in managing soil pollution compared to conventional methods.	K6	CO4

Z-Z-Z END