22ESP315N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2025
(Third Semester)

Branch – **ENVIRONMENTAL SCIENCE**

CLIMATE CHANGES AND MANAGEMENT

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 layer of the atmosphere is responsible for weather phenomena? a) Stratosphere b) Mesosphere c) Thermosphere d) Troposphere	K1	CO1
2	What is the average period over which climate is measured? a) 5 years b) 10 years c) 30 years d) 100 years	K2	CO1
3	Which of the following is the largest source of carbon dioxide (CO_2) emissions globally? a) Deforestation b) Industrial processes c) Transportation d) Fossil fuel combustion	K1	CO1
4	The waste management sector contributes to greenhouse gas emissions primarily through: a) Carbon dioxide emissions from incineration b) Methane emissions from landfills c) Nitrous oxide emissions from waste decomposition d) Sulfur emissions from waste combustion	K2	CO2
5	Which of the following sectors has the potential to significantly reduce emissions through the adoption of renewable energy sources? a) Agriculture b) Transportation c) Energy production d) Waste management	K1	CO2
6	Which strategy is an example of mitigation in the industrial sector? a) Carbon capture and storage (CCS) technologies b) Raising factory temperatures c) Expanding the use of coal d) Increasing chemical emissions	K2	CO2
7	Which of the following is an example of a natural disaster? a) Industrial chemical spill b) Earthquake c) Oil refinery explosion d) Cyberattack on infrastructure	K1	CO3
8	What is the primary focus of disaster mitigation? a) Managing the impacts of a disaster after it happens b) Reducing the severity and risk of future disasters c) Speeding up the natural recovery process d) Providing temporary shelter to disaster victims	K2	CO3
9	Which phase of disaster management focuses on reducing the risk of future disasters? a) Response b) Recovery c) Mitigation d) Emergency relief	K1	CO4
10	Disaster preparedness involves: a) Actions taken after a disaster to help in recovery b) Building better infrastructure post-disaster c) Planning, training, and establishing early warning systems before disasters occur d) Increasing the risk of future disasters through development projects	K2	CO4

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions

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

Question No.	Question	K Level	CO
11.a.	Explain the structure and functioning of the IPCC.	K2	CO1
	(OR)		
11.b.	Explain the relationship between La Niña and increased cyclone activity in the Indian Oceans.		
12.a.	Distinguish the carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) gases in terms of their global warming potential.	K4	CO1
	(OR)		
12.b.	Categorize the types of precipitation.		
13.a.	Compare the carbon storage potential of below-ground biomass with that of above-ground biomass.	K4	CO2
	(OR)		
13.b.	Compare carbon tax policies from different countries.		
14.a.	How does climate change influence the frequency and severity of natural disasters?	K3	CO3
	(OR)		
14.b.	How do disasters contribute to biodiversity loss and ecosystem degradation?		
15.a.	How can climate change adaptation strategies reduce the vulnerability of communities to disasters such as floods, droughts, and heatwaves?	K3	CO4
	(OR)		
15.b.	How do the amendments in CRZ Notification 2019 aim to balance development and environmental conservation?		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

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

Question No.	Question	K Level	CO
16	Discuss the main objectives of the UNFCCC.	K6	CO1
17	Analyze the climate change impact on biodiversity.	K4	CO1
18	Classify the carbon sequestration techniques.	K4	CO2
19	Evaluate the risk and susceptibility of natural disaster.	K5	CO3
20	Explain the Disaster management cycle.	K5	CO4

Z-Z-Z END