

SRM VALLIAMMAI ENGINEERING COLLEGE
(An Autonomous Institution)

SRM Nagar, Kattankulathur – 603 203

DEPARTMENT OF MECHANICAL ENGINEERING

QUESTION BANK



III SEMESTER

1917310: DISASTER MANAGEMENT
(M.E. INDUSTRIAL SAFETY ENGINEERING)

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SUBJECT CODE/NAME : 1917310-DISASTER MANAGEMENT

SEM / YEAR:III/II

UNIT I -INTRODUCTION			
Philosophy of Disaster management-Introduction to Disaster mitigation-Hydrological, Coastal and Marine Disasters-Atmospheric disasters-Geological, meteorological phenomena-Mass Movement and Land Disasters-Forest related disasters-Wind and water related disasters-deforestation-Use of space technology for control of geological disasters-Master thesis			
<u>PART A</u>			
Q.No	Questions	BT Level	Competence
1.	Give some points on forest disaster.	BT-2	Understand
2.	Forest disaster manmade or natural? Give reasons.	BT-1	Remember
3.	List out the commonly known wind disaster.	BT-1	Remember
4.	List out four phases of disaster management.	BT-1	Remember
5.	Brief about Coastal disaster.	BT-1	Remember
6.	What are the consequences of Coastal disaster?	BT-3	Apply
7.	Define Hydrological disaster.	BT-2	Understand
8.	How meteorological phenomenon have impact on disaster?	BT -1	Remember
9.	Explain the effect of flood on human life.	BT-2	Understand
10.	What is coastal disaster?	BT-2	Understand
11.	Mention some effects of marine disaster.	BT-3	Apply
12.	Is Disaster mitigation a best step than other in a disaster management cycle?	BT-3	Apply
13.	Space technology uses many satellites. List out some of them.	BT-3	Apply
14.	What is IRS?	BT-4	Analyze

15.	List out ill effects of cyclones.	BT-4	Analyze
16.	Define ICST.	BT-4	Analyze
17.	What is remote sensing?	BT-5	Evaluate
18.	Elaborate GPS.	BT-5	Evaluate
19.	Disaster management has 4C problem. What is 4C?	BT-6	Create
20.	What do you know about space debris?	BT-6	Create
<u>PART B</u>			
1.	What is disaster management and when it is carried out?	BT-1	Remember
2.	List out points on preparedness in disaster management.	BT-1	Remember
3.	What are the factors affecting response effect?	BT-1	Remember
4.	Explain the principles of disaster mitigation.	BT-3	Apply
5.	Discuss effects of hydrological disaster.	BT-2	Understand
6.	Explain the effects and causes of Mass movement and Landslides.	BT-2	Understand
7.	What is the effect of forest disaster on wildlife and environment?	BT-2	Understand
8.	Marine disaster a prone to aquatic life. Explain	BT-3	Apply
9.	List out the causes and effects of Coastal disaster.	BT-3	Apply
10.	Briefly explain four stages of disaster management.	BT-1	Remember
11.	Discuss types of disaster.	BT-4	Analyze
12.	Discuss role of communication in disaster management.	BT-4	Analyze
13.	Elaborate usage of remote sensing in disaster management.	BT-5	Evaluate
14.	Write down the advantages in disaster management when space technology is used.	BT-6	Create
<u>PART C</u>			
1.	Draw the Disaster management cycle and explain it.	BT-1	Remember
2.	Explain different types of wind disaster.	BT 1	Remember
3.	Discuss effects of Geological disaster on people and economy.	BT-6	Create
4.	Give your view on the role of GIS and GPS in disaster management.	BT-4	Analyze

UNIT II : TECHNOLOGICAL DISASTERS

Technological Disasters-Case studies of Technology disasters with statistical details-Emergencies and control measures-APELL-Onsite and Offsite emergencies-Crisis management groups-Emergency centers and their functions throughout the country-Software on emergency controls-Monitoring devices for detection of gases in the atmosphere-Right to know act.

PART A

Q.No	Questions	BT Level	Competence
1.	What is technological disaster?	BT-1	Remember
2.	List out types of technological disaster.	BT-1	Remember
3.	Define chemical disaster.	BT-1	Remember
4.	What is disaster management plan?	BT-1	Remember
5.	Define APELL.	BT-1	Remember
6.	What do you know about onsite emergency plan?	BT-2	Understand
7.	Define emergency center.	BT-1	Remember
8.	Give reasons for chemical disaster.	BT-2	Understand
9.	What are the Remedies for avoiding technological disaster?	BT-2	Understand
10.	List out the elements of onsite emergency plan.	BT-2	Understand
11.	What is the role of GIS in disaster management?	BT-3	Apply
12.	Name some chemical disaster in India.	BT-3	Apply
13.	Name some air quality measuring instruments.	BT-3	Apply
14.	List out some emergency software used in India.	BT-4	Analyze
15.	Mention the criteria required for appropriate technology.	BT-4	Analyze
16.	What is GPS?	BT-4	Analyze
17.	Describe right to know act.	BT-5	Evaluate
18.	Draw a flowchart on how the software is linked to disaster.	BT-5	Evaluate
19.	State the role of GPS in disaster management.	BT-6	Create
20.	Infer how the available technology can play a large role in disasters.	BT-6	Create

PART B

1.	What are the elements of onsite emergency plan.	BT-1	Remember
2.	Technological disaster can be avoided. Explain.	BT-1	Remember
3.	What are the role of software in emergency control plan?	BT-4	Analyze
4.	Elaborate the ill effects of gases in atmosphere.	BT-3	Apply
5.	Discuss the effects of chemical disaster on long term.	BT-2	Understand
6.	Explain the ill effects of chemical disaster.	BT-2	Understand
7.	Discuss the types of emergency plan.	BT-6	Create
8.	When and what will you adopt in offsite emergency plan?	BT-3	Apply
9.	Elaborate the principles of APELL.	BT-3	Apply
10.	List out gas monitoring devices and explain.	BT-4	Analyze
11.	Differentiate onsite and offsite emergency plan.	BT-4	Analyze
12.	Discuss the role of emergency center.	BT-4	Analyze
13.	Explain some of the technological disaster.	BT-5	Evaluate
14.	State your views on crisis management groups.	BT-4	Analyze

PART C

1.	Give your suggestions on onsite emergency plan in a leather industry.	BT-6	Create
2.	Elaborate effects of chemical disaster with two or three casestudies.	BT-5	Evaluate
3.	Discuss strategies of APELL in emergency plan.	BT-3	Apply
4.	Explain any one major technological disaster with statistics.	BT-3	Apply

UNIT 3-: ENVIRONMENTAL IMPACT ASSESSMENT

Introduction to Sustainable Development-Bio Diversity-Atmospheric pollution-Global warming and Ozone Depletion-ODS banking and phasing out-Sea level rise-El Nino and climate changes-Eco friendly products-Green movements-Green philosophy-Environmental Policies-Environmental Impact Assessment-case studies-Life cycle.

PART A

Q.No	Questions	BT Level	Competence
1.	List out the effects of global warming.	BT-1	Remember
2.	Write down the impact of biodiversity on environment.	BT-1	Remember
3.	Explain sustainable development.	BT-4	Analyze
4.	Define El Nino.	BT-1	Remember
5.	What is Green philosophy?	BT-1	Remember
6.	Define Global Warming.	BT-1	Remember
7.	Expand ODS banking.	BT-2	Understand
8.	What is ozone depletion?	BT-2	Understand
9.	Mention the environmental impacts of Land use changes.	BT-2	Understand
10.	Sketch the climate change adaptation cycle.	BT-2	Understand
11.	Identify the activities of IPCC.	BT-3	Apply
12.	Define climate change adaptation.	BT-3	Apply
13.	Expand and explain the term IPCC.	BT-3	Apply
14.	What are the causes of Sea level rise?	BT-4	Analyze
15.	Define Green movement.	BT-4	Analyze
16.	Interpret the mitigation measures to overcome climatechange.	BT-4	Analyze
17.	When did environmental impact assessment get introduced?	BT-5	Evaluate
18.	What are the key roles of biodiversity?	BT-5	Evaluate
19.	How does ozone depletion occur?	BT-6	Create
20.	Define biodiversity.	BT-3	Apply

PART B

1.	Describe the ill effects of global warming	BT-1	Remember
2.	Give your views on the role of biodiversity in shaping the future environment.	BT-3	Apply
3.	Ozone depletion can be retrieved. explain	BT-3	Apply
4.	Elaborate the use of ecofriendly products.	BT-1	Remember
5.	State the principles of environmental impact assessment.	BT-4	Analyze
6.	Explain environmental policies in India.	BT-2	Understand
7.	What are the principles of green movement?	BT-4	Analyze
8.	How does sea level rise affect the people?	BT-3	Apply
9.	Give the effects of El Nino and Climate change in the environment.	BT-3	Apply
10.	What are the principles of Sustainable development?	BT-4	Analyze
11.	List out the objectives of environmental impact assessment.	BT-5	Evaluate
12.	Give your views on ODS banking and their phases.	BT-5	Evaluate
13.	List out the causes and effects of atmospheric pollution.	BT-2	Understand
14.	State the applications of green philosophy.	BT-4	Analyze

PART C

1.	Give your views on Environmental impact assessment act and suggest some modifications.	BT-6	Create
2.	How does sustainable development and biodiversity improve the environmental condition?	BT-4	Analyze
3.	What are the effects of climate change on human population?	BT-2	Understand
4.	State the practical difficulties involved in Green philosophy and green movement.	BT-6	Create

UNIT 4: POLLUTION ASPECTS

Offshore and onshore drilling-control of fires-Case studies-Marine pollution and control-Toxic, hazardous and Nuclear wastes-state of India's and Global environmental issues-carcinogens-complex emergencies-Earthquake disasters-the nature-extreme event analysis-the immune system-proof and limits

PART A

Q.No	Questions	BT Level	Competence
1.	Define carcinogen.	BT-1	Remember
2.	What is marine pollution?	BT-2	Understand
3.	State the ill effects of nuclear waste.	BT-3	Apply
4.	Give some examples for nuclear waste.	BT-1	Remember
5.	What is epicenter?	BT-1	Remember
6.	How will you measure the impact of earthquake?	BT-3	Apply
7.	Define onshore drilling.	BT-5	Evaluate
8.	List the effects of carcinogen.	BT-2	Understand
9.	Differentiate onshore drilling and offshore drilling.	BT-3	Apply
10.	Define focus?	BT-1	Remember
11.	What are some of global environmental issues?	BT-3	Apply
12.	List some control measures on marine pollution.	BT-3	Apply
13.	State the disadvantages of offshore drilling.	BT-5	Evaluate
14.	Differentiate toxic and hazardous waste.	BT-4	Analyze
15.	List some ways to control fire.	BT-4	Analyze
16.	Give the effect of marine pollution on aquatic life.	BT-1	Remember
17.	Discuss major earthquake hazard zones in India.	BT-5	Evaluate
18.	What are the steps to be taken by the residents during an earthquake in a residential building?	BT-6	Create
19.	Illustrate impact of earthquake?	BT-5	Evaluate

20.	List out the disadvantages of nuclear waste.	BT-6	Create
<u>PART B</u>			
1.	Elaborate the effects and disposal of nuclear waste.	BT-1	Remember
2.	Explain the procedure of onshore drilling.	BT-3	Apply
3.	What is to be done during and after earthquake?	BT-1	Remember
4.	Define earthquake and explain in detail about the types, causes and preventive measures of earthquake.	BT-5	Evaluate
5.	Explain the steps involved in offshore drilling.	BT-2	Understand
6.	What are the environmental impacts caused due to marine pollution?	BT-2	Understand
7.	Explain the working of various instrumentation used to measure earthquake?	BT-4	Analyze
8.	State your points on carcinogen risk assessment?	BT-3	Apply
9.	Give your suggestions for safe disposal of nuclear waste.	BT-6	Create
10.	Describe the various intensity and magnitude of earthquake?	BT-4	Analyze
11.	Write in detail about earthquake vulnerability assessment and building and infrastructure?	BT-5	Evaluate
12.	Expand and explain data description about forest fire?	BT-6	Create
13.	Illustrate the case study about forest fire in India?	BT-4	Analyze
14.	Explain the techniques of reducing oil fire.	BT-2	Understand
<u>PART C</u>			
1.	Explain on the public awareness and public education for disaster risk reduction.	BT-2	Understand
2.	Write a case study for marine pollution. Suggest ways to prevent marine pollution.	BT-1	Remember
3.	As a safety officer, give your views on control of fire in industries.	BT-6	Create
4.	What are the causes for the Tsunami 2004 which inflicted heavy loss to life and property along the coast of Tamil Nadu? Specify its epicenter and magnitude.	BT-3	Apply

UNIT V : POLICY INITIATIVES

Environmental education-Population and community ecology-Natural resources conservation-Environmental protection and law-Research methodology and systems analysis-Natural resources conservation-Policy initiatives and future prospects-Risk assessment process, assessment for different disaster types-Assessment data use, destructive capacity-risk adjustment-choice-loss acceptance-disaster aid- public liability insurance-stock taking and vulnerability analysis-disaster profile of the country-national policies-objectives and standards-physical event modification-preparedness, forecasting and warning, land use planning.

PART A

Q.No	Questions	BT Level	Competence
1.	Define destructive capacity.	BT-1	Remember
2.	What is Population ecology?	BT-3	Apply
3.	List the objectives of environmental protection law.	BT-1	Remember
4.	What are the principles of natural resources conservation?	BT-5	Evaluate
5.	State the importance of environmental education.	BT-2	Understand
6.	Define vulnerability in disaster management.	BT-3	Apply
7.	What do you know about vulnerability analysis?	BT-2	Understand
8.	Describe land use planning.	BT-4	Analyze
9.	How will you do risk assessment process?	BT-2	Understand
10.	Describe community ecology.	BT-2	Understand
11.	Indicate the nodal agencies designated by GoI for the early warning of different natural hazards.	BT-3	Apply
12.	What is disaster aid?	BT-1	Remember
13.	What is public liability insurance?	BT-3	Apply
14.	Write a note on vulnerability profile on India.	BT-4	Analyze
15.	How will you evaluate disaster profile?	BT-5	Evaluate
16.	Define the term Risk Assessment.	BT-3	Apply
17.	Tell the objectives of disaster risk assessment.	BT-5	Evaluate
18.	List down 3 factors that determine the vulnerability to climate	BT-5	Evaluate

	changes as per IPCC.		
19.	Describe early warning system with suitable examples.	BT-6	Create
20.	Compile the types of early warning systems.	BT-6	Create
<u>PART B</u>			
1.	List the objectives of the national policy in disaster management.	BT-1	Remember
2.	Critically examine the various factors affecting vulnerability in disaster management.	BT-3	Apply
3.	State the importance of environmental education.	BT-1	Remember
4.	Summarize the risk assessment types and steps involved in it.	BT-2	Understand
5.	What are the steps involved in research methodology in environmental protection?	BT-3	Apply
6.	i. Recall natural hazard vulnerability in India. (8) ii. Discuss about the man-made vulnerable zones of India. (5)	BT-4	Analyze
7.	Assess in detail on the four basic elements and types of early warning systems.	BT-3	Apply
8.	Write a brief note on early warning system.	BT-3	Apply
9.	i. List the broad features of the National Policy on Disaster Management.(9) ii. In what ways the financial arrangements are facilitated for disaster mitigation? (4)	BT-4	Analyze
10.	Write a note on disaster profile in India.	BT-4	Analyze
11.	Write in detail about earthquake vulnerability assessment and building and infrastructure?	BT-5	Evaluate
12.	State the risk assessment methodology.	BT-2	Understand
13.	Write an overview on environmental protection.	BT-6	Create
14.	Describe conservation benefits of forest and mangroves.	BT-2	Understand
<u>PART C</u>			
1.	Illustrate about earthquake vulnerability assessment of buildings and infrastructure with case study?	BT-1	Remember
2.	Explain on the public awareness and public education for environmental protection.	BT-6	Create
3.	What are the steps involved in environmental protection .Write a	BT-1	Remember

	brief summary on the control measures.		
4.	Give your suggestions for conserving natural resources.	BT-6	Create

