INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)
Dundigal, Hyderabad - 500 043

CIVIL ENGINEERING

DEFINITIONS AND TERMINOLOGY QUESTION BANK

Course Name	:	**DISASTER MANAGEMENT AND MITIGATION**
Course Code	:	**ACE533**
Program	:	**B. Tech**
Semester	:	**V**
Branch	:	**Civil Engineering**
Section	:	**A & B**
Academic Year	:	**2018– 2019**
Course Faculty	:	**Dr. JSR Prasad, Professor, Civil Engineering.** **Mr. S. Selvaprakash, Assistant professor Civil Engineering.**

COURSE OBJECTIVES:

The course should enable the students to:	
I	To help students to consider in depth the terminology and nomenclature used in the syllabus.
II	To focus on the meaning of new words / terminology/nomenclature

DEFINITIONS AND TERMINOLOGY QUESTION BANK

S. No	QUESTION	ANSWER	Blooms Level	CO	CLO	CLO Code
MODULE-I						
1	What is disaster?	Any occurrence that causes damage, ecological disruption, loss of human life, deterioration of health and health services, on a scale sufficient to warrant an extraordinary response from outside the affected community or area.	Understand	CO 1	1	ACE533.01
2	Explain Disaster prevention?	These are activities designed to provide permanent protection from disasters. Not all disasters, particularly natural disasters, can be prevented, but the risk of loss of life and injury can be mitigated with good evacuation plans, environmental planning and design standards. In January 2005, 168 Governments adopted a 10-year global plan for natural disaster risk reduction called the Hyogo Framework.	Remember	CO 1	1	ACE533.01

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3	What is a Disaster relief?	This is a coordinated multi-agency response to reduce the impact of a disaster and its long-term results. Relief activities include rescue, relocation, providing food and water, preventing disease and disability, repairing vital services such as telecommunications and transport, providing temporary shelter and emergency health care.	Understand	CO 1	1	ACE533.01
4	Explain about landslides?	A landslide or landslip is a geological phenomenon which includes a wide range of ground movement, such as rock falls, deep failure of slopes and shallow debris flows, which can occur in offshore, coastal and on shore environments. Although the action of gravity is the primary driving force for a landslide to occur, there are other contributing factors affecting the original slope stability	Understand	CO 1	2	ACE533.02
5	What is manmade disaster?	A man-made disaster results from man-made hazards (threats having an element of human intent, negligence or error, or involving a failure of a man-made system). They differ from natural disasters that result from natural hazards.	Understand	CO 1	2	ACE533.02
6	Explain Disaster preparedness?	These activities are designed to minimize loss of life and damage – for example by removing people and property from a threatened location and by facilitating timely and effective rescue, relief and rehabilitation. Preparedness is the main way of reducing the impact of disasters. Community-based preparedness and management should be a high priority in physical therapy practice management	Remember	CO 1	1	ACE533.01
7	What are tropical cyclones?	A tropical cyclone is composed of a system of thunderstorms that shows a cyclonic rotation around a central core or eye. A tropical cyclone is a generic term for a storm with an organized system of thunderstorms that are not based on a frontal system.	Understand	CO 1	2	ACE533.02

S. No	QUESTION	ANSWER	Blooms Level	CO	CLO	CLO Code
8	What is natural disaster?	An environmental hazard is a substance, a state or an event which has the potential to threaten the surrounding natural environment / or adversely affect people's health, including pollution and natural disasters such as storms and earthquakes.	Remember	CO 1	3	ACE533.03
9	What is manmade disaster?	A man-made disaster results from man-made hazards (threats having an element of human intent, negligence or error, or involving a failure of a man-made system). They differ from natural disasters that result from natural hazards.	Understand	CO 1	2	ACE533.02
10	What is a Disaster management?	Hazard can be defined as a potentially damaging physical event, social and economic disruption or environmental degradation. Typical examples of hazards can be absence of rain or the abundance there of (leading to floods).	Understand	CO 1	1	ACE533.01
11	Define mangroves.	A geological disaster occurs when natural geological processes impact on our activities, either through loss of life or injury.	Remember	CO 1	1	ACE533.01
12	Explain the term Hydrological disaster?	A mangrove is a tree, shrub, palm or ground fern, generally exceeding one half metre in height that normally grows above mean sea level in the intertidal zone of marine coastal environments and estuarine margins.	Understand	CO 1	1	ACE533.01
13	Explain about Disaster mitigation?	This involves lessening the likely effects of emergencies. These include depending upon the disaster, protection of vulnerable population and structure. For example, improving structural qualities of schools, houses and such other buildings so that medical causalities can be minimized Similarly ensuring the safety of health facilities and public health services including water supply and sewerage system to reduce the cost of rehabilitation and reconstruction. This mitigation compliments the disaster preparedness and disaster response activities.	Remember	CO 1	2	ACE533.02

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14	Explain the term Manmade disaster?	Human-instigated disasters are the consequence of technological hazards. Examples include stampedes, fires, transport accidents, industrial accidents, oil spills. War and deliberate attacks may also be put in this category. As with natural hazards, man-made hazards are events that have not happened.	Understand	CO 1	3	ACE533.03
MODULE-II						
1	What do you mean by Environmental hazards?	An environmental hazard is a substance, a state or an event which has the potential to threaten the surrounding natural environment /or adversely affect people's health, including pollution and natural disasters such as storms and earthquakes.	Understand	CO 2	4	ACE533.04
2	Explain about Heat waves?	A heat wave is a period of unusually and excessively hot weather. The worst heat wave in recent history was the European Heat Wave of 2003.A summer heat wave in Victoria, Australia, created conditions which fuelled the massive bushfires in2009. Melbourne experienced three days in a row of temperatures exceeding 40°C (104°F) with some regional areas sweltering through much higher temperatures.	Understand	CO 2	4	ACE533.04
3	What is a Disaster management?	Disaster Management Definitions. A hazard can be defined as a potentially damaging physical event, social and economic disruption or environmental degradation. Typical examples of hazards can be absence of rain (leading to drought) or the abundance there of (leading to floods).	Remember	CO 2	5	ACE533.05
4	Explain meaning of the term Physical hazard?	A physical hazard is an agent, factor or circumstance that can cause harm with or without contact. They can be classified as type of occupational hazard or environmental hazard. Physical hazards include ergonomic hazards, radiation, heat and cold stress, vibration hazards, and noise hazards.	Understand	CO 2	5	ACE533.05

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5	Explain about Anthropogenic hazards or human-made hazards?	Anthropogenic hazards or human-made hazards can result in the form of a human-made disaster. In this case, anthropogenic means threats having an element of human intent, negligence, or error; or involving a failure of a human-made system. This is as opposed to natural hazards that cause natural disasters. Either can result in huge losses of life and property as well as damage to peoples' mental, physical and social well-being.	Understand	CO 2	5	ACE533.05
6	Explain meaning of Rail disasters?	A railroad disaster is an occurrence associated with the operation of a passenger train which results in substantial loss of life. Usually accidents with freight (goods) trains are not considered disasters, unless they cause substantial loss of life or property. One of the most devastating rail disasters occurred in 2004 in Sri Lanka when 1,700 people died in the Sri Lankatsunami-rail disaster. Other notable rail disasters are the 1989 Ufa accident in Russia which killed 574, and the 1917 Modena train accident in France which killed 540.	Remember	CO 2	5	ACE533.05
7	What are the Forms of Air Pollution?	Air pollution:- the release of chemicals and particulates into the atmosphere. Common gaseous pollutants include carbon monoxide, sulphur dioxide,	Remember	CO 2	5	ACE533.05
8	Explain the term Hydrological disaster?	Hydrological disasters are a violent, sharp and harmful amendment either in quality of earth's water or in distribution or movement of water ashore below the surface or in atmosphere. A flood is associate overflow of associate expanse of water that submerges land.	Remember	CO 2	5	ACE533.05
9	Explain the term Meteorological disaster?	Meteorological disasters are caused by extreme weather, e.g. rain, drought, snow, extreme heat or cold, ice, or wind. Examples of weather disasters include blizzard, , droughts, hailstorms, heat waves, hurricanes, floods.	Remember	CO 2	6	ACE533.06

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10	Explain the term Manmade disaster?	Human-instigated disasters are the consequence of technological hazards. Examples include stampedes, fires, transport accidents, industrial accidents, oil spills and nuclear explosions/radiation. As with natural hazards, man-made hazards are events that have not happened—for instance, terrorism.	Understand	CO 2	6	ACE533.06
11	What is mean by Planetary hazards?	Planetaryhazardsanddisastersareoftwotypes:(α)Terrestrialorendogenous hazards, (volcanic eruption, Earthquake) and (β) Atmospheric or exogenous hazard (Cyclone, Flood, drought) Anthropogenic hazards and disasters are of three types: (i) Physical hazards (landslides, soil erosion, Earthquakes)	Remember	CO 2	6	ACE533.06
12	Difference between natural and man-made disasters.	The difference between natural and man-made disasters is the element of human intent or negligence that leads to human suffering and environmental damage; many mirror natural disasters, yet man has a direct hand in their occurrence. These are the net result of inadequately managed man-made hazards and they typically cost the most in terms of human suffering, loss of life and long-term damage to a country's economy and productive capacity.	Understand	CO 2	6	ACE533.06
13	What is mean by Extra Planetary hazards?	The kind of hazards which originate outside the earth and its atmosphere are called extra-terrestrial hazards.	Understand	CO 2	7	ACE533.07
14	Explain the term Meteoroid & comets?	Similar to an asteroid, but significantly smaller. Mostly debris of comets, sometimes debris of asteroids. A bright tail of light caused by a meteoroid during its atmospheric flight, also called a shooting star or falling star. A very bright meteor.	Remember	CO 2	7	ACE533.07
15	Explain the term Solar blasts?	A solar flare is a sudden flash of increased brightness on the Sun. Powerful flares are often, but not always, accompanied by a coronal mass ejection.	Understand	CO 2	7	ACE533.07

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MODULE-III						
1	Explain	Mud volcanoes or mud domes are formations created by geo-excreted liquids and gases, although there are several processes which may cause such activity. The largest structures are 10 kilometres in diameter and reach 700 meters high.	Understand	CO 3	9	ACE533.09
2	Explain about subglacial volcanoes?	Sub glacial volcanoes develop underneath icecaps. They are made up of flat lava which flows at the top of extensive pillow lavas and aragonite. When the icecap melts, the lavas on the top collapse, leaving a flat-topped mountain. These volcanoes are also called table mountains, tuyas or (uncommonly) mobergs.	Remember	CO 3	9	ACE533.09
3	What are the Lava domes?	Lava domes are built by slow eruptions of highly viscous lavas. They are sometimes formed within the crater of a previous volcanic eruption (as in MountSaint Helens), but can also form independently, as in the case of Lassen Peak. Like Strato volcanoes, they can produce violent, explosive eruptions, but their lavas generally do not flow far from the originating event.	Understand	CO 3	9	ACE533.09
4	How Volcanoes are distributed?	Distributed all over the world in different countries and continents but are not found it every country. • Found mostly on the coastline Especially on tectonic plate boundaries	Remember	CO 3	10	ACE533.10
5	Explain the term landslide?	The term landslide or, less frequently, landslip, refers to several forms of mass wasting that include a wide range of ground movements, such as rockfalls, deep-seated slope failures, mudflows and debris flows. Landslides occur in a variety of environments, characterized by either steep or gentle slope gradients: from mountain ranges to coastal cliffs or even underwater, in which case they are called submarine landslides.	Remember	CO 3	10	ACE533.10

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		Gravity is the primary driving force for a landslide to occur, but there are other factors affecting slope stability which produce specific conditions that make a slope prone to failure. In many cases, the landslide is triggered by a specific event (such as a heavy rainfall, an earthquake, a slope cut to build a road, and many others), although this is not always identifiable.				
6	What is mean by fault?	Large faults within the Earth's crust result from the action of plate tectonic forces, with the largest forming the boundaries between the plates, such as subduction zones or transform faults. Energy release associated with rapid movement on active faults is the cause of most earthquakes.	Remember	CO 3	10	ACE533.10
7	Difference between fold and fault	Folding. A fold is a bend in the rock strata. Folding: Is a type of earth movement resulting from the horizontal compression of rock layers by internal forces of the earth along plate boundaries. A up fold is termed as anticlines. The down folds are termed synclines.	Remember	CO 3	11	ACE533.11
8	Explain the term Intensity.	Intensity: The severity of earthquake shaking is assessed using a descriptive scale the Modified Mercalli Intensity Scale.	Remember	CO 3	11	ACE533.11
9	Explain the term Magnitude.	Magnitude: Earthquake size is a quantitative measure of the size of the earthquake at its source. The Richter Magnitude Scale measures the amount of seismic energy released by an earthquake.	Understand	CO 3	11	ACE533.11
10	Explain the term Epicenter?	The epicenter, seismology is the point on the Earth's surface directly above a hypocenter or focus, the point where an earthquake or an underground explosion originates.	Remember	CO 3	11	ACE533.11
11	Explain the term Focus?	Focus-The location where the earthquake begins. The ground ruptures at this spot, then seismic waves radiate outward in all directions.	Remember	CO 3	12	ACE533.12
12	Explain the term Waves?	Earthquakes radiate seismic energy as both body and surface	Remember	CO 3	12	ACE533.12

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		waves. Traveling through the interior of the earth, body waves arrive before the surface waves emitted by an earthquake. These waves are of a higher frequency than surface waves. The first kind of body wave is the P wave or primary wave.				
13	Explain the term Tsunami?	A large wave on the ocean, usually caused by an undersea earthquake, a volcanic eruption, or coastal landslide. A tsunami can travel hundreds of miles over the open sea and cause extensive damage when it encounters land. Also called tidal waves.	Understand	CO 3	12	ACE533.12
14	What is Distance Between From Earth to Core, Crust& Mantle?	The distance to the center of the Earth is 6,371 kilometers (3,958 mi), the crust is 35 kilometers (21 mi) thick, the mantles is 2855km (1774 mi) thick — and get this: the deepest we have ever drilled is the Kola Super deep Borehole, which is just 12km deep.	Remember	CO 3	12	ACE533.12
15	What is plate tectonics?	Plate tectonics is the theory that Earth's outer shell is divided into several plates that glide over the mantle, the rocky inner layer above the core. The plates act like a hard and rigid shell compared to Earth's mantle	Understand	CO 3	12	ACE533.12
MODULE-IV						
1	Explain abut Pre-disaster stage (preparedness)?	The first phase is focused on taking precautionary measures before an actual disaster or emergency takes place to reduce its scope. Prevention includes the process of danger identification, assessment of life and property threat in order to limit potential causalities, and adverse impact of natural andtechnological hazards.	Remember	CO 4	16	ACE533.16
2	Explain about Post disaster stage rehabilitation?	During a recovery phase, which takes place after an incident had occurred, affected community is assisted in restoration of concerned area. The phase comprises initial rehabilitation during which services are restored to their regular order, so local governments and responsible agencies regain the ability to manage the ongoing	Remember	CO 4	16	ACE533.16

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		recovery processes and repair of social, physical and economic damage. Recovery also concerns long term reconstruction of health, utility and communication facilities.				
3	What is mean by Disaster Preparedness?	The intention of Disaster preparedness is to prevent or minimize the losses and damage in case of a disaster. This would include the preparedness of a	Understand	CO 4	17	ACE533.17
4	What is mean by Response, Recovery and Reconstruction	The response phase includes the search and rescue; fulfilling basic humanitarian needs of victims ; assistance by regional, national and international	Understand	CO 4	16	ACE533.16
5	What is mean by Environmental hazards?	An environmental hazard is a substance, a state or an event which has the potential to threaten the surrounding natural environment / or adversely affect people's health, including pollution and natural disasters such as storms and earthquakes.	Remember	CO 4	16	ACE533.16
6	Define hazard.	A hazard can be defined as a potentially damaging physical event, social and economic disruption or environmental degradation. Typical examples of hazards can be absence of rain (leading to drought) or the abundance thereof (leading to floods).Hazards can be the creation of man or the environment.	Understand	CO 4	16	ACE533.16
7	What is a Disaster management?	Disaster Management Definitions. A hazard can be defined as a potentially damaging physical event, social and economic disruption or environmental degradation.	Understand	CO 4	16	ACE533.16
8	What is pre disaster management?	Disaster management is fundamentally disaster risk management. There are three stages of the disaster risk management which are collectively called Disaster Management Cycle. Broadly, there are six phases in Disaster Management Cycle viz. Prevention, Mitigation, Preparedness, Response, Recovery and Reconstruction	Remember	CO 4	17	ACE533.17
9	What are the stages of disaster	The four phases of disaster: 1) mitigation;2) preparedness; 3)	Understand	CO 4	18	ACE533.18

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	management?	response; and 4) recovery. The model helps frame issues related to disaster preparedness as well as economic and business recovery after a disaster.				
10	What are the five phases of emergency management?	Preparedness is a continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective action. Training and exercising plans is the cornerstone of preparedness which focuses on readiness to respond to all-hazards incidents and emergencies.	Understand	CO 4	16	ACE533.16
11	What is disaster rehabilitation and recovery?	Post-disaster rehabilitation and recovery encompass support strategies that are geared towards the restoration of human-centered services and infrastructure, as well as the restoration of the physical and ecological integrity of the affected ecosystem.	Understand	CO 4	17	ACE533.17
12	What are post disaster activities?	While Prevention, Mitigation and Preparedness include Pre-disaster activities focussed on reducing the human and property losses caused by a potential hazard; Response, Recovery and Reconstruction include the Post-disaster initiatives taken in response to a disaster with a purpose to achieve early recovery.	Remember	CO 4	17	ACE533.17
13	What is Post Disaster?	Post-disaster recovery planning is a shared responsibility between individuals, private businesses and industries, state and local governments, and the federal government. Post-disaster recovery planning is defined as developing a set of strategies to assist a community in rebuilding after a disaster occurs.	Understand	CO 4	18	ACE533.18
14	What is workplace recovery?	Disaster recovery (DR) is an area of security planning that aims to protect an organization from the effects of significant negative events. DR allows an organization to maintain or quickly resume mission-critical functions following a disaster.	Understand	CO 4	18	ACE533.18
15	Explain meaning of the term Chemical hazard?	Chemical hazards are defined in the Globally Harmonized System and in the European Union chemical regulations. They are caused by chemical	Remember	CO 4	18	ACE533.18

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		substances causing significant damage to the environment. The label is particularly applicable towards substances with aquatic toxicity. An example is zinc oxide, a common paint pigment, which is extremely toxic to aquatic life.				
MODULE-V						
1	What are the four phases of emergency preparedness?	However, preparedness is only one phase of emergency management. Current thinking defines four phases of emergency management: mitigation, preparedness, response, and recovery. There are entire courses on each of these phases.	Understand	CO 5	19	ACE533.19
2	How important is disaster preparedness?	The goal of disaster preparedness is to lessen the impact of disasters on vulnerable populations, to ready an organization for an influx of activity, and to design a coordinated plan that reduces the waste of resources, time, and efforts.	Remember	CO 5	19	ACE533.19
3	What are the steps in disaster management?	The four phases of disaster: 1) mitigation; 2) preparedness; 3) response; and 4) recovery. The model helps frame issues related to disaster preparedness as well as economic and business recovery after a disaster.	Understand	CO 5	19	ACE533.19
4	What are the aspects of emergency preparedness?	While preparedness is indeed the ultimate goal, it includes several key elements or missions. U.S. Presidential Policy Directive 8 outlines emergency preparedness and management efforts using these five interdependent mission areas: Prevention, Protection, Mitigation, Response and Recovery.	Understand	CO 5	19	ACE533.19
5	What are the mitigation of earthquake?	Earthquakes – Mitigation (Actions Before, During, After) Mitigation is deciding on which actions to take before, during, and after the next disaster — to reduce human and financial consequences later by analyzing, reducing, and insuring against risk.	Remember	CO 5	20	ACE533.19
6	What is mitigation and types of mitigation?	Types of Mitigation Actions. A mitigation action is a specific action, project, activity, or process taken to reduce or	Understand	CO 5	20	ACE533.20

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		eliminate long-term risk to people and property from hazards and their impacts.				
7	What is Meteorological Observatory?	Meteorological Observatory. a scientific institution where meteorological observations are made and the meteorological conditions of an oblast, krai, republic, or country are studied.	Remember	CO 5	20	ACE533.20
8	What is the long form of GSAT?	The GSAT series of geosynchronous satellites is a system developed by ISRO with an objective to make India self-reliant in broadcasting services.	Understand	CO 5	20	ACE533.20
9	How typhoons are named?	The practice of naming storms has a long history. Before the 20th century, notable tropical cyclones (also called typhoons or hurricanes, depending on geography)	Understand	CO 5	21	ACE533.21
10	Who will name cyclones?	In 2004, eight Asain countries came together and contributed a set of names to be used for naming cyclones in the future. Cyclone Fani, which is expected to bring heavy rainfall to the Indian coast this year was named by Bangladesh. The next cyclone will be named Vayu, a name contributed by India.	Remember	CO 5	21	ACE533.21
11	Why is GIS important?	GIS is important today because it is able to bring together information from multiple sources so that various types of work can be done. In order to do this, though, the data must be tied to a specific location on the Earth's surface.	Understand	CO 5	21	ACE533.21
12	What is spatial data?	Spatial data, also known as geospatial data, is information about a physical object that can be represented by numerical values in a geographic coordinate system.	Remember	CO 5	21	ACE533.21
13	What is the difference between attribute and spatial data?	Attribute data is the detailed data used in combination with spatial data to create a GIS. The more available and appropriate attribute data used with spatial data, the more complete a GIS is as a management reporting and analysis tool. ... Essentially, any format of a geographical image with location or co-ordinate points can be used as spatial data.	Understand	CO 5	21	ACE533.21
14	How to improve your spatial	To Improve Visual Spatial Intelligence	Remember	CO 5	21	ACE533.21

S. No	QUESTION	ANSWER	Blooms Level	CO	CLO	CLO Code
	intelligence?	Use Spatial Language In Everyday Interactions. Teach Using Gestures And Encourage Kids to Gesture.				
15	What is Geographic Information Systems?	A geographic information system (GIS) is a system designed to capture, store, manipulate, analyze, manage, and present spatial or geographic data.	Remember	CO 5	21	ACE533.21

Signature of the Faculty **HOD, CE**