Name: **Enrolment No:**	UPES UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2020

Course: Health Safety Environment **Semester: IV**
Program: MBA – Power Management **Time: 03 Hours**
Course code: PIPM 8007 **Max. Marks: 100**
Instructions:

SECTION A **(6 * 5 = 30 Marks)**

	Attempt Any six Questions	Marks	CO
Q 1	Describe and Explain Common Hazards in the work place and their effects to the worker's health.	**5**	**CO1**
Q2	Explain the fire triangle, Class of fires, types of fire extinguishers and firefighting concepts, R.A.C.E & P.A.S.S.	**5**	**CO1**
Q3	Describe and Explain the Environmental Impact Assessment overview, with E.I.A. framework diagram with importance of E.I.A	**5**	**CO1**
Q4	Explain Waste to Energy plant working and explain the advantages of W.T.E plants.	**5**	**CO1**
Q5	Conceptually explain ISO 14001 and ISO 9001 in meeting the Organization objectives.	**5**	**CO1**
Q6	Describe general safety requirements in Electricity Supply lines and apparatus pertaining to construction, installation, protection, operation & maintenance.	**5**	**CO1**
Q7	Define Occupational Health, its Goals, Objectives and Functions of Occupational Health Services.	**5**	**CO1**

SECTION B **(5 * 10= 50 Marks)**

	Attempt Any five Questions		
Q1	Analyze all the Do and Don'ts while working with the Electricity Systems and Various Appliances.	**10**	**CO2**
Q2	Analyze the effect of Electricity current on Human Body in respect to current/duration of shock/and effects on Human Body.	**10**	**CO2**
Q3	Analyze the emergency preparedness at Nuclear Power Plants pertaining to zoning concepts and emergency planning.	**10**	**CO2**
Q4	Analyze the Health Safety Environment (H.S.E) policy of an Electricity power company.	**10**	**CO2**
Q5	Analyze & explain the objectives of Disaster Management and Explain the Natural Disaster Management., various activities	**10**	**CO3**
Q6	Analyze & explain the Additional Safety Requirements for H.V.D.C. and Solar Park Installations as per the Electricity latest regulations.	**10**	**CO3**

	SECTION-C	(1 * 20 = 20 Marks)	
	Attempt Any one Question		
Q.1	Study the Case given below of "Water Shortage Put Asian Power Sector at Risk", And Answer the following questions. Thermal and hydro power plant locations and water stress levels in India, Thailand, Vietnam, Malaysia, and the Philippines. More than half of existing and planned power plants in South and Southeast Asia are located in areas currently considered water scarce or stressed, according to findings in a report released today by the World Resources Institute (WRI) and HSBC's Climate Change Centre of Excellence. The new report, Over Heating: Financial Risks from Water Constraints on Power Generation, analyses water-related risks facing thermal and hydroelectric power plants in India, Malaysia, the Philippines, Thailand and Vietnam. These plants require large amounts of water for cooling and generation. WRI mapped the water stress level across the region and the location of more than 150 existing and planned facilities of the largest power-generation companies in the region. The analysis found that water shortages pose the highest risk for power generation companies in India. "Water-related risks are hard to quantify, yet they present a growing risk to power generation," said Piet Klop, acting director of WRI's Markets and Enterprise Program. "The next step is to take our analysis to specific companies and their exposure and response to those risks. On the upside, investors have investment opportunities that can come from better understanding water related risks." In India, approximately 62 per cent of existing and 79 per cent of planned thermal and hydroelectric power plants of the three largest power generation companies (NTPC, Tata Power, and Reliance Infrastructure) are located in water scarce or stressed areas. The country's water demand is expected to outgrow supply by 50 per cent by 2030 and estimates by the World Bank indicate that all available water supplies will be exhausted by 2050. "The power sector investors and analysts are making long-term bets on water that, in the future, might no longer be reliable," said Amanda Sauer, a senior associate at WRI. "They need to start assessing their exposure to water-related risks when considering long-term investment strategies." The report's findings suggest that project delays due to water permitting problems and general shortages may be costly. As part of the study, HSBC's analysts found that a 12-month delay in commercial operation could lower the rate of return on investment by 1.5 per cent. Furthermore, each 5 per cent drop in power production due to water shortages could result in nearly a 0.75 per cent drop in the project's rate of return.	**20**	**CO4**

	"The projected expansion of power generation – whether coal, hydro or gas – is exposed to growing water stress," said Nick Robins, head of the Climate Change Centre of Excellence (C3E) at HSBC. Roshan Padamadan, a HSBC analyst at the Centre said, "Investors need to understand how companies are managing these risks, including the specific steps to optimize water use at the plant level." Overheating is the second report in a three-part series. The first report, Weeding Risk, looks at climate change and water scarcity impacts on the food and beverage sector in India, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam. The third report, Surveying Risk, Building Opportunity, assesses environmental risks to commercial real estate in the region. **Questions:** 1. Analyze the case and interpret it. (5 Marks) 2. Write down the case facts. (5 Marks) 3. Write down an effective executive summary of given case. (5 Marks)		
Q2	Apply, Analyze the guidelines for Occupational Health & Safety Management by I.L.O. (International Labor Organization)	**20**	**CO4**
	The End		