Name:

Enrolment No:

UPES
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UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, December 2019

Course: Behavioral Based Safety Management — **Semester: I**
Program:M Tech HSE & M Tech HSE+DM — **Time 03 hrs.**
Course Code: HSFS 7004 — **Max. Marks: 100**

Instructions: Question no. 11.a is compulsory; you may attempt either 11.b or 11.c

SECTION A

S. No.		Marks	CO
Q 1	ABC organization generally observes weekends as nonworking days, a worker employed here met an accident on Friday evening, owing the finger injury he left early from returned to work on Monday morning. Whether this accident need to be considered as a reportable accident. Discuss.	**4**	**CO4**
Q 2	Explain different levels of emergencies as per ERDMP Regulations, 2010	**4**	**CO3**
Q 3	An organization decided to setup its OHS management system without safety policy. Enlist the possible effects of this decision on OHSMS.	**4**	**CO2**
Q 4	Differentiate consultation and participation in relation to OHS management.	**4**	**CO2**
Q 5	Differentiate attitude and behavior	**4**	**CO1**

SECTION B

Q 6 — **10** — **CO5**

An organization that manufactures components for the automotive industry is based on a single site and employs 750 people. The table below provide recent accident data recorded at the company.

Year	No. of accidents	No. of near misses	Average hours worked	Days lost due to accidents
2016	10	4	3520	500
2017	12	8	3500	80
2018	12	10	3500	600
2019	15	17	3530	600

Calculate the accident frequency, severity and incidence rate for these years. Also, comment on the safety performance of the organization.

Q 7	Critically examine the Heinrich's premises on safety. Or Outline the significance of safety pyramids in accident prevention.	**10**	**CO2**
Q 8	Ganga, the young worker employed in the silk reeling unit, was certified by the doctor in the government hospital to be inflicted with 28% disability from the third degree burns she suffered from accident during the course of work. Her salary was Rs. 50/- per day. The Minimum wage notified for that employment was Rs. 65/- per day. The relevant factor is 228.54. The accident occurred in 29th September 1998 and compensation was paid only in December 2003. Calculate total amount to be paid to the worker.	**10**	**CO3**
Q 9	What is the philosophy of behavior based safety? Prepare a table showing possible antecedents and consequences of safe and at risk behavior related to the usage of safety helmet in an organization.	**4+6**	**CO1**
	SECTION-C		
Q 10	a) What is hierarchy of risk control? Your company has decided to install a diesel generator to serve as backup power option. Applying hierarchy of risk control discuss how you are going to control the risk associated with this installment. b) Identify five hazards posed by this new installation and prepare a HIRA register, conforming to ISO 31000 for it.	**10** **10**	**CO5**
Q 11	On December 9 2018, a massive fire broke in the early hours of morning in the basement of the seven-storey building of ABC hospital, New Delhi. Local residents at around 3.30a.m first noticed the fire. You are the safety manager of ABC hospital and you reached the site within 10 minutes; while enquiring you came to know that more than more than 200 patients and staffs are trapped inside a). Make all necessary assumptions and list in order the steps you would take while responding to this incident. b). List out the various evidences that you would collect and analyze to identify the root cause of this incident. Or c). Identify potential root causes of this incident using fishbone analysis.	**10** **10** **10**	**CO4**