


<b>Name:</b>	
<b>Enrolment No:</b>	

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**End Semester Examination, December 2018**

**Course: M.Tech.-HSE+HSE (DM)**

**Semester: I**

**COURSE CODE: HSFS 7003**

**Programme: Occupational Health and Safety Management**

**Time: 03 hrs.**

**Max. Marks: 100**

**Instructions: Read the question properly and give the most relevant answer**

**SECTION A**

S. No.		Mar ks	CO
Q01	Describe your understanding about Silicosis	4	CO1
Q02	Define fume and Dust.	4	CO2
Q03	Do you think occupational Safety videos can play important role in avoiding of occupational diseases/ accidents in industries. Justify your opinion.	4	CO4
Q04 D	Explain in detail the toxicity of heavy metals in the body.	4	CO2
Q05 C	Classify the types of wastes and its disposal method.	4	CO5

**SECTION B**

Q06	Explain the Sources and hazards of Lead and chromium Metal	10	CO2												
Q07	Summarize the concept of Ultra Violet radiation, its sources, health effects and control measures.	10	CO5												
Q08	Importance of personnel protective equipment cannot be ignored for safe industrial operations. Describe various PPE's used in various hazardous scenario.	10	CO4												
Q09	Arjun is working in chemical industry. The detail of his 8-hour shift is mentioned in the given table. Calculate the 8-hour TWA for him.	10	CO3/ CO1												
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>S.NO.</th> <th>WORKING PERIOD</th> <th>TASK</th> <th>EXPOSURE mg / m<sup>3</sup></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>6 A.M – 9 A.M</td> <td>Storage area</td> <td>4.50 ( measured)</td> </tr> <tr> <td style="text-align: center;">2</td> <td>9. A.M-10.30 AM</td> <td>WORKING NEAR COAL</td> <td>3.75 ( assumed)</td> </tr> </tbody> </table>			S.NO.	WORKING PERIOD	TASK	EXPOSURE mg / m <sup>3</sup>	1	6 A.M – 9 A.M	Storage area	4.50 ( measured)	2	9. A.M-10.30 AM	WORKING NEAR COAL	3.75 ( assumed)
	S.NO.			WORKING PERIOD	TASK	EXPOSURE mg / m <sup>3</sup>									
	1			6 A.M – 9 A.M	Storage area	4.50 ( measured)									
2	9. A.M-10.30 AM	WORKING NEAR COAL	3.75 ( assumed)												

4			HANDLING YARD			
	3	10.45 A.M-11.30 AM	CONSTRUCTION OF CANTEEN AREA	2.70 (assumed)		
	4	11.30A.M-12.30 PM	WORKING AT CENTRAL CONTROL ROOM	1.12 ( measured)		
	5	12.30 P.M-1.00 PM	LUNCH			
	6	1.00 P.M-2.00 PM	ATTENDED SAFETY MEETING	0.0 (measured)		
<b>(OR)</b>						
Explain in detail the various personal hygiene practices to be followed to avoid the chances of ill health effects in industry.						
<b>SECTION-C</b>						
Q10	a) Distinguish Ionizing and Non ionizing radiation (4) b) Explain any three Ionizing radiation, its monitoring methods and its health effects in detail (10) c) Ionizing Radiations are highly hazardous. Support this case with prescribed allowable and non-allowable levels of exposure.(6)				<b>20</b>	<b>CO5/ CO3</b>
Q11	HSE department in most of the industries is now doing number of engineering/administrative activities to avoid accidents but still various types of hazards are existing in industries. Describe in detail various physical & chemical hazards. Analyze the hazards listed by you and recommend the common methods of controlling the hazards.  <b>(OR)</b>  Number of gases released from refinery operations have impact on human health. List the major toxic gases released from refinery operations. Analyze their property, health effects and recommend treating/control measures in detail.				<b>20</b>	<b>CO5/ CO4</b>