

<b>Name:</b> <b>Enrolment No:</b>	
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**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**End Semester Examination, December 2018**

**Course : Behaviour based safety** **Semester : III**

**Programme : B. Tech FSE**

**Time : 03 hrs** **Max. Marks: 100**

**Instructions : Please attempt all questions from Section A, Section B and Section C**

**SECTION A (05x04=20 marks)**

**All questions are compulsory**

S. No.		Marks	CO
Q 1	Expand the following terms a) P&ID..... b) MOC..... c) PHA..... d) PSSRI.....	4	CO5
Q 2	Briefly discuss the steps involved in behaviour based safety programme.	4	CO1
Q3	Name five regulatory/statutory agencies have jurisdiction over the petroleum installations.	4	CO3
Q4	Safety performance of a company can be measured with the help of two indicators. Name the indicators and discuss it very briefly.	4	CO5
Q5	Write short notes on any two a) Hazards b) Unsafe acts c) Risk	4	CO1

**SECTION B (04x10=40 marks)**

**Note: Students are required to attempt all the four questions from Section B. However choice is given between Q.No.9 and Q.No.10. Students have to attempt any one question either Q9 or Q10.**

Q6	Define the term accident. Explain the causes which are responsible for causing accident.	10	CO4
Q7	Briefly discuss different safety organizations and committees.	10	CO2
Q8	Process safety management is an analytical tool focused on preventing release of any substance defined as a "highly hazardous chemicals" by the EPA or OSHA. Explain the contractor's safety as per PSM.	10	CO5
Q9	Explain the four basic types of machines guard used to prevent mechanical hazards.	10	CO2
Q10	Discuss different types of conveyor systems.		

**SECTION C (02x20=40 marks)**

**Note: This section is divided into 2 sections C1 and C2. Question no 11 is compulsory however choice is given in section C2. Students are required to attempt any one question from section C2 either Question 12 (a) or Question 12(b).**

Q11	<p style="text-align: center;"><b>Section C1</b></p> <p>Discuss the salient features of The Static Mobile Pressure Vessel Rule, 1981 and The Motor Vehicle Act, 1988.</p>	<b>20</b>	<b>CO3</b>
Q12(a)	<p style="text-align: center;"><b>Section C2</b></p> <p>Emergency is a general term implying hazardous situation both inside and outside the factory premises. Define the term emergency management plan. Discuss the objectives and different categories of emergency.</p> <p style="text-align: center;"><b>Or</b></p>	<b>20</b>	<b>CO2</b>
Q12(b)	<p>Explain different elements of emergency management plan.</p>		

<b>Name of Examination</b> (Please tick, symbol is given)	:	MID		END	☐	SUPPLE	
<b>Name of the School</b> (Please tick, symbol is given)	:	SOE	☐	SOCS		SOP	
<b>Programme</b>	:	B. Tech FSE					
<b>Semester</b>	:	III					
<b>Name of the Course</b>	:	Behaviour Based Safety					
<b>Course Code</b>	:	HSFS 2002					
<b>Name of Question Paper Setter</b>	:	MADHUBEN SHARMA					
<b>Employee Code</b>	:	40000726					
<b>Mobile &amp; Extension</b>	:	9410556403					
<b>Note: Please mention additional Stationery to be provided, during examination such as Table/Graph Sheet etc. else mention "NOT APPLICABLE":</b>							
<b>FOR SRE DEPARTMENT</b>							
<b>Date of Examination</b>	:						
<b>Time of Examination</b>	:						
<b>No. of Copies (for Print)</b>	:						

**Note: - Pl. start your question paper from next page.**

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**Max. Marks: 100**

**Instructions : Please attempt all questions from Section A, Section B and Section C**

**SECTION A (05x04=20 marks)**

**All questions are compulsory**

S. No.		Marks	CO
Q 1	Expand the following terms a) CCE..... b) CIF..... c) DGMS..... d) RSO.....	4	CO3
Q2	Fill in the blanks a) Risk is a combination of the .....and ..... b) Human behaviour is the function of .....,.....and.....	1 3	CO1
Q3	Safety performance of a company can be measured with the help of two indicators. Name the indicators and discuss it very briefly.	4	CO5
Q4	List the direct and indirect cost of accidents.	4	CO2
Q5	Define the term Behaviour based safety	4	CO1

**SECTION B (04x10=40 marks)**

**Note: Students are required to attempt all the four questions from Section B. However choice is given between Q.No.9 and Q.No.10. Students have to attempt any one question either Q9 or Q10.**

Q6	Discuss the hazards associated with the mining activities and ways to control it.	10	CO2
Q7	Every organization must have written policy on health, safety and environment. Discuss the HSE policy requirement.	10	CO2
Q8	Safety culture forms the environment within which individual safety attitudes develop and persist and safety behaviour are promoted. Explain the safety culture with the help of Bradley curve.	10	CO5
Q9	Explain different categories of emergencies. <b>Or</b>	10	CO2
Q10	Discuss the objectives of emergency plan.		

**SECTION C (02x20=40 marks)**

**Note: This section is divided into 2 sections C-1 and C-2. Question no 11 is compulsory however choice is given in section C2. Students are required to attempt any one question from section C2 either Question 12 (a) or Question 12(b).**

<b>Section C1</b>			
Q11	Write short notes on a) The Motor Vehicle Act, 1988 b) The Petroleum Act, 1934	9+11 =20	CO3
<b>Section C2</b>			
Q12 (a)	Discuss the benefits for conducting the accident investigation and analysis. Explain the methodology followed for conducting accident investigation and analysis.	20	CO4

Q12 (b)

**Or**

Accident analysis is like peeling the onion; it enables us to look at the underlying causes of an accident, which may not be so obvious. List the objectives of accident investigation. How accident can be prevented by 5E's methods.

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