


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

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**  
**End Semester Examination, December 2018**

**Course/Code: Safety in Engineering Industry /HSFS 8002**

**Semester: III**

**Programme: M.Tech.-H.S.E. & M.Tech H.S.E.(DM)**

**Time: 03 hrs.**

**Max. Marks: 100**

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

**SECTION A**

S. No.	Question	Marks	CO
Q01	List the safety precautions to be followed while handling Lathe machine.	4	CO1
Q02	Discuss the hazards and control measures of resistance welding operation.	4	CO2
Q03	Explain any two radiation monitoring techniques	4	CO5
Q04	Discuss about Flash back arrestor in detail.	4	CO3
Q05	List the principles of Guarding	4	CO4

**SECTION B**

Q06	List the hazards and safe operating procedures to be followed while handling wood planar and wood jointer machine.	10	CO1
Q07	Explain the process of hot bending, its possible hazards and safety precautions to be followed while operation.	10	CO2
Q08	Report the hazards and safety control measures to be followed in Paint shop and Hydraulic testing of valves.	10	CO4
Q09	List the general safety precautions to be followed in workshop. (Or) Discuss the hazards in handling industrial gases and safety measures to be taken while handling gas cylinders.	10	CO3 & CO5

**SECTION-C**

Q10	a) Describe the various hazards and risks existing in foundry operation. b) Consider you are a safety officer working in foundry so examine the hazards and develop a control methods.	20	CO4 & CO5
Q11	a) Discuss the different types of guarding and guarding devices in detail. b) Explain the term point of operation with example c) Analyze and recommend a suitable of guarding/guarding device to be used for foot operated press machine which will be helpful in minimizing accidents. (Or) a) Consider the situation, one of your employee is going to perform arc welding operation inside the bullet where gasoline was stored analyze the situation and develop a safe operating procedure with relevance to the hazards. b) Explain Zero Mechanical State.	20	CO1, CO2 & CO3

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**SECTION A**

S. No.		Marks	CO
Q01	List the hazards and safety measures to be followed while handling grinding machine.	4	CO1
Q02	Describe the health effects of heat radiation, sources of heat radiation in engineering industry and its control measures.	4	CO3
Q03	Define Zero Mechanical State with example.	4	CO2
Q04	Explain the filter lens shade number required for welding process. Highlight the relevance of various designated filter lens shade number used during welding operation.	4	CO5
Q05	List out the various hazards in handling of industrial gas cylinders.	4	CO4

**SECTION B**

Q06	Categorize the dangerous areas and hazards due to machines used in engineering industry with example.	10	CO4
Q07	Distinguish Soldering versus brazing and list the safety precautions to be followed.	10	CO3
Q08	List the various hazards and their safety precautions to be followed during bending operation. Being a HSE personnel, prepare an inspection checklist for hot bending operation.	10	CO2
Q09	Classify the hazards and list the control measures of forging operation in detail <b>(OR)</b> Explain the different types of machine guarding and guarding devices in detail.	10	CO1

**SECTION-C**

Q10	a) Conduct a proper risk assessment for lathe machine considering there is no safety control measures have been adapted and machine is ideally without guards. b) List the hazards of rolling operation and its control measures in detail.	20	CO1 &CO3
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Q11	<p>a) Explain the possible hazards in wood working industry and list the safety precautions of any two wood working machines.</p> <p>b) Consider you are working in an automobile industry and you are asked to develop a safety plan for paint shop. Identify the need of safety plan and list the hazards in paint shop and its control measures as above.</p> <p style="text-align: center;">(Or)</p> <p>a) Explain your understanding about ionizing and Non-Ionizing Radiation</p> <p>b) Consider you are a safety officer working for a nondestructive testing agency which uses ionizing radiation source. Analyze the situation and create a standard operating procedure for the same.</p> <p>c) Highlight the possible accidents that can occur while working power press. .</p>	<b>20</b>	<b>CO5&amp; CO1</b>
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