

Name:
Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Course: HSE for power industry
Programme: B Tech PSE/Electrical Engineering
Course Code: PSEG 481

Semester: VIII
Time: 03 hrs.
Max. Marks: 100

Instructions: In question no.9 (a) is mandatory, you may either attempt b or c

SECTION A

S. No.		Marks	CO
Q 1	Briefly explain following terms a) LOTO b) PSSR	2*2	CO1
Q 2	Briefly explain following terms a) ABC in first aid b) LFL	2*2	CO1
Q 3	Brief the hazardous causes and consequences of an 'Arc Flash'	4	CO2
Q 4	What do you understand by Safe System of Work	4	CO1
Q 5	Mr. Ram, a 16 year old teenager, working in a café cum bakery on daily wage basis. One day when he finished his evening work shift and was about to move out, he noticed that the microwave oven was still "ON". He went upon to check whether the power switch has been put off or not and came to know that it has been powered off, but something's wrong with wiring. Due to his previous experience in electrical repairs, he went on to check the supply by using a tester. Unfortunately, when he put tester in neutral, he got heavy shock and immediately was escorted to a hospital nearby. In this case incident: a. What was wrong with supply? b. What kind of protection equipment/installation could have prevented this situation?	2+2	CO2

SECTION B

Q 6	Define "Electric Shock". Enlist and brief various factors that govern the intensity of shock	2+3+5	CO1
Q 7	Summarize key requirements of Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010	10	CO3

Q 8	<p>Discuss various types of earthing/grounding that is aimed for protection of personnel from electrical hazards.</p> <p style="text-align: center;">Or</p> <p>What is hierarchy of risk control? Discuss hierarchy of risk control using suitable examples</p>	<p style="text-align: center;">2+3+5</p> <p style="text-align: center;">3+7</p>	<p style="text-align: center;">CO1</p>
Q 9	<p>Explain the hazardous area classification as per IS 5572. Enlist & discuss various protection schemes to be employed for electrical equipment in hazardous areas. Prepare a compatibility chart for the selection of equipment.</p>	<p style="text-align: center;">10</p>	<p style="text-align: center;">CO3</p>
SECTION-C			
Q 10	<p>a. Define confined space. What are the differences between permit required and permit not required confined space?</p> <p>b. What are the potential hazards of confined spaces and how these hazards can be effectively managed?</p> <p style="text-align: center;">Or</p> <p>c. Prepare a HIRA work sheet for confined space activity</p>	<p style="text-align: center;">4+6</p> <p style="text-align: center;">10</p>	<p style="text-align: center;">CO2</p>
Q 11	<p>What are the major causes of air pollution in power industry? Discuss various methods and equipment available for control of air pollution.</p>	<p style="text-align: center;">5+15</p>	<p style="text-align: center;">CO4</p>

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UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 19

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Semester: VIII
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Instructions:

SECTION A

S. No.	Question	Marks	CO
Q 1	Briefly explain following terms a) ELCB b) Hazard	2*2	CO1
Q 2	Briefly explain following terms a) Let-go current b) PSSR	2*2	CO1
Q 3	Differentiate system grounding and equipment grounding.	4	CO2
Q 4	What is the significance of near miss reporting in accident prevention?	4	CO1
Q 5	Discuss the classification of fire according to Indian standard	4	CO1

SECTION B

Q 6	Explain the hazards of electricity in detail. What are the preventive measures for electric shock? Or Describe the systematic procedure you will adopt when your co-worker fell unconscious due to electrical shock.	10	CO1
Q 7	What do you understand by PTW? Enumerate and brief different types of PTWs	10	CO2
Q 8	Summarize key requirements of Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations, 2010	10	CO3
Q 9	Explain the hazardous area classification as per IS 5572. Enlist & discuss various protection schemes to be employed for electrical equipment in hazardous areas.	3+7	CO3

SECTION-C

Q 10	What are the major causes of air pollution in power industry? Discuss various methods and equipment available for control of air pollution.	5+15	CO4
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Q 11	a. You are working in green field electric substation construction project. Enlist 10 different hazards that you may face during construction stage with detailed explanation of risk associated with it. Prepare a program to control these hazards. Or b. Prepare a template for work permit for confined space entry activity	10+10 20	CO2
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