

Name:	
Enrolment No:	

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

Course: Risk Assessment & Planning (Fire Engineering IV)	Semester: VII
Programme: B Tech- Fire & Safety Engineering	Time: 03 hrs.
Course Code: FSEG 403	Max. Marks: 100

Instructions:

SECTION A

S. No.		Marks	CO
Q 1	Highlight the effectiveness of fire safety audit.	4	CO2
Q 2	List out the various steps involved in emergency.	4	CO1
Q 3	Explain the industrial building and their types.	4	CO2
Q 4	Highlight the various aspect of length of stride in evacuation process.	4	CO3
Q 5	Discuss various stages of evacuation.	4	CO2

SECTION B

Q 6	Enlist the purpose and steps involved in fire safety audit assessing the fire safety condition of any occupancy or building.	10	CO2
Q 7	OR	10	CO3
	Explain the motives of arson and conclude their control measures at workplace.		
	Explain the fire investigation and identify the various factor influencing effectiveness of fire investigation		
Q 8	Justify the role of training & education of an employee for improving fire & safety condition at work place. Discuss various parameters considered in training & education for their effectiveness.	10	CO3
Q 9	Emphasize the incur cost and its benefits for an evacuation exit in industrial building (G3).	10	CO4

SECTION-C

Q 10	An organization has poor fire safety condition and met 1 fatality & 10 major incidents due to 20 numbers of fire incidents along with reportable injuries in a year. However, higher management of organization has not shown interest in engaging any auditing agencies assessing or identifying fire safety condition /culture at work place for improvements. Being a fire safety officer of this organization do the technical and economical evaluation of fire safety of workplace and highlight the need of a competent external agency for improving the situation.	20	CO5
	OR		
	Create an inspection checklist for fire safety requirements in a high-rise / modern building complying legal and other requirements.		

Q 11	<p>An auditorium of capacity 2000 has four columns. Each columns of seat is having a width of 16m with total evacuation time two minutes during a fire emergency. Calculate -</p> <ul style="list-style-type: none"> (i) Distance travelled if aisles are closed either side. (8 marks) (ii) Distance travelled if aisles are open either side. (6 marks) (iii) Width and number of exits required. (6 marks) <p>Assume, the speed of motion of people in unary stream as 40m/min. and that in primary stream as 16m/min., width of aisle is 2.0m, specific traffic capacity of exit, $q = 50$ persons/m-min, Width of each opening is 2m.</p>	20	CO5
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