

Name:  
Enrolment No:



UNIVERSITY OF PETROLEUM & ENERGY STUDIES

End Semester Examination (Online) – May, 2021

Course: Enterprise Risk Management

Semester: IV

Program: MBA (Business Analytics)

Time: 03 hrs.

Course Code: FINC 8005

Max. Marks: 100

IMPORTANT INSTRUCTIONS

1. The student must write his/her name and enrolment no. in the space designated above.
2. Use of calculator allowed.
3. Differentiation in marks will be based on how adequately explanations are given and illustrated.

SECTION A

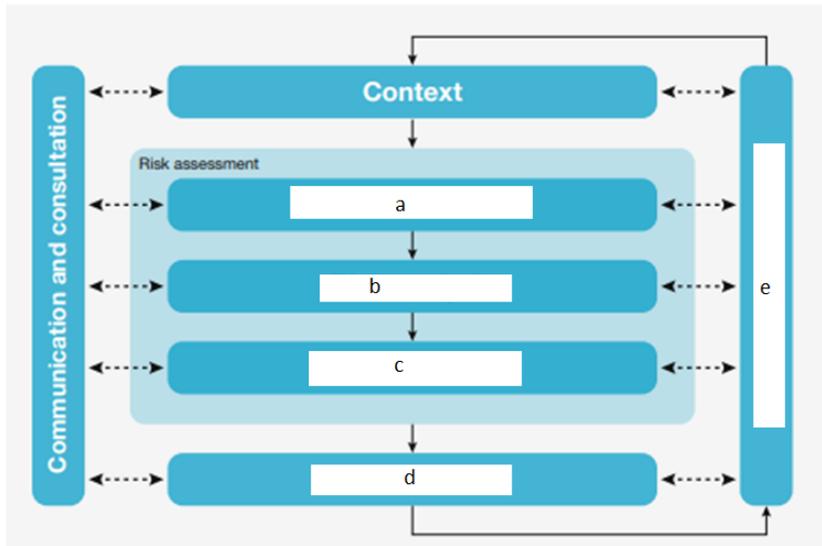
Q.No

1. Each Question will carry 6 Marks
2. Instruction: Complete the statement / Select the correct answer(s)

Marks

COs

Identify the values (a) to (e) that are components of the Integrated Risk Assessment framework:



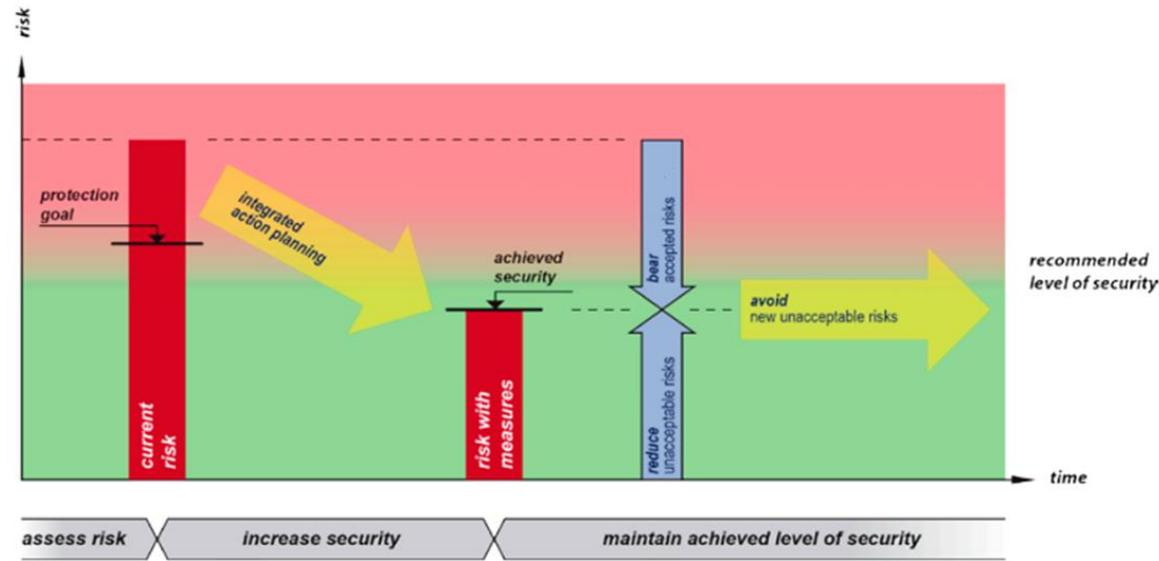
1.

5

CO1

Explain what is wrong in the below diagram and why:

Hint: a small change is made which looks inappropriate



2.

5

CO2

Fill in the blanks from the below options:

a) According to Miccolis et al. 2000, ERM focusses on \_\_\_\_\_ and \_\_\_\_\_. On the other hand, \_\_\_\_\_ diagnoses a project based on \_\_\_\_\_ and \_\_\_\_\_.

3.

5

CO4

**Options :** likelihood, risk mitigation, internal control, magnitude of impact, risk planning, strategic planning, risk assessment, success rate.

Match the following terminologies to their description:

Terminologies	Definition
1) Solvency Ratio	a) maximum amount that an insurance company will pay to someone who makes a claim
2) Sum Insured	b) Science of measuring the potential losses and plan to survive them.
3) Degree of Risk	c) Available capital relative to risks taken
4) Speculative risk	d) exposures that can result in loss or no change
5) Pure risk	e) Exposures that can result in loss, gain or no change.

4.

5

CO1

		f) Measure of accuracy with which outcome of an event based on chance can be predicted		
		g) Insurance pays for some unforeseen and unexpected losses that occur due to chance.		
5.	True/False (With explanation. If false then explain what type of governance is it, and if true then explain what is the other type of governance called. No marks without explanation)  <i>Standards and methods, and Capability and Efficiency</i> are part of supply-side governance that deals with internal control of risk in an enterprise.		5	CO1
6.	True/False (With explanation. If false they explain why and if true then explain what it means. No marks without explanation)  Equity refers to the value of a company's ownership shares; More specifically, equity is the complete, liquid value of a company.		5	CO2
<b>SECTION B</b>				
<b>1. Each question will carry 10 marks</b> <b>2. Instruction: Any answer to the question should not exceed 350 words. Mention assumptions clearly if you are taking one</b> <b>3. No marks if steps are written in paragraphs or if the handwriting is illegible</b>				
7.	Explain the four enterprise architectural strategies based on business process integration and business process standardization with one example each. (2.5 X 4 = 10)		10	CO2
8.	Explain the different IT-related risks in terms of:  a) Value enablement risk (3 Marks) b) IT programme and project delivery risk. Mention the name of the framework that ensures value delivery of the project. (3+1=4 Marks) c) IT operations and service delivery risk (3 Marks)		10	CO4
9.	As a small insurance company, you insure 1000 houses against fire damage per year. Generally, your firm does not insure houses that do not pass a certain fire-resistance test that you have introduced. Your firm's research has shown that fire incident happens at a rate of 0.1% per year. In such a case, your insurance company has to pay \$200,000 to the insured owner whose house is damaged. Every person pays \$20 a month or \$240 a year for the insurance.  Considering, the test does not result in false negatives (that is, any house that catches fire within a year definitely had failed the test). However, there is 5% false positive rate (that is, about 5% of the houses that fail the test might not necessarily catch fire within a year). Should you keep or not keep the testing system? No marks without proper mathematical explanation of the reason. (Hint: Find out the earning with and without the test). (4+3+3)		10	CO3
10.	Explain the two different methods of measuring portfolio risk. (5+5 Marks)		10	CO2

11.	The COSO framework explains that “an effective system of internal control reduces, to an acceptable level, the risk of not achieving” objectives. Explain in details the four major objectives that are addressed by the COSO framework.	10	CO4
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<b>SECTION C</b> <b>1. Each question will carry 20 marks</b> <b>2. Instruction: Write long answer (800 words maximum)</b>			
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12.	<p>Four processes are given:</p> <table border="1" data-bbox="168 468 1252 936"> <thead> <tr> <th></th> <th>Expected Return on Investment</th> <th>3min (cost incurred)</th> <th>6 min (cost incurred)</th> <th>12 min (cost incurred)</th> </tr> </thead> <tbody> <tr> <td>P1</td> <td>\$5</td> <td>0.82 (\$2)</td> <td>0.15 (\$6)</td> <td>0.03 (\$12)</td> </tr> <tr> <td>P2</td> <td>\$5</td> <td>0.79 (\$1)</td> <td>0.18 (\$5)</td> <td>0.03 (\$10)</td> </tr> <tr> <td>P3</td> <td>\$4</td> <td>0.78 (\$1)</td> <td>0.16 (\$8)</td> <td>0.06 (\$13)</td> </tr> <tr> <td>P4</td> <td>\$4.5</td> <td>0.75 (\$2)</td> <td>0.23 (\$6)</td> <td>0.02 (\$10)</td> </tr> </tbody> </table> <p>Explanation of the table:</p> <p>a) The above table shows the probability of each of the processes (P1, P2, P3, P4) to finish a task within 3 minutes, 6 minutes and 12 minutes respectively.</p> <p>b) Total expected return on investment each time the process completes a task, is also given.</p> <p>c) As a process moves from 3 minutes of running to 6 minutes of running and so on, its cost of running keeps increasing steadily. The value in bracket represents that cost that is incurred.  <b>Example:</b> Process P1 incurs a cost of \$2 to the firm when it works for 3 minutes, however, the cost of running P1 increases to \$6 as it enters the 4<sup>th</sup> minute until 6 minutes. When the task is still not completed and P1 moves to the 7<sup>th</sup> minute, the cost of running the process increases to \$12.</p> <p>Answer the following question to determine:</p> <p>a) Which process is most efficient? (6) (takes least expected time to finish the task)</p> <p>b) Which process is most expensive? (4)</p> <p>c) Which process is most profitable? (4)</p> <p>d) In case all the processes are used interchangeably, what is <b>the expected mean and standard deviation</b> (also can be recognized as risk tolerance) of completing one task by the firm? (6)</p>		Expected Return on Investment	3min (cost incurred)	6 min (cost incurred)	12 min (cost incurred)	P1	\$5	0.82 (\$2)	0.15 (\$6)	0.03 (\$12)	P2	\$5	0.79 (\$1)	0.18 (\$5)	0.03 (\$10)	P3	\$4	0.78 (\$1)	0.16 (\$8)	0.06 (\$13)	P4	\$4.5	0.75 (\$2)	0.23 (\$6)	0.02 (\$10)	20	CO3
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