

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2018

Course: IT Business Continuity & Disaster Recovery Planning

Course Code: CSIB 446

Semester: VII

Programme: B. Tech CSE+CSF

Time: 03 hrs.

Max. Marks: 100

SECTION A

S. No.		Marks	CO
Q 1 A	<p>1) John is the security administrator for company X. He has been asked to oversee the installation of a fire suppression sprinkler system, as recent unusually dry weather has increased the likelihood of fire. Fire could potentially cause a great amount of damage to the organization's assets. The sprinkler system is designed to reduce the impact of fire on the company. In this scenario, the sprinkler system is considered as _____?</p> <p>2) A fiber-optic cable running between two buildings being cut by a maintenance worker affects only the cable and the productivity for its cut, which might be only 40% of the organization's infrastructure. Calculate EF for the given asset.</p>	4	CO2, CO1
Q 2	<p>1) Who has the final approval of the business continuity plan? a) The planning committee b) Each representative of each department c) Management d) External authority</p> <p>2) To protect against a disaster or other site-specific problem, many people choose this method to backup their media. The location can be as simple as the System Administrator's home office or as sophisticated as a disaster hardened, temperature controlled, high security bunker that has facilities for backup media storage. Which type of backup system is this? a) On-line b) Offsite, offline vault c) Offline d) Near-line</p> <p>3) Uncertainty about outcomes that can be either positive or negative is known as: a) Hazard b) Risk c) Speculation d) Adverse selection</p> <p>4) Business enablers are: a) Process b) People c) Technology d) All of the above</p>	4	CO4, CO1

Q 3	Differentiate between risk, disaster, vulnerability and threat.	4	CO2
Q 4	What are the different data backup methods. Explain.	4	CO4
Q 5	Consider a scenario that threat possible in a fiber-optic cable asset that is running between two buildings is being cut by a maintenance worker affects only the cable and the productivity for its cut, which might be only 20% of the organization's infrastructure. This threat generally occurs in every 4 year. The asset value is \$25,000. Calculate Annualized Loss Expectancy (ALE).	4	CO3
SECTION B			
Q 6	Write full form of the following and explain these terms also: a) SAN b) NAS c) BIA d) RFP e) RFQ	10	CO2, CO3, CO4
Q 7	Explain the following terms with examples: a) Hot site b) Cold site c) Warm site d) Mobile site e) Reciprocal site	10	CO2
Q 8	Explain business continuity planning lifecycle with the help of diagram.	10	CO1
Q 9	What is the purpose of using ISO 22301 standard. Explain all the clauses of this standard also. OR Identify the business and operational risks inherent in an entity's disaster recovery/business continuity plan.	10	CO1, CO2
SECTION-C			
Q 10	Imagine you are a manager responsible for the business continuity management program for a major mobile telecoms company based in Hanover, Germany. You are part of a management team responsible for ensuring the safety and security of over 6,000 employees and ensuring they are able to continue providing a much-needed service to nearly 8 million customers. Now picture the chaos that would ensue if there was a fire at an important site that caused a service outage affecting fixed line telephony and ADSL across a large region of the country. What would you do to continue the business as normal?	20	CO1, CO2, CO3, CO4
Q 11	In below table, different assets like network operations center, web servers, web data and customer data are given with their value, Exposure factor (EF) and Annualized Rate of Occurrence (ARO). Calculate Single-Loss Expectancy (SLE) and Annualized Loss Expectancy (ALE) of all the given assets.	20	CO3

Asset	Threat	Asset Value	EF	SLE	ARO	ALE
Network Operations Center	Fire	\$500,000	0.45		0.2	
Web Servers	Power Failure	\$25,000	0.25		0.5	
Web Data	Virus	\$150,000	0.33		1	
Customer Data	Disclosure	\$250,000	0.75		0.66	

OR

a) Explain Exposure Factor, Single Loss Expectancy, Annualized Rate of Occurrence, Annualized Loss Expectancy, Annual Cost of Safeguard with the help of examples.
(15 marks)

b) Consider a scenario that threat possible in a fiber-optic cable asset that is running between two buildings is being cut by a maintenance worker affects only the cable and the productivity for its cut, which might be only 20% of the organization's infrastructure. The asset value is \$15,000. Calculate Single Loss Expectancy (SLE).
(5 marks)

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SECTION A

S. No.		Marks	CO
Q 1 J	<p>1) John is the security administrator for company X. He has been asked to oversee the installation of a fire suppression sprinkler system, as recent unusually dry weather has increased the likelihood of fire. Fire could potentially cause a great amount of damage to the organization's assets. The sprinkler system is designed to reduce the impact of fire on the company. In this scenario, the likelihood and damage potential of a fire is considered as _____?</p> <p>2) A fiber-optic cable running between two buildings being cut by a maintenance worker affects only the cable and the productivity for its cut, which might be only 20% of the organization's infrastructure. Calculate EF for the given asset.</p>	4	CO2, CO3
Q 2	<p>1) Uncertainty about outcomes that can be either positive or negative is known as:</p> <p>a) Hazard b) Risk c) Speculation d) Adverse selection</p> <p>2) Who has the final approval of the business continuity plan?</p> <p>a) The planning committee b) Each representative of each department c) Management d) External authority</p> <p>3) Arrange the different phases of disaster in correct order:</p> <p>a) Emergency response phase, Crisis phase, restoration phase, recovery phase b) Crisis phase, emergency response phase, restoration phase, recovery phase c) Crisis phase, emergency response phase, recovery phase, restoration phase d) Emergency response phase, Crisis phase, recovery phase, restoration phase</p>	4	CO2, CO4

	4) Risk management is a responsibility of the _____ a) Customer b) Investor c) Developer d) Project team		
Q 3	Explain the terms RTO, RPO, WRT, downtime.	4	CO1
Q 4	How business continuity differs from disaster recovery?	4	CO1
Q 5	Consider a scenario that threat possible in a fiber-optic cable asset that is running between two buildings is being cut by a maintenance worker affects only the cable and the productivity for its cut, which might be only 20% of the organization's infrastructure. The asset value is \$15,000. Calculate Single Loss Expectancy (SLE).	4	CO3
SECTION B			
Q 6	Explain the importance of Business Continuity Plan with the help of at least 3 industry illustrations.	10	CO1
Q 7	Identify the business and operational risks inherent in an entity's disaster recovery/business continuity plan.	10	CO2
Q 8	Explain the difference between Risk Assessment and Business Impact Analysis. What are the benefits of BIA?	10	CO2, CO3
Q 9	What factors/practices helped the investment company to recover from the incident. Explain your answer. OR Discuss different BCM & DR teams responsible for disaster recovery with their roles and responsibilities.	10	CO4
SECTION-C			
Q 10	Imagine you are a manager responsible for the business continuity management program for a major mobile telecoms company based in Hanover, Germany. You are part of a management team responsible for ensuring the safety and security of over 6,000 employees and ensuring they are able to continue providing a much-needed service to nearly 8 million customers. Now picture the chaos that would ensue if there was a fire at an important site that caused a service outage affecting fixed line telephony and ADSL across a large region of the country. What would you do to continue the business as normal?	20	CO1, CO2, CO3, CO4
Q 11	a) Explain the different phases of disaster with the help of examples. b) What do you understand by Business Continuity & Disaster Recovery? Explain different types of disaster.	20	CO1, CO3

OR

a) Explain the requirements for Cost Benefit Analysis.

b) Explain Exposure Factor, Single Loss Expectancy, Annualized Rate of Occurrence, Annualized Loss Expectancy, Annual Cost of Safeguard with the help of examples.