UNIVERSITY OF BOLTON

WESTERN INTERNATIONAL COLLEGE FZE

MSc INFORMATION TECHNOLOGY

SEMESTER ONE EXAMINATION 2018/2019

ENTERPRISE INFRASTRUCTURES

MODULE NO: MIT4104

Date: Saturday 12th January 2019   Time: 2:00pm – 4:00pm

INSTRUCTIONS TO CANDIDATES: There are **SIX** questions.

Answer ANY **FOUR** questions.

All questions carry equal marks.

Marks for parts of questions are shown in brackets.

Unless otherwise stated all symbols take their usual meaning.

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Question 1.

A B2B company specializing in consumer electronics wishes to replace the existing system it uses for sales reporting. The aim is to provide users with a seamless service over a variety of web clients and platforms.

a. Discuss SOA as a common platform for the B2B organization.

(13 marks)

b. Write a report which introduces non-technical Board members to the concept of the various types of Business information systems along with various functional areas of the Enterprise. Also, explain how it will ensure the success of the Enterprise.

(12 marks)

Total 25 marks

Question 2.

a. Identify the main three factors which made the mainframe to be used as Enterprise servers.

(3 marks)

b. Critically analyze Mainframes based on two types of its workloads.

(14 marks)

c. Critically assess the characteristics and architecture of logically partitioned systems in mainframe. What makes logically partitioned systems so attractive and why are they quickly becoming the norm for enterprise level systems?

(8 marks)

Total 25 marks

Question 3.

a. Based on market, classify the two cluster architectures.

(4 marks)

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Q3 continued.

b. If an organization did not want a super computer, they may still build a parallel cluster. Cluster Computing are a common choice for organizations that offer important services over the internet, such as internet banking. Analyze the architecture of clustering and its components. Critique their ability to achieve high availability, scalability and high performance.

(15 marks)

c. Discuss about CTC ring as a clustering technique in Mainframes using Logical Partitioning.

(6 marks)

Total 25 marks

Question 4.

a. Provide a comprehensive analysis of RAID as enterprise level storage arrays and their efficiency.

(7 marks)

b. Compare and contrast three different types of storage network technologies used in data centre based on its architecture and use.

(18 marks)

Total 25 marks

Question 5.

a. Analyse the components of contingency planning.

(3 marks)

b. Critically analyse the three recovery schemes for business continuity of contingency planning.

(9 marks)

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Q5 continued.

c. Critically evaluate the three backup strategies which can be used in enterprise systems for recovery.

(9 marks)

d. Discuss about Fault tolerance and few strategies to achieve fault tolerance in Food industry.

(4 marks)

Total 25 marks

Question 6.

a. Discriminate the Information Technology infrastructures. Support your analysis with diagrams.

(10 marks)

b. State how the Moore's law and Metcalfe's law forms basis of IT infrastructure evolution.

(4 marks)

c. Critically analyse cloud computing technology in enterprise level computing environment with suitable diagram.

(7 marks)

d. Discuss about hierarchical network design in an Enterprise systems.

(4 marks)

Total 25 marks

END OF QUESTIONS