



# PIONEER INTERNATIONAL UNIVERSITY

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## UNIVERSITY EXAMINATIONS

### BACHELOR IN INFORMATION TECHNOLOGY

**ACADEMIC YEAR: 2020/2021    UNIT NAME: SYSTEM INTEGRATION ARCHITECTURE**

**SEMESTER: May – August 2021**

**UNIT CODE: BSSE 4120**

**DATE: August 2021**

**Main exam**

**TIME: 2 HOURS**

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**INSTRUCTIONS: Answer question one (30 marks) and any other two**

#### **QUESTION ONE (COMPULSORY 30 MARKS)**

- a. Describe the Mapping sets of tasks against integration. [6 Marks]
- b. Globalization has led to unprecedented levels of competition. Successful corporations like Cisco, Dell and HP have followed the best business practices in their industry. What four key issues does the shortened life cycle due to such best practices call for?  
[4 Marks]
- c. Define the following terms; Enterprise integration patterns, aggregator pattern, Hodgepodge Architecture and Vertical Silos. [8 Marks]
- d. In systems integration, a number of components are in play.
- i. Distinguish between the two types of components in system integration. [2 Marks]
- ii. Give two examples of each. [4 Marks]
- e. Determining an appropriate systems integration solution is not a simple task by any means. Explain three ways that you must do to determine appropriate systems integration solution. [6 Marks]

#### **QUESTION TWO (20 MARKS)**

- a. Describe the five stages of ERP evolution. [6 Marks]

b. Explain any three reasons why many organizations implement hybrid integration. [6 Marks]

b. i. What is the goal of Enterprise Integration Patterns? [2 Marks]

ii. What are any two benefits of integration models? [4 Marks]

d. What is Business Process Re-engineering? [2 Marks]

### **QUESTION THREE (20 MARKS)**

a. Amtech is a company that deals with consultancy services in a number of areas. It has assembled a project team that needs to consider whether to integrate their different silo Information Systems or install a new one, as the CEO is not sure whether to buy a new system or not, using a diagram, explain the Challenges for Run-time Business Process Models that Amtech needs to understand. [6 Marks]

b. Worldwide, programmers are in short supply for maintaining existing lines of source code and new system code that is on very high demand today. What two reasons have the widespread use of Open Source Software been able to alleviate some of the severe shortages of programmers? [6 Marks]

c. Companies modernize their IT infrastructure for many reasons. Give any three. [3 Marks]

d. Give five reasons why design of large and complex enterprise integration solutions is a difficult task.

[5 Marks]

### **QUESTION FOUR (20 MARKS)**

a. There are many challenges to system integration. Discuss three key ones. [6 Marks]

b. Researchers have categorized open source software community into six different dimensions. Enumerate all of them. [6 Marks]

c. Describe any two Common Enterprise Integration Pattern Use Cases. [6 Marks]

d. What kind of integration is referred to as “help based integration?” [2 Marks]

**QUESTION FIVE (20 MARKS)**

- a. Human users are interested in consuming the output of the information systems. In what three ways is business intelligence captured in an ERP System? [6 Marks]
- b. Technology trends in System Integration have come a long way. Give a summary of four trends that are available today due to the wide-ranging demands placed on technology.[8 Marks]
- c. Enterprise integration is really more of a journey than a solution. Explain any six salient processes that many decisions for this journey go through. [6 Marks]

