



**MASINDE MULIRO UNIVERSITY OF SCIENCE
AND TECHNOLOGY**
(MMUST)

**UNIVERSITY EXAMINATIONS
2021 / 2022 ACADEMIC YEAR**

**SPECIAL EXAMINATIONS
YEAR THREE SEMESTER TWO EXAMINATIONS**

**FOR THE BACHELOR OF SCIENCE IN
INFORMATION TECHNOLOGY**

COURSE CODE : BIT 323
COURSE TITLE : INTERGRATIVE PROGRAMMING

DATE: MONDAY 01-08-2022

TIME: 8:00A.M-10:00A.M

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

Question #1 [30 Marks]

- a) Define the following terms as applied Integrative programming [14 Marks]
- i. Integrative Programming
 - ii. API
 - iii. Middleware
 - iv. Metadata
 - v. Web Services
 - vi. Design Patterns
 - vii. Interface
- b) Differentiate between SOAP and REST as applied in integrative programming [4 Marks]
- c) Define the term JSON RPC (2marks)
- d) Which function is used to convert a JSON text into an object? (2 mark)
- e) What is a distributed architecture (2 mark)
- f) What is an abstract class as applied in Java and how can it be used to achieve system integration? (4 mark)
- g) What is CORBA (2 mark)

Question #2 [20 Marks]

- a) Inheritance and polymorphisms can be used to achieve intra system integration. Briefly explain this two terms and the part they play in inter system integration [6 Marks]
- b) Explain the procedure of how to transform JSON text to a JavaScript object? (6marks)
- c) What is integration model? Discuss the three integration models (8marks)

Question #3[20 Marks]

- a) When designing a soap message there are compulsory tags one must use. With an example of the basic structure of a SOAP message state any four compulsory tags. [10Marks]
- b) Discuss the five challenges that can hinder integration of two systems [10Marks]

Question #4[20 Marks]

- a) What is a JSON Object and state its syntax (3marks)
- b) State any five advantages and five disadvantages of JSON in parsing (10 marks)
- c) What is the difference between Web Service Description Language (WSDL) and Universal Description, Discovery, and Integration (UDDI) services (4 marks)
- d) State any three conditions that can make a web server RESTful (3 marks)

Question #5[20 Marks]

- a) Design patterns can be organised using three ways. Discuss this methods (6 Marks)
- b) Briefly discuss the four methods that can be used to integrate two systems [8 Marks]
- c) Discuss any three types of inheritance as applied to Java (6 Marks)