



*(Knowledge for Development)*

**KIBABII UNIVERSITY**  
**(KIBU)**

**UNIVERSITY EXAMINATIONS**  
**2020/2021 ACADEMIC YEAR**

**END OF SEMESTER EXAMINATIONS**  
**YEAR TWO SEMESTER ONE EXAMINATIONS**

**FOR THE DIPLOMA IN**  
**INFORMATION TECHNOLOGY**

**COURSE CODE** : BIT 323  
**COURSE TITLE** : INTERGRATIVE PROGRAMMING

**DATE:** 13/10/2021

**TIME:** 9.00 A.M. – 11.00 A.M

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**INSTRUCTIONS TO CANDIDATES**

**ANSWER QUESTIONS ONE AND ANY OTHER TWO.**

### QUESTION #1 (COMPULSORY) [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 an abstract class is 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 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)