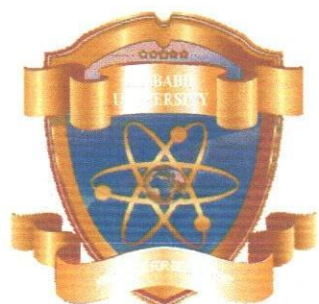


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*(Knowledge for Development)*

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

**UNIVERSITY EXAMINATIONS**  
**2021/2022 ACADEMIC YEAR**

**MAIN EXAMINATION**  
**YEAR THREE SEMESTER TWO EXAMINATIONS**  
**FOR THE DEGREE OF BACHELORS OF SCIENCE**  
**INFORMATION TECHNOLOGY**

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

**DATE: 07/09/2022      TIME: 09.00A.M.-11.00A.M.      2HRS**

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**INSTRUCTIONS TO CANDIDATES**

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

### QUESTION ONE (COMPULSORY) [30 MARKS]

- a) Define the following terms as applied Integrative programming
- i. Integrative Programming [2 Marks]
  - ii. API [2 Marks]
  - iii. Middleware [2 Marks]
  - iv. Metadata [2 Marks]
  - v. Web Services [2 Marks]
  - vi. Design Patterns [2 Marks]
  - vii. Interface [2 Marks]
- 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 marks]
- e) What is a distributed architecture [2 marks]
- f) What an abstract class is as applied in Java and how can it be used to achieve system integration? [4 marks]
- g) What is CORBA [2 marks]

### QUESTION TWO [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 intra system integration [6 Marks]
- b) Explain the procedure of how to transform JSON text to a JavaScript object? [6 marks]
- c) What is integration model? Discuss the three integration models [8 marks]

### QUESTION THREE [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 and explain any four compulsory tags. [10Marks]
- b) Discuss the five challenges that can hinder integration of two systems [10Marks]

### QUESTION FOUR [20 MARKS]

- a) What is a JSON Object and state its syntax [3 marks]
- 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 RESTFULL [3 marks]

### QUESTION FIVE [20 MARKS]

- a) Design patterns can be organized 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]