

**BOWEN UNIVERSITY IWO, OSUN STATE**  
**COLLEGE OF COMPUTING AND COMMUNICATION STUDIES**  
**COMPUTER SCIENCE PROGRAMME**

**B. SC. DEGREE FIRST SEMESTER EXAMINATION SESSION: 2022/2023**  
**COURSE CODE: CIT 405 COURSE TITLE: SOFTWARE ENGINEERING**  
**COURSE CREDIT: 3 DATE: TIME ALLOWED: 2 HOURS 30 MINUTES**  
**INSTRUCTION: Answer any Five questions**

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**Question 1**

Design patterns are reusable solutions to recurring problems in software design. They capture best practices and provide a proven way to solve specific design problems. As a student of computer science:

- a. Classify design patterns with examples. **15 marks**
- b. State the importance of design patterns to a software developer **5 marks**

**Question 2**

Architectural styles in software architecture are a set of principles that shape the overall design and structure of a software system. These styles define the organization of components and the interactions between them.

- a. Highlight any 5 impact of architectural styles on software development. **10 marks**
- b. Identify 5 things considered when choosing an architectural style **10 marks**

**Question 3**

Application Programming Interface is a set of rules and protocols that allows different software applications to communicate with each other. As a student of computer science:

- a. List and explain any 8 types of API **10 marks**
- b. Differentiate between REST and SOAP **5 marks**
- c. Identify the Importance API documentation **5 marks**

**Question 4**

It is believed that as a consulting project manager, you understand class browser as a software tool used in object-oriented programming environments to display and interact with classes, their methods, attributes, and relationships within a codebase. In relation to this believe,

- a. Highlight 8 features of class browsers **10 mark**
- b. Explain the relationship between a class browser and object oriented programming **5 marks**
- c. Give 5 examples of class browsers. **5 marks**

**Question 5**

Critically xray the concept of componentbased computing detailing the meaning, principles, advantages and disadvantages, **20 marks**

**Question 6**

- a. Modelling is very key to software development. As a student of computer science identify and explain any 5 diagrams that are synonymous to Unified Modeling Language (UML).