SCHOOL OF PROFESSIONAL STUDIES

BACHELOR OF BUSINESS INFORMATION TECHNOLOGY

UNIT CODE/NAME: BBIT 324: OBJECT ORIENTED DESIGN

January – April 2019/2020 End Semester Exam - Time: 2 Hours

Instructions: Answer Question ONE (Compulsory) and any other TWO questions.

QUESTION ONE

a) With a suitable example, differentiate between Analysis and Design as used in Object Oriented Analysis and Design. **(4 marks)**

b) Define the term UML and explain any **three** perspectives in which UML may be applied. **(8 marks)**

c) Explain the following terms as used in Object Oriented Analysis and Design. **(10 marks)**

i. Class
ii. Object
iii. Polymorphism
iv. Message passing
v. Encapsulation

d) Define ***iterative development*** and explain any **three** benefits of using it in software system development **(8 marks)**

QUESTION TWO

a) Using an example of a "dice game" in which software stimulates a player rolling two dice, if the total is seven, they win; otherwise, they lose. Explain the three system Analysis and Design steps with illustrations under the following definitions;

i. Use cases

ii. Domain model

iii. Interaction diagrams **(15 marks)**

QUESTION THREE

a) With an aid of a diagram, explain object-oriented system development life cycle.

(15 marks)

QUESTION FOUR

a) What is agile modelling? **(1 mark)**

b) Explain some of the practices and values one should consider when adopting agile modelling.

(14 marks)

QUESTION FIVE

a. Define the term Prototype and explain the various types of prototypes **(10 marks)**

b. Define the following terms as used in state machines in OOP design

i. Event **(1 mark)**

ii. State **(1 mark)**

iii. Transition **(1 mark)**

iv. Nested states **(2 marks)**