

**NATIONAL OPEN UNIVERSITY OF NIGERIA**

**JABI FCT ABUJA**

**FACULTY OF SCIENCE**

**FEBRUARY 2017 EXAMINATION**

**CIT831: Software Engineering Methodologies**

**TIME ALLOWED: 3Hours**

**INSTRUCTION(S): Attempt any Four (4) questions**

**Question 1**

1. When is software said to be fault-free? **- 6 marks**
2. Describe functional and non-functional system requirements **- 3.5 marks**
3. List any 3 requirements validation techniques you know **- 3 marks**
4. Briefly explain the composition of the architectural model **- 5 marks**

**Question 2**

1. Software engineering involves wider responsibilities than simply the application of technical skills. Discuss the issues of professional responsibility that you know

**– 8 marks**

1. Software prototyping has many variants. Discuss the demerits of evolutionary prototyping over throwaway prototyping **- 9.5 marks**

**Question 3**

1. What do you understand by requirements engineering? List and discuss any 5 types of requirement that you know **- 7 marks**
2. Justify the use of data flow diagrams in system development **- 4 marks**
3. Each of the models used in system development has drawbacks. Discuss the drawbacks of the waterfall model **- 6.5 marks**

**Question 4**

1. As a professional software developer, justify the concept of systematic software re-use in the context of software engineering? **- 5 marks**
2. Discuss the various classifications of computer-aided software engineering (CASE)

**– 7.5 marks**

1. Enumerate in chronological order, the different stages of the waterfall system development model? **- 5 marks**

**Question 5**

1. What are functional user requirements? What are the merits and demerits of functional user requirements? **- 9.5 marks**
2. Requirements validation guarantees that the defined system requirements fit the customer’s need. Enumerate the requirement checks you would carry out as a system developer? **- 8 marks**