CIT831: Software Engineering Methodologies
TIME ALLOWED: 3Hours
INSTRUCTION(S): Attempt any Four (4) questions

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

Question 2
a. Software engineering involves wider responsibilities than simply the application of technical skills. Discuss the issues of professional responsibility that you know
                                                             – 8 marks
b. Software prototyping has many variants. Discuss the demerits of evolutionary prototyping over throwaway prototyping   - **9.5 marks**

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

Question 4
a. As a professional software developer, justify the concept of systematic software re-use in the context of software engineering?   - **5 marks**
b. Discuss the various classifications of computer-aided software engineering (CASE)
                                                             – 7.5 marks
c. Enumerate in chronological order, the different stages of the waterfall system development model?   - **5 marks**

Question 5
a. What are functional user requirements? What are the merits and demerits of functional user requirements?   - **9.5 marks**
b. 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**