



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

- 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**