



**NATIONAL OPEN UNIVERSITY OF NIGERIA,  
PLOT 91, CADASTRAL ZONE, UNIVERSITY VILLAGE, JABI – ABUJA  
FACULTY OF SCIENCES  
2022\_2 EXAMINATION**

**COURSE CODE: CIT851**

**COURSE CREDIT: 3**

**COURSE TITLE: ADVANCED SYSTEMS ANALYSIS AND DESIGN**

**TIME ALLOWED: 2<sup>1</sup>/<sub>2</sub> HOURS**

**INSTRUCTION: ANSWER QUESTION ONE (1) AND ANY OTHER FOUR (4)  
QUESTIONS**

- 1a. Assuming you were recruited as a System Developer, state and elucidate on the first six (6) steps of the System Development Life Cycle you should adopt in executing your task. (9 marks)
- 1b. Distinguish between Front-End and Back-End CASE tools, giving examples of each of them (6marks)
- 1c. Using a commercial Bank branch as a case study, state the key roles of the following types of participants in a Joint Application Development session. Give an example of each type of participant. (10 marks)
- i. Manager
  - ii. Users
  - iii. System Analyst
  - iv. Sponsor
  - v. Scribe
- 2a. Briefly analyse real time systems (3 marks)
- 2b. Outline and briefly analyse the three (3) classes of information. (6 marks)
- 2c. Elucidate on any three ways of installing a new system (6 marks)
- 3a. Within the context of systems analysis and design, give a concise description of the the following principles of design (4 marks)
- i. Coupling
  - ii. Span of control
  - iii. Cohesion
  - iv. Modularity and partitioning
- 3b. List the characteristics of a System Requirement Specification (5 marks)
- 3c. Outline and describe any six guidelines for User Interface design (6 marks)
- 4a. Briefly analyse Soft Real-Time Systems (3 marks)
- 4b. Mention and explain the two main components of System Development (6 marks)



4c. Assuming you were recruited to work in an Information Technology (IT) firm. Your first task is to convince the management of the firm to employ distributed systems in their service delivery. Mention and specify the four (4) main merits of distributed systems (6 marks)

5a. You have been nominated by Company *ABC* to lead the fact-finding activity for a bespoke software project to be developed by your company for Company *XYZ*. You are required to collect the following information as shown in i, ii, iii, iv, v and vi. Which fact finding technique will be most suitable for each of the following assignments? (6 marks)

- i. Collecting information from the customer service staff while they are at work.
- ii. Collecting information from the CEO of *XYZ* Company.
- iii. Collecting information from Five Hundred staff members of *XYZ* Company.
- vi. To confirm by observation, the authenticity of information collected from another source.
- v. Collecting information from older staff in the five departments of company *XYZ* in such a way that the problem will be discussed, where they are expected to provide answers to your questions.
- vi. Collecting very important information from the Chief Executive Officer of the company who happens to be a very busy fellow.

5b. List and describe any six Graphical User Interface controls for inputs (9 marks)

6a. Write a short note on "Documentation". (4 marks)

6b. CASE tools are essential tools for Systems Analysis and Design. Outline and briefly describe any five types of these tools (5 marks)

6c. Describe the Process and steps of documentation (6 marks)