



**NATIONAL OPEN UNIVERSITY OF NIGERIA,  
PLOT 91, CADASTRAL ZONE, UNIVERSITY VILLAGE, JABI – ABUJA  
FACULTY OF SCIENCES  
2020\_2 EXAMINATIONS**

**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)**

1a) Based on what you've learnt from this course, outline any 4 problems of systems development that necessitated the use of Software Development Life Cycle (SDLC). **(4 marks)**  
1b) Expound on the term "Modularity" from the perspective of systems analysis and design.

**(3 marks)**

1c) Write briefly on the implications of re-engineering. **(3 marks)**

1d) Give a short description of the following types of systems.

i. Open system **(1 mark)**

ii. Formal system **(1 mark)**

1e) State two examples each of the following types of systems

i. Open system **(2 marks)**

ii. Abstract system **(2 marks)**

1f) In a bid to improve their mobile banking service, Bank ABC has decided to develop a new mobile banking application using Joint Application Development. Using the bank as a case study, give one possible example each of the following type of participants in this exercise. **(3 marks)**

i. Users

ii. Sponsors

iii. System Analysts.

1g) Elucidate on the Information system audit in systems analysis and design. **(3 marks)**

2a) Briefly list and describe the 3 main classes of information in systems analysis and design. **(6 marks)**

2b) As an expert in Systems Analysis and Design, classify the following forms of information;

i. Customers' accounts information **(1 mark)**

ii. Organization's supply record book for ABC company **(1 mark)**

iii. January sales report **(1 mark)**

iv. Customer warranty card **(1 mark)**

v. Financial audit report prepared for the tax authority **(1 mark)**

vi. Documentation for a new product from the company **(1 mark)**

3a) What is the essence fact finding in system analysis? **(3 marks)**

3b) As a System Analyst carrying out a fact finding task for a new software project to be developed for *ABC Company*, you are required to collect the following information as depicted in i, ii, iii and iv.

Which fact finding technique will be most suitable for each of these tasks?

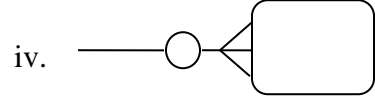
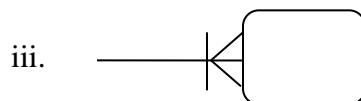
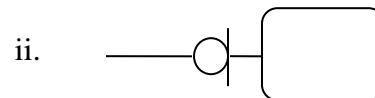
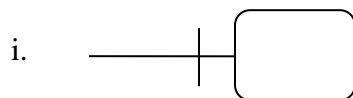
- i. Very important information from the Chief Executive Officer of the company who happens to be a very busy fellow. (*1½ mark*)
- ii. information from knowledgeable staff in the various departments of the organization in such a way that the problem will be discussed, where they are also expected to provide answers to your questions. (*1½ mark*)
- iii. To verify and confirm by observation, the validity of information collected from other sources. (*1½ mark*)
- iv. To collect information from One Thousand staff members of *ABC Company*. (*1½ mark*)

3c) What is Joint Application Development? (*3 marks*)

4a) State the key function of an entity relationship diagram? (*2 marks*)

4b) Write briefly on the term "Cardinality". (*2 marks*)

4c) Identify the type of cardinality given in the graphic notations provided;



(*4 marks*)

4d) Describe the following terms

- i. One-to-one relationship (*2 marks*)
- ii. One-to-many relationship (*2 marks*)

5a) What are CASE tools? (*3 marks*)

5b) List any four features of CASE-based system development. (*4 marks*)

5c) Briefly describe the following tools and give one example of each;

- i. Front-End Tools (*2½ marks*)
- ii. Back-End Tools (*2½ marks*)

6a) Describe the following types of feasibilities.

- i. Technical feasibility (**2 marks**)
- ii. Economic feasibility (**2 marks**)
- iii. Operational feasibility (**2 marks**)

6b) Briefly explain the essence of document maintenance in systems. (**3 marks**)

6c) What is a System Requirements Specification? (**3 marks**)