



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI-  
ABUJA**  
**FACULTY OF COMPUTING**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**2025\_2 EXAMINATIONS**

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**COURSE CODE : CIT 851**

**COURSE TITLE : Advanced Systems Analysis and Design**

**CREDIT UNIT : 3**

**TIME ALLOWED : 2½ HOURS**

**INSTRUCTION:** Answer Four Questions. Question 1 is compulsory

1.a) What views do you have about System Analysts with respect to business system? *[3 marks]*

b) What are the desirable qualities of a systems analyst?. *[2 marks]*

d) Elaborate on the concept of Coupling and share your insights on what it entails. *[5 marks]*

d) State the measures to be adopted by users to protect themselves against viruses *[5 marks]*

e) write short notes on the following;

i) cardinality ii) Decision Tree iii) Stress Testing iv) Direct Approach v) Inference Engine  
*[10 marks]*

2.a) State and explain the different characteristics of a System. *[5 marks]*

b) Define prototyping and provide an explanation of its concept. *[5 marks]*

c) List the fundamental guidelines for input design. *[5 marks]*

3.a) Provide an explanation for each of the five layers of a Distributed System. *[5 marks]*

b) State the advantage and disadvantages of Questionnaires. *[6 marks]*

c) Describe how management information systems are used. *[4 marks]*

4.a) State the major tasks of structured system analysis. *[4 marks]*

b) List the individuals or groups who typically participate in Joint Application Development (JAD). *[5 marks]*

c) Describe the joint application development in a few sentences. *[6 marks]*

5. a) Explain the role of a systems analyst in modern businesses *[3 marks]*

b) Illustrate the various parts of a data flow diagram using a graphical representation and provide an explanation for each component? *[8 marks]*

c) Describe the four types of managerial skills that a systems analyst must possess in order to serve as the team leader for a project. *[4 marks]*

6. a) With an aid of a diagram depict the different phases of the System Development Life Cycle *[7 marks]*

b) State the guideline required for a good database design. *[5 marks]*

c) Give a real-world example to illustrate the formal system notion. *[3 marks]*