



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**91 CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESS WAY, JABI, ABUJA**  
**FACULTY OF ARTS**  
**DEPARTMENT OF PHILOSOPHY**  
**2025\_2 EXAMINATIONS**

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**COURSE CODE:** PHL301:

**COURSE TITLE:** SYMBOLIC LOGIC (3 CREDIT UNITS)

**TIME:** 3HOURS

**INSTRUCTIONS:** Answer questions one and five and any other two.

1. a. With illustrations explain what you understand by Propositional Letters. **10 marks**  
  
b. Symbolize the following propositions using P and Q:
  - i. Peter Obi is the Presidential candidate of Labour Party and Tinubu is the Presidential Candidate of APC.
  - ii. M. Buhari is the President of Nigeria and Nigeria is a country in West Africa.
  - iii. If Tinubu learns how to symbolize, then Emeka will be amazed.
  - iv. Femi Peters will teach him if Oshoba pays him a big fee.
  - v. Adegboyega will pass if and only if Omazu helps him. **10 marks**
  
2. Using parenthesis where necessary; symbolize the following complex propositions:
  - a. If either the government relents or *Newswatch* wins her case, then the people will be happy. **7.5 marks**
  - b. On the one hand, either old age is valued or we fail to respect our elders and should suffer the same fate; or, on the other hand, it is not the case that old age is valued and experience respected. **7.5 marks**
  
3. a. With one example of a conjunctive and disjunctive proposition explain what you understand by the principles or rules of Conjunction and Disjunction. **7.5 marks**  
b. With the aid of a truth-table show how many vertical rows we will have in a three distinct components of q, p, q **7.5 marks**
  
4. With the aid of truth-table show the truth-functions of the following propositions:

- a. General Ojukwu was the Head of the defunct Biafra Republic during the war and General Gowon was the Head of the Nigeria Republic during the war. **7.5 marks**
- b. Olusegun Obasanjo is a retired army general and Theophilus Danjuma is a retired army general. **7.5 marks**

5 a. Use truth-table to determine whether the following truth-functional propositions are tautologies, contradictions, or contingent.

i.  $q \sim q$

ii.  $p \vee \sim p$

iii.  $S \supset T$  **15 marks**

b. Use the truth-table to determine the validity or invalidity of this argument:

$(A \vee N) \supset T$

N. A

$\therefore T$  **5 marks**