

# SOUTHWESTERN UNIVERSITY NIGERIA

KM 20, SAGAMU-BENIN EXPRESSWAY, OKUN OWA, IJEBU-ODE, OGUN STATE.

FACULTY OF PURE & APPLIED SCIENCES

DEPARTMENT OF COMPUTER SCIENCE

HND TO BSC CONVERSION PROGRAMME

2018/2019 SECOND SEMESTER EXAMINATION

**COURSE CODE:** CSC 308

**COURSE TITLE:** Compiler Construction

**INSTRUCTION:** Answer question 1 and any other three (3). **TIME:** 2hrs

1. (a) (i) In a tabular form, give a summary of languages, Automation and production Rules of Chomskys four types of Grammars.  
(ii) Use diagram only to show all the phases of a compiler.  
(b) Explain what happens at each phase of the compilation process.  
(c) State the essential properties of a Compiler?
2. (a) In designing a compiler, explain the scanner and state the functions of the scanner  
(b) Define a transistor and state why translators are important in programming?
3. (a) In constructing a compiler, discuss the need for the lexical Analyzer?  
(b) There are various challenges involved in constructing or developing compilers. Enumerate three of such challenges and discuss?
4. (a) The importance of formal languages in computer programming cannot be over emphasized, expound and the relevance of formal language.  
(b) Describe the various approaches to the code generator and outline the issues in the design of the code generator?
5. (a) Distinguish between the intermediate code generator and the code generator phases of the compiler.  
(b) As a general rule, compiler writers should attempt to express error which can be detected during Lexical Analysis and Run Time errors.