

Roll No.

Subject Code—6816

M.C.A. (Fifth Year) EXAMINATION

(Main/Re-appear)

(5 Years Integrated Course)

MCA-501

**PRINCIPLES OF PROGRAMMING
LANGUAGES**

Time : 3 Hours

Maximum Marks : 100

Note : Attempt any *Five* questions. All questions carry equal marks.

1. (a) Discuss about various types of data and variables. 10
- (b) Discuss various factors influencing language design. 10

2. Explain about Chomsky hierarchy of formal languages. Also design various formal languages for a series of '0' and '1' and 101100110011:..... 20
3. Describe about language paradigms. Show scope rule and procedure activation in structured programming with the help of suitable example. 20
4. What do you mean by object, class and object oriented programming ? Also discuss about various concepts and design issues for OO languages. 20
5. What is functional programming ? Describe about its applications and write a program to show functional programming. 20
6. What do you mean by logic and logical system ? Discuss various formal logical systems. 20

- (a) What is Database, Relational database and SQL ? 10
- (b) What is parallel processing ? How does this affects design of language ? 10

Write short notes on the following :

- (a) Abstraction
- (b) Push down Automata
- (c) Language design trade-off
- (d) Ambiguous Grammar. 5×4=20