

Internal Assessment-I
Practice questions
Subject-PCPF
SEM -III-DSE

Syllabus for IA1

Module 1-Introduction to Programming Paradigms and Core Language Design Issues

Module 2-Imperative Paradigm: Data Abstraction in Object Orientation

Module 4-Prolog

Module 1-Introduction to Programming Paradigms and Core Language Design Issues

1. Comparison between imperative languages and declarative languages.
2. What is scope, binding?
3. Short note on: Dynamic Scoping, Static Scoping.
4. What is a Java Virtual Machine.
5. Explain following terms:
 - Language design time
 - Language implementation time
 - program writing time
 - compile time
 - link time
 - load time
 - Runtime
6. Compiler & interpreter
7. Explain following storage allocation with example

1. Static Allocation
2. Stack Allocation
3. Heap Allocation

8. Compare Compiler time binding & Run time binding (Early & Late Binding)
9. List different imperative languages.
10. List different declarative languages.

Module 2: Imperative Paradigm: Data Abstraction in Object Orientation

- 1) What are different features of object oriented programming paradigms?
- 2) What is inheritance? Explain different types of inheritance with example?

- 3) Explain polymorphism and its type.
4) how does C++ support the properties of encapsulation and data hiding?

Module 4: Prolog

Exercise 1. How many facts, rules, clauses, and predicates are there in the following knowledge

base? What are the heads of the rules, and what are the goals they contain?

woman(vincent).

woman(mia).

man(jules).

person(X):- man(X); woman(X).

loves(X,Y):- father(X,Y).

father(Y,Z):- man(Y), son(Z,Y).

father(Y,Z):- man(Y), daughter(Z,Y).

2) Find answer for given query:

friend(jin, james).

friend(jin, john).

likes(john, jin).

likes(james, john).

happy(X):- friend(X,Y), likes(Y,X).

Query : Who is happy?

3) Explain the unification and resolution in prolog

4) Explain what are facts, rules, and queries in logic programming with example.

5) Draw Resolution graph

Topic Database Manipulation

Exercise 7 Suppose we start with an empty database. We then give the command:

assert(q(a,b)), assertz(q(1,2)), asserta(q(foo,blug)).

What does the database now contain?

We then give the command:

retract(q(1,2)), assertz((p(X) :- h(X))).

What does the database now contain?

We then give the command:

`retractall(q(_,_)).`

What does the database now contain?