Paper on chosen language, Part III.

All question below are w.r.t. the language chosen. You must give exact references of the documents used to answer the questions giving exact locations in them.

Programming language types.
1. Describe all primitive types supported by the language.
2. Describe all composite built-in types supported by the language.
3. Describe all constructs available to define user-defined types.
4. Lists the different ways you can use to define the following data structures:
   a. Student roll for a class.
   b. Employee roll, having different type of employees.
   c. Dictionary.
   d. A tree.

5. Parameter passing mechanisms:
   What type of parameter passing mechanisms your language provide. Name each and give an example of its use.
   Can you specify functions as parameters?
   Can you return functions as values?
   Can you specify function types and declare variables of such types? Provide example if so.

6. Generics:
   Can you specify generic data structures? If so is the parameter of the generic definition a type or is it something else?
   Can you specify generic methods? Provide an example of such if so.

7. Control structures:
   List all the forms of conditionals and loops provide by the language. Give an example of each. If the language does not provide a mechanism for loops, explain the construct that replace them and provide an example.

8. Exceptions:
   Can exceptions be declared in the language. If so provide an example, and provide an example where exceptions are raised and handled.

9. Interesting language features:
   List other language facilities provided by the language that in your view are a plus for the language.

10. Computational model.
    Describe and illustrate the model of computation supported by the language to write programs. Does the run-time system provide any computational support?

10. Programming component:
    Functional programming group:
    a. Write an implementation of the following data types: a dictionary.
b. Write an implementation of the data type employees, having 3 different forms of payments.
c. Use a. and b. to implement a simple search based on employee code.

Logic programming group:
Write a program that allows searches for employees; they have 3 different forms of payments. After searching for the employee you should be able to query for its salary.

Weight of programming component: 40%.