Q2,Q3

Q2.	Solve the following. (20 Marks)
A	**Solve any Two** **5 marks each**
i.	Write following English statements in Prolog. Mention which are facts and rules. a. Ram writes a book. b. Sham reads a book if it is written by Ram. c. If someone reads any book then he is a scholar. d. If someone reads a book written by Ram he is a fan of Ram . e. Sham is a fan of ram.
ii.	Differentiate early binding times and late binding times.
iii.	Describe the concept of gated expressions in Haskell with an example.
B	**Solve any One** **10 marks each**
i.	What do you mean by type class ? Explain in detail.
ii.	Explain unification in prolog with the help of an example. Describe the unification rules for prolog.

Q3	Solve the following. (20 Marks)
A	**Solve any Two** **5 marks each**
i.	What is pattern matching in Haskell ? Explain with the example.
ii.	What is a composite data type? Explain different composite data types.
iii.	Name and explain use of any 5 list processing function in Haskell's prelude library
B	**Solve any One** **10 marks each**
i.	Illustrate storage management mechanisms with the help of labeled diagrams.
ii.	Describe the Prolog search strategy. Discuss backtracking and the instantiation of variables.

Q4)

Q4	*Solve the following.* (20 Marks)
A	**Solve any Two** **5 marks each**
i.	Explain the concept of Higher Order function in Functional programming with an example.
ii.	Compare Imperative and Declarative paradigms with reference to, definition, purpose, complexity, flexibility, subcategory and applications.
iii.	Which are important factors to be considered, while making a choice of a programming language ?
B	**Solve any One** **10 marks each**
i.	Describe functional language features in detail. Which are often missing in imperative programming languages.
ii.	Consider following knowledge base in prolog: smog(delhi). smog(simla). fog(delhi). polluted(X) :- smog(X), fog(X). Explain how the following three queries are answered by the Prolog system and also tell the output given by Prolog when you submit these queries. a. polluted(X) b. polluted(simla)