Write the answers for the questions:

1. What are the different types of prototype specifications?
2. List the different types of parameter passing mechanisms supported by C++?
3. What is the advantage of passing arguments by reference?
4. What is the most significant advantage that you see in using references instead of pointers?
5. When you will make a function inline? Why?
6. How does an inline function differ from a preprocessor macro?
7. When do we need to use default arguments in a function?
8. What is function overloading? How does the compiler resolve when a set of overloaded function having the same name?
9. What is generic programming? How it is implemented in C++?
10. A template can be considered as a kind of macro. Then, what is the difference between them?
11. Distinguish between overloaded functions and function templates?

**Programming Problems:**

1. Write a function program to add given two matrices of size *mxn*?
2. Write a function program to multiply given two matrices of size *mxn* and *pxq*?
3. Write a program to demonstrate parameter passing mechanisms in C++?
4. Write  a program to demonstrate default arguments?
5. Write an overlaoded function 'area' that computes the area of a square, rectangle, circle and triangle?
6. Write a function template for finding the first and second maximum values contained in an array?
7. Write a template function program  to perform linear search in an array?
8. Write a template function to sort a given list of elements of size 'n. (Elements may be char, int or float)?
9. Write a function program to implement towers of Hanoi problem using recursion?
10. Write a function program to sort a given list of strings?