Q.1  
   a. Write a brief note on absolute loader and its functionality.  
   b. Discuss the merits of multipass assembler.  
   c. State differences between a linker and a loader.  
   d. Write short note on Code Optimization Techniques.  
   e. Explain incremental compilation.  
   f. State major functions of an editor.  
   g. How is a linkage editor used? Explain.  

(7 × 4)

Q.2  
   a. What is system software? Explain the components of system software.  
   b. Define application software. Discuss differences between system software and application software.  

(9)

Q.3  
   a. What is bootstrap loader? Explain bootstrap loader process.  
   b. Write short note on Macro Processing within Language Translators.  

(9)

Q.4  
   a. Describe the structure of a single pass assembler.  
   b. What is conditional assembly? Explain with example.  

(9)

Q.5  
   a. What is compiler? Explain different phases of compilation.  
   b. Use suitable example to explain the concept of Parsing and left recursive in compiler.  

(9)
Q.6  a. Explain interactive debugging system. State its functions and capabilities.  
     b. Define interpreter. Discuss differences between compiler and interpreter.

Q.7  a. Explain the functions of program linking in machine dependent loader.  
     b. What are editors? Discuss various categories of editors along with their functions.