

MCA/M06
System Programming
Paper MCA -404/405
Option (ii)

Time : 3 Hours

MM:50

Note:- Attempt any Five questions.

UNIT-I

- 1 What is System Programming? Explain the layered organization of the system software. Can the same layered organization be applied to application software? Discuss the differences between System Software and Application software also. 10
- 2(a) What is an Assembler? What should be ideal characteristics of an assembler? Explain. 3
- (b) Explain in detail the two-pass assembler and its advantages over one pass assembler. 7
- 1 Define a Macro. Explain the various tasks involved in macro expansion giving suitable examples. Also explain the conditional macro expansion and recursive macro expansion. 10
- 2 What is Compiler? What are the different phases of compilation process? Explain. What is parsing? Explain with examples. Also explain the differences between incremental and cross compilers. 10
- 5(a) What do you understand by the Interactive programming environment? Explain. 5
- (b) What are line-editor and text editor? What are their merits and demerits? Explain. 5
- 6 What are the various functions of loader? During what stage of loading each of them is performed in the different schemes of loaders? Explain in detail. 10
- 7(a) Explain the various functions of loader? During what stage of loading each of them is performed in the different schemes of loaders? Explain in detail. 10
- (b) Explain the differences between loader and linker. Differentiate between absolute loader and relocating loader 5
- 8 What is software tool? Explain the various housekeeping tasks performed by software tools in program development and application usage. 10
- 9 Write short notes on the following.
 - (a) Compilation of expressions
 - (b) Compilation of control structures

(c) Code optimization

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| 10(a) | What is the difference between compiler and interpreters? Explain. | 3 |
| (b) | What do you understand by P-code compilers? Explain. | 4 |
| (c) | What do you understand by program relocatability? Explain. | 3 |