

MCA 2nd Semester Examination, 2012

SYSTEM PROGRAMMING

PAPER—CS/MCA-205

Full Marks : 100

Time : 3 hours

Answer Q. No. 1 and any five from the rest

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

- 1. Write any five from the following : 2 × 5**
- (a) What is machine language? Is it machine dependent?
 - (b) What is instruction counter?
 - (c) What is the use of IDE (Integrated Development Environment)?
 - (d) Define relocation bits?

- (e) What are dummy arguments ?
- (f) What is macro ?
2. (a) Differentiate between static and dynamic relocation.
- (b) What is the difference between a phase and a pass ?
- (c) Explain the difference between linker and loader. 4 + 4 + 4
3. (a) With the help of suitable example explain the use of intermediate code in two pass assembler.
- (b) What are basic 360 instruction formats present ? Briefly explain. 8 + 4
4. (a) In case of direct linking loader what information must be provided by the assembler to the loader with each procedure or data segment ?
- (b) What database or structure does the two pass assembler use in each pass. Briefly explain one by one. 4 + 8

5. (a) Discuss the general machine structure in brief.
- (b) Explain the different addressing modes along with their advantages and disadvantages. 6 + 6
6. (a) What is an overlay structure? What is its use?
- (b) Explain the design of relocating loader. 4 + 8
7. (a) Draw the flowchart for pass 1 macro processor and explain.
- (b) Explain the flow of instruction or data in a system programming with the help of an example. 8 + 4
8. (a) Explain the design steps of a linker.
- (b) Why are mnemonic table and symbol table both required in synthesis phase of a two pass assembler? 6 + 6

[*Internal Assessment* : 30 Marks]
