Scheme G

Sample Question Paper

Course Name : Diploma in Computer Technology

Course Code : CM **17517**

Semester : Fifth

Subject Title : System Programming

Marks : 100 **Time: 3 hours**

Instructions:

1. All questions are compulsory
2. Illustrate your answers with neat sketches wherever necessary
3. Figures to the right indicate full marks
4. Assume suitable data if necessary
5. Preferably, write the answers in sequential order

Q1. (a) Attempt any three. **(4*3 = 12)**

1. State & explain the functions of loader.
2. What are the four components of system software?
3. Describe the design steps of assembler.
4. How will you recognize basic elements in compiler?

Q1. (b) Attempt any one **(6*1 = 6)**

1. Explain the foundation of system programming.
2. Enlist & explain the features of macro processor.

Q2. Attempt any two **(8*2 = 16)**

1. Draw & explain the how chart for Pass-I of assembler.
2. What is the need of searching & sorting techniques in system programming? Elaborate your answer in detail.
3. Draw the basic Phases of compiler & explain each Phase function.

Q3. Attempt any four **(4*4 = 16)**

1. Define operating system & enlist the features of operating system as a system software.
2. Apply linear search on following numbers & search the number 15 from it.

   1, 3, 7, 9, 11, 13, 15, 19, 21

3. What do you mean by syntax & Intermediate Phase?
4. Explain compile & go loader.
5. Explain the meaning of top down & bottom up parser.

Q.4 A. Attempt any three **(3*4=12)**

1. What is the algorithm for direct linking loader?
2. Give the examples of arithmetic & non-arithmetic statements which can be use in compiler operation.
3. Apply the optimization techniques for suitable example.
4. Explain the concept of top down parser.

Q4 (b) Attempt any one **(6*1=6)**

1. Apply macro call within macros with the help of example.
2. Compare advantages & disadvantages at top down & bottom up parser.

Q 5 Attempt any two **(8*2=16)**

1. What are the specifications of data structures & formats of data bases used in direct linking loader?
2. Explain code generation phase of compiler with respect to databases & algorithms.
3. Apply interchange sort on following numbers 43, 25, 37, 12, 67, 96, 40, 9.

Q6. Answer any four of the following **(4*4 = 16)**

1. Explain a single pass algorithm for macro processor.
2. Illustrate the algorithm for hash search.
3. What are the uses of binders, linking loader overlays & dynamic binders.
4. Explain storage allocation concept in compiler.
5. How subroutine linkages are applied in loaders.