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53 (IT 404) SYPR

2018

SYSTEM PROGRAMMING

Paper : IT 404

Full Marks : 100

Time : Three hours

The figures in the margin indicate full marks for the questions.

Answer **any five** questions.

1. (a) With a neat diagram, explain the various components of a general machine structure. 10
- (b) What is an Instruction ? Explain with examples the various instruction formats available in 360 architecture. 10
2. (a) Illustrate with micro flowchart the sequence of hardware operations perform to execute the instruction "ADD 2, 176" in IBM 360 structure. 10

Contd.

- (b) Discuss various data formats for basic 360 structure. 10
3. (a) What is an assembler ? Define the role of symbol table considering all fields. 10
- (b) Write the basic functions and data structures for pass 1 in a two pass assembler. 10
4. (a) Define Macro call, Macro definition and Macro processor. 6
- (b) Explain Conditional Macro with example. 6
- (c) Explain the implementation of Macro call within Macro with example. 8
5. (a) What are the basic functions of loader ? Discuss the functionalities of Absolute loader and Relocating loader with suitable examples. 10
- (b) Explain the various phases of compiler with proper examples. 10
6. (a) Define an Operating System. Write a shell script to find the sum of the digits of a number. 4+6=10

- (b) Write the meaning and syntax for the following UNIX command : 10
mkdir, ps, grep, chmod, expr.
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