D 90157 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] DEGREE EXAMINATION, NOVEMBER 2015

AI 09 504—COMPUTER ORGANIZATION AND ARCHITECTURE

Time : Three Hours Maximum : 70 Marks

Part A

Answer **all** *questions.*
Each question carries 2 *marks.*

1. What is Instruction sequencing ?
2. Define Encoding.
3. Define Interrupts.
4. What is Pipelining ?
5. Mention the uses of Reservation tables.

(5 × 2 = 10 marks)

Part B

Answer any **four** *questions.*
Each question carries 5 *marks.*

1. Write short notes on stacks and queues.
2. Explain full adder with logic diagram and truth table.
3. Compare memory mapped I/O and isolated I/O.
4. Write short notes on the influence of pipelining on instruction set design.
5. Give short notes on reservation tables.
6. Give details about disk access considerations.

(4 × 5 = 20 marks)

Part C

Answer **all** *questions.*
Each question carries 10 *marks.*

1. (a) Explain the various instruction types supported by a typical computer with example.

Or

(b) What is meant by a stored program computer ? Explain in detail the functional organization of such a machine.

Turn over

2. (a) Explain in detail how arithmetic operations can be implemented in computers.

Or

(b) Sketch and describe the operation of a hardwired control unit.

3. (a) With a neat sketch, explain the magnetic disk systems and its applications.

Or

(b) Write brief notes on :

(i) I/O channels.

(ii) Interrupts.

4. (a) Explain in detail about the instruction and arithmetic pipelines with example.

Or

(b) Explain in detail about the SIMD interconnection networks.

(4 × 10 = 40 marks)