

Total number of printed pages-2

53 (IT 714) ADCA

2016

**ADVANCED COMPUTER ARCHITECTURE**

Paper : IT 714

Full Marks : 100

Time : Three hours

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

Answer **any five** questions out of **seven**.

1. (a) What is a stored program computer ? 10  
(b) Explain Moore's Law ? 10
  
2. (a) Express the MIPS rate in terms of CPI and the clock cycle. 10  
(b) How do you double the MIPS ? 10

Contd.

3. (a) What is Von Neumann Architecture ? 10  
(b) Explain Amdahl Law ? 10
4. (a) If the clock frequency is 2GHz, what is MIP rating if a machine level instruction takes 3 clock cycles ? 10  
(b) How will you double the speed in question above ? 10
5. (a) What are interrupts ? Give examples. 10  
(b) Explain Multiprogramming and Multiprocessing. 10
6. Write a 20 line program and indicate the instruction flow, data and control flow. 20
7. If a program is loaded at memory address 1024 and the above program [in question 6] has 4 byte instructions, explain how linking works using a base register R5 ? What changes will you make if the program is loaded at memory address 2048 ? 20
-