Hall Ticket Number:

Code No.: 21506 S

VASAVI COLLEGE OF ENGINEERING *(Autonomous)*, HYDERABAD

B.E. II Year (I.T.) I-Semester (Supplementary) Examinations, May/June-2016

Computer Organization

Time: **3** hours Max. Marks: **70**

*Note: Answer **ALL** questions in **Part-A** and any **FIVE** from **Part-B***

Part-A (10 X 2=20 Marks)

1. Distinguish between Primary memory and Secondary Storage.
2. Convert the numbers (a) **-13** and (b) **12** into 5-bit 2's complement number system.
3. What are assembler directives?
4. Distinguish between high level language and assembly language.
5. What is the advantage of interrupts in accessing peripherals by a processor over polling?
6. Distinguish between synchronous and asynchronous bus.
7. List the several secondary storage devices used for large storage capability.
8. What is the advantage of cache memory over primary RAM?
9. List the steps involved in the complete execution of an instruction.
10. What is Operand Forwarding in Pipelining systems?

Part-B (5 X 10 = 50 Marks)
(All bits carry equal marks)

11. a) Describe the representation of floating point numbers and their ranges in a digital computer.
    b) Explain the basic operational concepts in the execution of a program by a digital computer.

12. a) Describe the different addressing modes used for specifying the location of instruction operands.
    b) Explain different types instructions in terms of number of operand fields.

13. a) What is direct memory access? Explain in detail.
    b) Distinguish between hard wired control and microprogrammed control.

14. a) Describe the internal organization of semiconductor RAM memories.
    b) Explain the organization of virtual memory and its address translation.

15. a) Describe the basic concept of pipelining along with a neat diagram of a 4-stage pipeline.
    b) Describe with examples the concept of structural hazard.

16. a) Explain in detail about multiprocessor and multi computer systems.
    b) Distinguish between direct addressing mode and indirect addressing mode.

17. Write short notes on any **two** of the following:
    a) Memory hierarchy in computing system
    b) Universal Serial Bus
    c) Explain pipeline influence on instruction sets.

******