Reg. No: ☐☐☐☐☐☐☐☐☐☐

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
M.Tech I Year I Semester (R16) Regular Examinations January 2017
ADVANCED COMPUTER ARCHITECTURE
(Common to ES & DECS)
(For Students admitted in 2016 only)

Time: **3 hours**   Max. Marks: **60**

(Answer all Five Units **5 X 12 = 60** Marks)

UNIT-I

Q.1	a.	What is addressing mode? Which type of addressing mode is used for signal processing?	6M
	b.	Explain the methods of system design cost measuring?	6M

OR

Q.2	a.	List different types and sizes of operands used in processors.	6M
	b.	Explain how the encoding of an instruction is done in processors	6M

UNIT-II

Q.3	a.	What are the different limitations of ILP	6M
	b.	Explain different hardware support for achieving more parallelism at complier time.	6M

OR

Q.4	a.	Explain different branch cost reduction techniques?	6M
	b.	How to achieve more ILP using multiple issues?	6M

UNIT-III

Q.5	a.	Explain different ways of reducing cache miss penalty.	6M
	b.	Explain any two multi-threaded models.	6M

OR

Q.6	a.	Explain distributed shared memory architecture.	6M
	b.	Explain the concept of virtual memory and give examples of VM.	6M

UNIT-IV

Q.7	a.	Explain how to interface storage devices to the CPU with a neat diagram.	6M
	b.	What is bench marking. How to benchmark a storage device performance and availability.	6M

OR

Q.8	a.	Explain how to design an Input/Output system.	8M
	b.	What is the average time to read or write a 512-byte sector for a disk? The advertized average seek time is 5 ms, the transfer rate is 40 MB/sec, it rotates at 10,000 RPM, and the controller overhead is 0.1 ms. Assume the disk is idle so that there is no queuing delay. In addition, calculate the time assuming the advertized seek time is three times longer than the measured seek time.	4M

UNIT-V

Q.9
a. Write short notes on Interconnection network media.   6M

b. Explain Ethernet as an example of interconnection networks?   6M

OR

a. Explain the cluster design with an example.   6M

Q.10 b. What are the practical issues for commercial interconnection networks?   6M

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