B.E. (Computer Science & Engineering) Semester Seventh (C.B.S.)
Elective - I : Advanced Computer Architecture

_____

Notes : 1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Due credit will be given to neatness and adequate dimensions.
9. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Explain the tasks and responsibilities of computer designer. **6**

   b) What are the various trends in power and energy? **8**

OR

2. a) Draw and explain basic computer design architecture. **6**

   b) How the computers performance is measured, report and summarize. **8**

3. a) Explain the general computer organization. What are the levels of parallelism in program execution on modern computers. **8**

   b) What are the different type of dependences in Instruction level parallelism? Explain in brief. **6**

OR

4. a) What is instruction level parallelism? Explain techniques for exploiting ILP. **9**

   b) List various limitations of ILP. **5**

5. a) Explain three shared memory multiprocessor model in brief. **8**

   b) Explain SIMD instruction set with example. **5**

OR

6. a) Describe Graphics processing units in brief. **7**

   b) Write a note on snoopy bus protocol. **6**

7. a) Explain in brief following cache memory organizations.

   i) Direct mapping cache. **3**

   ii) Fully associative cache. **3**

   iii) Set associative cache. **3**

www.solveout.in

	b)	What is virtual memory? What is the need of virtual memory.	**4**

<div align="center">**OR**</div>

8.	a)	Differentiate between following.	
		i) DRAM and SRAM.	**3**
		ii) Cache and virtual memory.	**3**
	b)	Explain any two miss rate reduction techniques in brief.	**7**
9.	a)	Explain in brief.	**6**
		i) Classification of bus.	
		ii) Bus arbitration.	
		iii) Bus transaction.	
	b)	Explain switching mechanisms in message passing.	**7**

<div align="center">**OR**</div>

10.	a)	What is process Granularity? Also explain its types.	**7**
	b)	Write a short note on Routing for broadcasting and multicasting.	**6**
11.	a)	Write a note on RAID model.	**7**
	b)	What are the various type of faults?	**6**

<div align="center">**OR**</div>

12.	a)	What are the reliability measures for designing I/O system.	**7**
	b)	Explain real faults and failures with example.	**6**

<div align="center">******************</div>

www.solveout.in