B.E. Electronics & Telecommunication / Communication Engg. /
Electronics Engineering Sixth Semester

EN604/ET605 - Computer Architectures and Organization

P. Pages : 2 **GUG/W/18/1690**

Time : Three Hours * 1 3 2 9 * Max. Marks : 80

Notes : 1. All questions carry marks as indicated.
2. Due credit will be given to neatness and adequate dimensions.
3. Assume suitable data wherever necessary.

1. a) What are the different levels of design? Compare them with suitable examples. **8**

b) Explain prototype structure, performance measurement and queuing model steps of processor level design. **8**

OR

2. a) Explain the role of various processor level components in the design of a computer system. **8**

b) The communication between processor level components is generally asynchronous which results in simultaneous requests for an access to a given device. State and explain the various causes. **8**

3. a) Explain in detail different input output devices. **8**

b) Explain the concept of tag in information representation. State its advantages and disadvantages. **8**

OR

4. a) Draw the internal architecture of a typical CPU with general registers and explain the functional parts of CPU in brief. **8**

b) What type of addressing mode used in computer architecture? Explain in brief each addressing mode. **8**

5. a) Explain microprogrammed instructions along with horizontal and vertical instruction representation. **8**

b) Write a short note on control unit. Explain instruction sequencing. **8**

OR

6. a) Explain the difference between hardwired control and microprogrammed control. **8**

b) Write short notes on Emulation. **8**

7. a) Explain Booth's algorithm and apply it on following set of numbers. **8**
i) 32 x -9 ii) 25 x -3

	b)	Describe standard floating point number format with suitable examples.	**8**

OR

8.	a)	Divide 24/4 using restoring division and also write the algorithm for restoring division.	**8**
	b)	Perform 17 ÷ 8 using Non – restoring integer division method.	**8**
9.	a)	What are the memory device characteristics. Explain access modes of a memory.	**8**
	b)	What are the various addressing schemes used in RAM? Explain in brief.	**8**

OR

10.	a)	Draw and explain virtual memory organization.	**8**
	b)	Explain the necessity of interleaved memory.	**8**

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