B.E. (Electronics Engineering / Electronics Design Technology / Electronics & Telecommunication / Electronics & Communication Engineering) Sixth Semester

Computer Organization

P. Pages : 1 **TKN/KS/16/2168/2189/2215/2220/2225**

Time : Three Hours * 0 7 9 6 * Max. Marks : 80

Notes : 1. Same answer book must be used for both section.
2. All questions carry equal marks as indicates.
3. Answer **Three** questions from Section A and **Three** questions from Section B.
4. Assume suitable data wherever necessary.
5. Illustrate your answers wherever necessary with the help of neat sketches.

SECTION – A

1. a) How is the performance evaluation done using simulation techniques? **6**

b) What are the different levels of design Discuss with suitable example. **7**

2. a) State and explain the necessity of different addressing modes with the help of examples. **8**

b) Explain the IEEE 754 standard. floating point format and represent the following decimal number in this format. **5**
i) -0.075. ii) 5.88×10^4

3. Give the flow chart for restoring and Non-restoring method of integer division. Discuss advantages of non-restoring method. Over restoring with the help of an example. **14**

4. a) Explain Booth's algorithm and apply it on following sets of numbers. **8**
i) 09 * (- 16) ii) -102 * 11.

b) Explain logic design of Fast adder. **5**

5. a) Compare and contrast hardwired and microprogrammed control units. **5**

b) Write a brief note on microprogramming. What are the various ways to increase speed in microprogramming. **8**

SECTION - B

6. Explain in detail address mapping techniques used in cache memory giving suitable example of each. **13**

7. a) Describe virtual memory system and explain the concept of locality of reference. **7**

b) Design a 4KX8 bit RAM Using 1KX2 bits RAM IC's. **7**

8. a) What are the factors that determine whether communication system is a LAN, MAN or WAN. **5**

b) Explain ROM, and their types. **3**

c) Explain Flynn's classification of parallel processing. **5**

9. Write short notes on **any three.** **13**
i) Array Processor. ii) Loosely coupled and tightly coupled system.
iii) RISC Processor. iv) DMA.

10. a) What is parallel processing? How parallelism can be achieved? **6**

b) Explain latency time and seek time. **3**

c) What are the different method for controlling I/O operations? Explain. **4**

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