

M.E. First Semester (Computer Sci. & Engg.) (P.T.) (CGS)
13160 : Advances Computer Architecture
1 RME 1 / 1 KMEF 1 / 1 RNME 1

P. Pages : 2

Time : Three Hours



AU - 3233

Max. Marks : 80

- Notes :
1. Due credit will be given to neatness and adequate dimensions.
 2. Retain the construction lines.
 3. Illustrate your answer necessary with the help of neat sketches.

1. a) Explain the concept of Memory hierarchy. **5**
b) What are the quantitative principles of computer Design? State and explain Amdahl's law. **9**

OR

2. a) Explain the various types of addressing modes with example. **8**
b) Explain basic variation in instruction coding. **6**
3. a) What are the cross cutting issues pertaining to instruction set design & pipelining? **7**
b) Explain why pipelining is hard to implement. **6**

OR

4. a) Explain how pipeline hazards are classified. **8**
b) Give the limitations of delayed branch scheduling and explain how do they. **5**
5. a) What is dynamic scheduling? Explain it in brief. **7**
b) Explain what is meant by name dependencies of instructions. **6**

OR

6. a) Explain the software pipelining technique for uncovering parallelism among instructions. **7**
b) Explain how data hazards are overcome with dynamic scheduling. **6**
7. a) Explain the concept of segmented virtual memory. **7**
b) Describe the technique available for reducing cache hit time. **7**

OR

8. Explain various cache miss reduction technique. **14**

9. a) Describe any three popular RAID levels. 9
b) What are the factors considered while designing a bus. 4

OR

10. a) How is performance of I/O measured? Explain Little's law. 7
b) Explain the following terms: 6
i) Reliability
ii) Availability

11. Explain the organizations, layers, packet format of ATM network. 13

OR

12. a) What is protocol suite? Explain TCP/IP as an internetworking standard. 9
b) Differentiate between: Router, Bridge & Gateway 4
