

(3 hrs)

[Total Marks: 80]

CLASS: SE Computer Sem-IV CBSGS
SUBJECT: Computer Organization & Architecture

- NB: 1) Q.1 is compulsory
2) Attempt any THREE questions from the remaining questions
3) Assume suitable data if necessary.

- Q.1 a) Compare RISC and CISC processor. [5]
b) Explain functions of the following CPU registers. [5]
PC, MAR, MBR, IOAR and IR
c) What is virtual memory? [5]
d) Explain various pipeline hazards. [5]
- Q.2 a) Explain Booth's algorithm with flowchart and find product of +5 & -15. [10]
b) Explain six stage instructions pipelining with suitable diagram. [10]
- Q.3 a) Discuss the functions of 8089 IO processor. [10]
b) Explain Flynn's classification with suitable diagrams. [10]
- Q.4 a) Using restoring division algorithm, divide 14 by 3. [10]
b) Explain the interleaved memory. [10]
- Q.5 a) Explain set associative and associative cache mapping techniques. [10]
b) Compare interrupt driven I/O and DMA. [10]
- Q.6 Write short notes on the following (Any 2) [20]
a. Addressing modes.
b. Instruction cycle state diagram with interrupt.
c. IEEE 754 standard for floating point numbers.