Code: 9A05406

R09

B.Tech III Year II Semester (R09) Supplementary Examinations December/January 2014/2015

COMPUTER ORGANIZATION

(Common to EIE and E.Con.E)

Time: 3 hours Max Marks: 70

Answer any FIVE questions

All questions carry equal marks

*****

1 (a) Explain the different performance measures used to represent a computer system's performance.
(b) Describe the double-precision representation in IEEE 754 standard.

2 (a) Differentiate between CISC and RISC architectures.
(b) Discuss in brief about overlapping register window in RISC processor.

3 (a) A system uses a control memory of 1024 words with 32 bits each. The microinstruction has three fields. The micro-operations field has 16 bits.
(i) How many bits are there in the branch address field and the select field?
(ii) If there are 16 status bits in the system, how many bits of the branch logic are used to select a status bit?
(iii) How many bits are left to select an input for multiplexers?
(b) Compare horizontal and vertical organization. Give their advantages and disadvantages.

4 (a) Explain the algorithm for BCD multiplication.
(b) Write an algorithm for evaluating the square root of a binary fixed point number.

5 (a) Describe the mapping techniques.
(b) Explain address mapping using pages.

6 (a) Explain the operation of Daisy-Chain interrupt.
(b) Write the important flag conditions checked by the processor during programmed I/O.

7 (a) Write in detail about RISC pipeline vector processing.
(b) Discuss about instruction pipeline process.

8 Define a multiprocessor. Explain the shared memory of multiprocessors.

*****