

## Sample Paper-II

### High performance Computer Architecture

**Attempt all questions**

**Max Marks-50**

1. a) What is meaning of benchmarks? What is SPEC benchmark?  
b) Explain differences between CISC and RISC Architecture with Diagrams.
2. a) Explain features of IBM RS/6000 with suitable diagram of its architecture.  
b) Explain Flow control strategies. Explain E-cube Routing on Hypercube with its three conditions & use suitable diagrams.
3. a) What are the different hazards? How do you avoid them?  
b) What are the components in a microprocessor?
4. a) What are the five stages in a DLX pipeline? Explain.  
b) Create Vector maps a logical register to a creator in the RUU (and specific output operand) or the architected register file (if RS\_link is null)-  

```
struct CV_link {  
    struct reservation_station *rs; /* creator's RS */  
    int odep_num; /* specific operand/register num */  
};  
static struct CV_link CVLINK_NULL = {NULL,0};  
static struct CV_link create_vector[MD_TOTAL_REGS];
```
5. a) Give an overview of CISC Architecture.  
b) Explain in detail the main features of at least two performance evaluation benchmarks.