

**Duration Three Hours****Total marks 80**

- N.B [i] Question No 1 is **compulsory** and attempts any **three** out of remaining five questions.  
 [ii] Assume **suitable data** wherever required.  
 [iii] Figures to the **right** indicate **full marks**.
1. Solve any **four**
- |     |   |   |
|-----|---|---|
| (a) | What are basic tasks of control unit?   | 5 |
| (b) | Compare SRAM with DRAM  | 5 |
| (c) | Discuss various functions of a computer   | 5 |
| (d) | Comment on: Computer Architecture and Computer Organization                           | 5 |
| (e) | Define Fetch Cycle, Indirect Cycle, Interrupt Cycle, Execute cycle, Instruction Cycle | 5 |
2. (a) Describe Hardwired Control Unit and specify its advantages. **10**  
 (b) Convert  $(127.25)_{10}$  in IEEE-754 single and double precision floating point representation. **10**
3. (a) Compare and contrast between the types of Flynn's Taxonomy. **10**  
 (b) Explain the organization of Multicore systems **10**
4. (a) Explain Booth's multiplication algorithm and perform  $(-7)_{10} \times (4)_{10}$  **10**  
 (b) Illustrate the concept of Virtual memory. How address translation is carried out? **10**
5. (a) Describe about NUMA architecture. **10**  
 (b) Write short note on micro programmed control unit. **10**
6. (a) Draw and explain the block diagram of a simple computer with five functional units **10**  
 (b) Explain various RAID levels **10**
-