



- Notes :
1. All questions are compulsory.
 2. Assume suitable data wherever necessary.
 3. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) What is software? What are different types of software, also explain performance issues in software? **8**

b) What is instruction? Explain different types of instructions? **8**

OR

2. a) Explain different types of addressing modes in detail with example? **8**

b) Write short note on **8**
i) Stack
ii) Subroutine

3. a) Explain in brief. Booth algorithm and multiply each of the following pairs using booth algorithm. **10**

i) 32×-9

ii) -19×14

b) Write a note on “Arithmetic operations on floating point numbers”. **6**

OR

4. a) Explain floating point number format and represent the following decimal numbers in floating point format. **8**

i) 4.62×10^2

ii) 500

iii) 0.000245

iv) 3.13×10^3

b) Explain Non Restoring division algorithm? Divide 11/5 using Non – Restoring division algorithm. **8**

5. a) Explain in detail with the help of diagram Hardwired control unit? **8**

b) What are the types of micro – instructions? Explain with example. **8**

OR

6. a) Explain micro – programmed control unit in detail? **8**

b) Giving example of filed encoded micro – instruction. Explain why grouping of control signals are required? **8**

7. a) What is a need of memory management? Explain memory management techniques in brief. 8
- b) Write short the on various page replacement algorithm also explain with example. 8

OR

8. a) What is cache memory? Explain working of cache memory. 6
- b) Write short note on modes of I/O transfer. 6
- i) Programmed I/O
- ii) Interrupt Initiated I/O
- iii) DMA.
- c) Explain in detail virtual memory and its working. 4
9. a) Write short note on. 8
- i) CPU control unit.
- ii) Interconnected network.
- b) What is instruction pipelining? Explain with block diagram of 4 – stage pipeline. 8

OR

10. a) Explain the concept of parallel processing. 8
- b) Explain how pipeline influences on instruction set design? 8
