



- Notes :
1. All questions carry marks as indicated.
 2. Solve Question 1 OR Questions No. 2.
 3. Solve Question 3 OR Questions No. 4.
 4. Solve Question 5 OR Questions No. 6.
 5. Solve Question 7 OR Questions No. 8.
 6. Solve Question 9 OR Questions No. 10.
 7. Solve Question 11 OR Questions No. 12.
 8. Due credit will be given to neatness and adequate dimensions.
 9. Assume suitable data whenever necessary.
 10. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Explain evolution of the component of a programming system. 7
 b) Explain general machine structure in detail. Why it is called as stored program concept ? 7

OR

2. a) Give and explain the flowchart of Pass-1 overview and Pass-2 overview. 8
 b) Give & explain the data structure required in pass-1 and pass-2 of assembler, in a two pass assembler design. 6
3. Explain the features of macro facility. With the help of appropriate examples. 13

OR

4. a) Give the specification of databases for single pass macro processor. Which support macro call within macro. 7
 b) Give and explain the formats of MDT, MNT and ALA with example. 6
5. a) Explain absolute loading scheme in detail with example. State its advantages and drawbacks. 7
 b) Write a note on subroutine Linkages. 6

OR

6. Give the ESD, TXT and RLD card entries for the following program Segments. 13

PG1	START	
	ENTRY	PG1ENT1, PG1ENT2
	EXTRN	PG2, PG2ENT1
PG1 ENT1	=====	
PG1 ENT2	=====	
	DC	A (PG1ENT1)
	DC	A (PG1 ENT2 +15)

	DC	A (PG1ENT2-PG1ENT1-3)
	DC	A (PG2)
	DC	A (PG2ENT1+PG2-PG1ENT1+4)
	END	
PG2	START	
	ENTRY	PG2 ENT1
	EXTRN	PG1ENT1, PG1ENT2
PG2ENT1	=====	
	DC	A (PG1ENT1)
	DC	A (PG1ENT2+15)
	DC	A (PG1ENT2-PG1ENT1-3)
	END	

Also write GEST and LESA if starting address is 600 in the order PG1 then PG2.

7. a) Explain different phases of compiler with example. **8**
 b) Write a note on NFA & DFA. **6**

OR

8. a) Write a note on LEX & YACC. **8**
 b) Write a note on cross compiler. Explain how bootstrapping can be achieved. **6**
9. What is device driver ? Explain different UNIX device drivers in detail. **13**

OR

10. a) Give and explain device driver installation steps in WINDOWS. **5**
 b) Give and explain the steps involved in designing device driver. **8**
11. a) Explain Intel Net Burst Micro-architecture in detail. **10**
 b) Explain different modes of operation of IA-32 Processor. **3**

OR

12. a) Explain basic execution environment of IA-32 Processor. **10**
 b) Give different general purpose registers used in IA-32 Processor. **3**
