2007 ANDHRA UNIVERSITY
B.TECH COMPUTER SCIENCE ENGINEERING
II B.TECH II SEMESTER
SYSTEM PROGRAMMING

TIME: 3 HOUR
MARK: 70

> ➤ **First Question Is Compulsory**
> ➤ **Answer Any Four From The Remaining Questions**
> ➤ **All Questions Carry Equal Marks**
> ➤ **Answer All Parts Of Any Question At One Place**

1 1. a) What is the difference in function between BALR and USING instructIons?

b) Explain Allocation.

c) Define Macro Instruction.

d) Differentiate in between pass and phase.

e) Define Linkage Editor.

f) Define Compiler.

g) Differentiate in between simple RELOCATABLE and complex RELOCATABLE address constants.

2. a) Explain the role of Base Register.

b) Explain the role of Index Register.

c) Differentiate in between USING and DROP PSEUDO op codes.

3. a) Give the design of single pass assembler.

b) Can we write an ALP without using USING OP CODE? How? what are the limitations.

4. a) Give the design of single pass macro processor.

b) Explain the design of macro processor which can handle macro definitions within macros.

5. a) Give the design part of Assembler corresponding to LTORG pseudo op code.

b) Give the design of Assembler corresponding to Extended MNEUMONICS.

c) Will the following divide 10 by 2? Justify.
L3,=f"10'
D2,=f"2'
ST3, 1000

6. a) Give the design of absolute loader.

b) Explain about Direct Linking Loader.

7. a) Explain BSS loader.

b) At what point in time of each of the following loading schemes perform binding?

i. DLL, ii. BSS loader, iii. Dynamic binder, iv. Dynamic linking loader, v. Overlay, vi. Editor.

8. a) Explain Lexical Analysis in detail.

b) Differentiate in between TDP & BUP