

Roll no : PD-05

Aniruddha Shende

Batch : D1



Dr. Vishwanath Karad

**MIT WORLD PEACE  
UNIVERSITY** | PUNE

TECHNOLOGY, RESEARCH, SOCIAL INNOVATION & PARTNERSHIPS

## T.Y.B.Tech (CSE)

**System Software and Compilers(SSC)**

### Theory Assignment - 2

**Name: Aniruddha Shende**

**Roll number: PD-05**

**Batch: D1**

**Panel: D**



Batch:- D1

**ASSIGNMENT /  
TEST BOOKLET**

Student's Name : Aniruddha Arun Shende

Class : T.Y.BTech..... Division : D..... Roll No. : PD05..... Academic Year : 2021-2022

Subject : SSC..... Theory Assignment / Test No. : 2..... Date :

**PLEDGE**

I solemnly affirm that I have written this Assignment/Test based on my own preparation. I have neither copied it from others nor given it to others for coping. I know that this is to be submitted as a part of my submission at the end of the term.

05  
Shende

Signature of the student

Q. No.	1	2	3	4	5	6	7	8	9	10	Total
Marks/Grade											100/100

(Please start writing assignment/ test from here)

Name &amp; sign of the faculty Member

Batch: D1

Q.1. Build the MDT, MNT & Expanded code from the given Assembly Language Program below.

START

AR 2,3

SR 4,4

MACRO

DI &amp; PI

AR 3,3

MACRO

&amp;PI &amp;Y

SR 4,4

L 1, F '4'

DC A (&amp;Y)

L 2, V(&amp;PI)

BALR 14,15

Scanned with  
CamScanner

mitwpu.edu.in



MEND

MEND

AR 1,1

DI ABC

SR 2,2

ABC T

END

Ans.1. MDT :-

Index	Instruction
1	DI & PI
2	AR 3,3
3	MACRO
4	#1 & Y
5	SR 4,4
6	LI, F'4'
7	DC A(&Y)
8	L 2, V(#1)
9	BALR 14,15
10	MEND
11	MEND
12	ABC & Y
13	SR 4,4
14	LI, F'4'
15	DC A(#1)
16	L 2, V(ABC)
17	BALR 14,15
18	MEND





MNT :-

Index	Macro Name	MDT Idx
1	DI	1
2	ABC	2

ALA :-

Idx	Formal Argument	Actual Argument
#1	& P1	ABC
#2	& Y	T

Expanded Code :-

START

AR 2,3

SR 4,4

AR 1,1

AR 3,3

SR 4,4

LI, F'4'

DC A(T)

L 2, V(ABC)

BALR 14,15

SR 4,4

LI, F'4'

DC A(T)

L 2, V(ABC)

BALR 14,15





S R 2,2  
 S R 4,4  
 L I . F '4'  
 DC A(T)  
 L 2, V(ABC)  
 BALR 14,15  
 END

Q: 2. Explain the cards produced by Assembler for the direct Linking Loader.

Ans: 2. Direct Linking Loader Provides the following features:-

- (a) Flexible intersegment referencing & accessing ability.
  - (b) Allows independent translation of programs
- Assembler produces 4 types of cards in the object deck.

① ESD cards :- (External Symbol Dictionary)

Contains info related to all the symbols defined & referenced in the program.  
 Values for ESD cards are

SD (Segment Definition) → name on START card

LD (Local Definition) → Specified on ENTRY

ER (External Reference) → Specified on EXTER card.

② TXT cards (Actual Object Code):-

Contains actual object code translated version of program.



Since 1963

Dr. Vishwanath Karad  
**MIT WORLD PEACE**  
**UNIVERSITY | PUNE**

TECHNOLOGY RESEARCH EDUCATION &amp; ENTREPRENEURSHIP

ASSIGNMENT /  
TEST Page No.

③ RLD (Relocation & Linkage Directory):-

The location constant that needs to be changed due to relocation. By what it has to be changed.

The operation to be performed (+/-)

④ END Cards

End of object deck & specifies the starting address for execution if the assembled routine is the main program.



Scanned with  
CamScanner



mitwpu.edu.in