2)

$A \rightarrow BCD$

a. $A.S = B.i + C.S$

This is L attributed SDD. Attributes of
Power node can Take values from Their
children

b. $A.S = B.i + C.S$, $D.i = A.i + B.S$

A cannot have inherited ~~attribute~~ attributed.
Since There is nothing Present on the LHS of A. So
This SDD is neither S attributed nor L attributed.

c. $A.S = B.S + D.S$

As Syntheized attribute is a function of
synthe sized attributes of its children This
confirms to S attributed SDD is also L attributed
SDD

d. $A.S = D.i$, $B.i = A.S + C.S$, $C.i = B.S$, $D.i = B.i + C.i$

In The rule $B.i = A.S + C.S$ Here B's inherited
attributed is Taking values from its right sibiling C
This violates L-attributes defination which says That

inherited attributes are limited to Take values from its Parents as left Siblings only, Hence, This SDD is not L- attributed.

3) $Area = 3.14 * r * r$

$T_1 = 3.14 * r$

$T_2 = T_1 * r$

$Area = T_2$

Quadruple

location	OP	Arg1	Arg2	Result
(1)	*	3.14	r	T_1
(2)	*	T_1	r	T_2
(3)	=	T_2	–	Area

Triple

location	OP	Arg1	Arg2
(1)	*	3.14	r
(2)	*	(0)	r
(3)	=	Area	( )

Indirect Triples

	op
35	(0)
36	(1)
37	(2)

	OP	arg1	arg2
0	*	3.14	r
1	*	(0)	r
2	=	Area	(1)

4) Code

```
int =0;
for (i=0; i<10; i++)
      Int += i*i;
```

Three Address Code:

```
int=0
i=0
back
t₁ = i*i
int = int + t₁
i=i+1
if i<10 goto back.
```

①

Productions	Sematic Rules
$D \rightarrow TL$	$L.in\ h = T\ type$
$T \rightarrow int$	$T.Type = integer$
$T \rightarrow float$	$T.Type = float$
$L \rightarrow L_1, td$	$L.in\ h = L.in\ hand$
$L \rightarrow id$	add Type (identity L-inh)
	add Type (d. entry L-inh)

And The expression is

$$float\quad w, x, y, z.$$

Amotoed Parse tree is

D

T type = float   L

float   int=float ,   id

L

int=float ,   id
add Type (id entry, float)(y)

L

int=float ,   id
add type (id entry, float) (n)

L
|
id add type (identry, float)(w)