**A.**​​**Theory**​(2​ ​marks)

What​ ​are​ ​the​ ​differences​ ​between​ this​ ​and​ this() ​ ?​

this()​ ​constructor​ ​invocation​ ​from​ ​another​ ​constructor​ ​-​ ​must​ ​be​ ​the​ ​first​ ​line of​ ​the​ ​constructor

this​ ​-​ ​reference​ ​to​ ​the​ ​current​ ​object

**B.**​​**Code**​​**–**​​**Understanding**​ ​12​ ​marks​ ​=​ ​3​ ​questions​ ​\*​ ​4​ ​marks

1. Read​ ​the​ ​following​ ​Java​ ​program. ​​Does​ ​it​ ​compile?​ ​If ​it​​ ​does​ not,​ ​ explain​ ​what​​ ​the​ errors​​ ​are. If​ ​the​ ​code​ ​compiles,​ ​write​ ​the​ ​output

class​ ​Value​ ​{

public​ ​int​ ​i​ ​=​ ​2;

}

public​ ​class​ ​MyInteger​ ​{

public​ ​static​ ​void​ ​main(String​ ​argv[])​ ​{ MyInteger​ ​mine​ ​=​ ​new​ ​MyInteger();

mine.up();

}

public​ ​void​ ​up() ​ {​

int​ ​i​ ​=​ ​4;

Value​ ​v​ ​=​ ​new​ ​Value(); v.i​ ​=​ ​9; down(v,​ ​i);

System.out.print("​ ​"​ ​+​ ​v.i);

}

public​ void​ ​ down(Value​ ​ v,​ ​ int​ ​ i)​ ​ {​

i​ ​=​ 3​ ;

v.i​ ​=​ ​5;

Value ​ val​ ​ =​ ​ new​ ​ Value();​

v​ ​=​ ​val;

System.out.print(i​ ​+​ ​"​ ​"​ ​+​ ​v.i); }

}

## It​ ​compiles​ ​and​ ​the​ ​output​ ​is:​ ​3​ ​2​ ​5

# \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Read​ ​the​ ​following​ ​Java ​ program.​​ Does​​ ​it​ ​compile?​ ​If ​​it ​​does​ ​not,​ ​explain​ ​what​ ​the​ ​errors​ ​are. If​ ​the​ ​code​ ​compiles,​ ​write​ ​the​ ​output

interface​ ​Second<T>​ ​{

​ ​public​ ​void​ ​m(T​ ​t);

}

public​ ​class​ ​When ​ {​

​ ​public​ ​static ​ void​ ​ main(String[]​ ​ args)​ ​ {​ final​ ​int​ ​i​ ​=​ ​5;

Second<String>​ ​second​ ​=​ ​s​ ​->​ ​System.out.println('y'​ ​-​ 'x'​ ​ +​ ​ s​ ​ +​ ​ ​i); second.m("X");

​ ​}

}

## It​ ​compiles​ ​and​ ​the​ ​output​ ​is:​​ 1X5

# \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Read​ the​ ​ following​ ​ Java​ ​ program.​ ​ Does​ ​ it​ ​ compile?​ ​ If​ ​ it​ ​ does​ ​ not,​ ​ explain​ ​ what​ ​ the​ ​ errors​​ are.​ If​ ​the​ ​code​ ​compiles,​ ​write​ ​the​ ​output

abstract​ ​class​ ​Fruit​ ​{ abstract​ ​public ​ void​ ​ name();​ public​ ​float​ ​price()​ ​{ return​ ​0.0;

}

}

public​ ​class​ ​Apple​ ​extends​ ​Fruit​ ​{ public​ ​static​ ​void ​ main(String​ ​ argv[])​ ​ {​ Apple​ ​e​ ​=​ ​new​ ​Apple(); e.name();

}

public​ ​void​ ​name()​ ​{

System.out.println("Honeycrips");

}

public​ ​float​ ​price() ​ {​ return​ ​10.0f;

}

}

## The​ ​Java​ ​program​ ​does​ ​not​ ​compile

## Errors:​ ​cannot​ ​convert​ ​double​ ​to​ ​float​ ​at​ ​return​ ​0.0;