

Bonus Quiz (Using Google Form for Automatic Marking)

Total marks = 20 : Total Time = 20mins

Question-1) What will happen when some programmer will write the following code

```
void protected drawDargon(int depth, int x1,int y1,int x2,int y2) {  
    if (x1 < 0 | x2 < 0)  
        if (y1 < 0) raise new Exception("X & Y < 0");  
        else System.out.println("Ok so far");  
}
```

Compilation error, b) Runtime error, c) No error, d) Nothing can be said with certainty

Answer: A

Question-2) One of the main advantages of OOD is encapsulation of data. How is the encapsulation achieved in java

- a. using public modifier
- b. using protected modifier
- c. using final modifier
- d. using private modifier

Answer: B and D

Question-3) You declare two String objects as:

```
String word1 = new String("happy");  
String word2 = new String("happy");  
the values of "word1.equals(word2)" and "word1==word2" are  
a) True and True, b) False and False, c) True and False, d) False and True
```

Answer: C

Question-4) An abstract class Product has two subclasses, Perishable and NonPerishable. None of the constructors for these classes requires any arguments. Which of the following statements is/are legal?

- a. Product myProduct = new Product();
- b. Perishable myProduct = new Product();
- c. NonPerishable myProduct = new NonPerishable();
- d. Product myProduct = new Perishable();

Answer: C and D

Question-5) When a try block does not generate an Exception and you have included multiple catch blocks

- a. they all execute
- b. only the first one executes
- c. only the first matching one executes
- d. no catch blocks execute
- e. only the finally block will execute

Answer: D and E

Question-6) The catch block that begins catch(Exception e) can catch Exceptions of type

- a) IOException, b) ArithmeticException, c) both of the above, c) none of the above

Answer: C

Question-7) Thread synchronization in a process will be required when

- a. All threads sharing the same address space
- b. All threads sharing the same global variables
- c. All threads writing to the same file
- d. None of the above

Answer: A, B, C

Question-8) Interfaces could:

- a) Have default methods
- b) Have abstract methods
- c) Have instance variables
- d) Inherit another interface

Answer: A, B, D

Question-9) Which statements is/are correct

- a. On calling Thread start () method a new thread gets created.
- b. Thread start () method call run () method internally
- c. Thread run () method can also be called directly to create thread.
- d. All of the above

Answer: A, and B

Question-10) Match the following descriptions with the design pattern names given below.

A. Making a burger in MacDonald's that involves 4 different persons	1. Proxy
B. WhatsApp message forward provides a uniform interface to either forward the message to a single person, a group, or all your contacts in the phone	2. Chain of responsibility
C. Withdrawing money from bank account either by using credit card, debit card, or netbanking	3. Composite
D. Withdrawing money from ATM machine dispenses bills of different denomination	4. Decorator
E. Objects that wrap around other objects to provide useful features	5. State

Answer:

A2, B3, C1, D2, E4.

Question-11) Unlike the sequential implementation of Pascal triangle provided in bonus lab, the parallel implementation is using flyweight design pattern and is executed using two threads. What will be the expected speedup of the parallel version over the sequential?

- a. Sub-linear
- b. Super-linear
- c. Linear
- d. No speedup

Answer: B (Total work in parallel implementation without flyweight will be same as sequential version. However, total work with flyweight in parallel implementation will be significantly lesser than sequential without flyweight. Hence, super linear speedup)

Question-12) Class Sedan is subclass of the Car class. The Car class has a method drive that is overridden in Sedan class. What would be the output of the following set of statements in main method:

```
((Sedan) new Car()).drive();
```

- a. drive() from Car would execute
- b. Compilation error
- c. drive() from Sedan would execute
- d. Runtime exception

Answer: D

Question-13) Find the output of the below code:

```
public class FlyingMachine {  
    public void fly() { System.out.print("Flying High "); }  
}  
  
public class Aeroplane extends FlyingMachine {  
    public void fly() {  
        this.fly();  
        System.out.println("Going to Land");  
    }  
    public static void main(String[] args) {  
        Aeroplane a = new Aeroplane();  
        a.fly();  
    }  
}
```

- a. Flying High Going to Land
- b. Compilation error
- c. Runtime exception
- d. Going to Land

Answer: C

Question-14) What will be output of the below program

```
public class Vehicle {  
    private String driver;  
    public Vehicle(String d) { this.driver = d; }  
    @Override  
    public String toString() { return ("Driver: "+driver); }  
    public void setDriver(String d) { driver = d; }  
}  
  
public class Bike extends Vehicle {  
    private String passenger;  
    public Bike(String p1, String p2) {  
        super.setDriver(p1);  
        passenger= p2;  
    }  
}
```

```

    }
    @Override
    public String toString() {
        return ("Bike Passenger: " + passenger);
    }
    public static void main(String[] args) {
        Vehicle a = new Bike("John", "Willey");
        Bike b = new Bike("Joe", "Mike");
        System.out.println(a);
        System.out.println(b);

    }

```

- a. Bike Passenger: Wiley
Bike Passenger: Mike
- b. Driver: John Bike Passenger: Wiley
Driver: Joe Bike Passenger: Mike
- c. Compilation error
- d. Runtime exception

Answer: C

Question-15) I want to parallelize a client server application where the server would connect to a total of five incoming client connections throughout the application execution, and will run on an octa-core processor. What option(s) can I choose?

- a) Explicit threading by extending Thread class
- b) Explicit threading by implementing Runnable interface
- c) Using ForkJoinPool
- d) Using ExecutorService
- e) Sequential implementation

Answer: A, B, D (as octa-core processor so we can easily create five threads, one for each client connection).