1: OPTION:C

It is because there is no constructor without parameter but the code tries to create a object without passing any values to the constructor

2: Option A

Car.start():-this means start with no input

But in Car the method needs some input:start(Stringmode)

So from the parent class vehicle class and find the start() there

So this can print Vehicle starting

3: option: B

obj1 is having number 10

obj2 = obj1 means both point to same object,Then we change obj2.num = 20

Even though we changed using obj2, it also changes for obj1 — because both point to the same memory.

 So it will give output 20

4)option -c

First, s = "abc" → s holds text Then, s = null → s now holds nothing,Then we do s.length() → but s is empty (null)You’re trying to get length from nothing — that causes an error called NullPointerException.

5 )

When you create a Dog, Java first runs the Animal constructor.The Animal constructor calls speak(), but it runs the Dog's version because it's overridden.At that time, Dog's variable sound is not ready yet (it's still null), so calling toUpperCase() gives an error.Dog's code runs before Dog is fully ready.