Assignment 4 Interview Questions -

Q(1) - Static keyword in terms of memory management is very crucial. If the variable is having some value for multiple instance than it is not efficient to allocate memory to the field per instance.
- Instances can share single field, here we can use static variable.
- Static memory is class level variable & it is allocated memory only once during the class loading. this field will be shared by all instances of class.

Q(2) - Static method can be overloaded but not overridden.
- Overriding in static method is called method ~~binding~~ hiding.
- Because static methods are binded with the class at compile time & overriding relies on dynamic binding / runtime binding. hence we cannot override static method.
- If we try to override static method the child method will be hidden & parent class method will be called based on object reference.

Q(3) Final keyword is non-access specifier, when we use final keyword with the variable, method the value or behaviour of fields cannot be changed. we can assign value to final variable which is instance only once in constructor during initialization but static field needs to be initialized they cannot be assigned.

Teacher's Signature:

Q(4) Narrowing - Narrowing is process of converting larger datatype into smaller datatype ~~int x = double~~ x;
Widening - Widening is process of converting smaller data type into larger data type also known as implicit

Q(5). int x = (double) 1000.1001 ; ← Narrowing
int x = (byte) 10 ← Widening.

Q(6) If the value of data stored itself greater datatype then the variable we are storing & existing the MAX_VALUE of the variable datatype the MAX_VALUE will be stored inside the variable

Q(7) Automatic Widening means converting of smaller data type into bigger datatype implicitly where developer do not need to do anything only assigning value of smaller data type to bigger

double D = 10; ← example

Q(8) Widening conversion - these are generally safe as they increase capacity of the data type. making it compatible with larger type without loss of information

Narrowing Conversion :- these can lead to data loss
eg :- converting double. or larger value to int will result in fractional possible loss of data. Narrowing needs explicit casting to make programer aware of potential Data loss