**Summer 2020  
Subject: PRO192  
Duration: 80’**

You are required to create an application based on java language. This system includes

Create a package “A”. It includes: [3]

1. Create a class **Electric**. It contains  
   - instance variables : String Id, String Name, int Price  
   - some instance methods: constructors, getters, setters
2. Create a class **TV** extends class **Electric**

* Extend variables: int Size, String Brand
* Class variable: int volte (default value=220)
* Some methods: constructors, getters, setters, override toString method to formatted string “id-Name-Price-Size-Brand-Volte”

(Use try…catch to check the value of Band variable- Samsung/Sony)

- A class method: void changeVolte( int newVolte): to change the value of class variable (use try…catch to check newVolte - 110/220/240)

Create another package “B”. It contains:[6]

1. Create a class “**TVManager**” to store all electric products  
   - instance variable: ArrayList<Electric> list
2. - some methods:   
    + Boolean AddItem(TV x): if the object x is null , this method return false, and else it is added to the list and return true.  
    +void FindAllTV(int m\_size) : to print all TVs that their size are equal to the given size.  
    + void sortByBrand(): sort all TVs with the ascending order (by Brand)

+ A main method with menu

1. Add a TV [1]
2. Find all TVs [3]
3. Sort by brand[2]
4. Exit

The End