

Question:

Design a Java program for a Hospital Management System where each staff member has a name and base salary, and different roles calculate salary and bonus differently while supporting multiple staff types, data hiding, and dynamic storage. Create an interface `BonusEligible` with a method `double calculateBonus()`. Create an abstract class `Staff` that implements this interface, with private variables `name` and `baseSalary`, a constructor, and getter methods to demonstrate Encapsulation, and declare an abstract method `double calculateSalary()` to demonstrate Abstraction. Create two subclasses `Doctor` (with `patientsHandled`) and `Nurse` (with `shifts`) using Inheritance, and override both `calculateSalary()` and `calculateBonus()` in each subclass to demonstrate Polymorphism. Also demonstrate Method Overloading by creating two overloaded methods `printDetails()`, one that prints only the staff name and another that prints name, salary, and bonus. In the main method, use an `ArrayList<Staff>` to store at least three objects, and display all staff details using the overloaded methods. Marks: 30

Add Screenshots of your code and output.

Viva: 10;

Total=40