

University of Asia Pacific
Department of Computer Science & Engineering
Mid-Semester Examination Spring-2020
Program: B. Sc Engineering (3rd Year/ 1st Semester)

Course Title: Object Oriented Programming II: Visual and Web Programming

Course No.: 309

Credit: 3.00

Time: 1.00 Hour.

Full Mark: 60

There are **Four** Questions. **Answer three questions including Q-1 and Q-2.**

1. Suppose you are developing an ecommerce system for an online Super shop. [20]

There are many kinds of shops out there like Stationary shops, Grocery shops, Super shop etc. Super shop is one kind of shop where various kinds of products are found. In this system you need to store three main product categories which are Food (Rice, Biscuits, Drinks etc.), Fashion (Clothes, shoe, hat etc.) and Beauty (Make up, facewash, soap etc.). You also need to store the employee information in the system. There are several types of employees in this shop; they are manager, salesperson, accountant, staff and security guard.

Now you have to create an inheritance relationship tree considering any set of classes (at least 6 classes) from the given scenario. You don't need to bring-in all the classes mentioned in this scenario. In addition, you might introduce new classes if necessary.

Draw a **class diagram** of inheritance relationship. (No code is needed)

2. You want to create a personal profile and a student profile page with Django. [20]

The **url** of the personal profile page should be *home/<your full name>* and the **url** of the student profile page should be *home/<your full UAP id>*. Personal profile page should contain your personal information and academic information should be represented on your student profile page.

Now write the necessary codes in the following files (no need to add default codes or imports):

- i. personal_profile.html
- ii. academic_profile.html
- iii. urls.py
- iv. views.py

3. Write a **Bank Account** class in python to manage the account of the users. [20]
A user can deposit (add money) and withdraw (take money) money from his/her own account based on availability. At the time of account creation, the user has to provide his/her first name, last name, date of birth, NID number, contact number and address. Moreover, the user should deposit a minimum of 1000 taka to create the account. This money will be added to his account. After account creation the bank will give an account number to the user. The user should use this account number to access his account (show current balance, deposit and withdraw)

OR

4. You are developing a university management system for UAP. At some point you need to implement a student class to represent each and every student. Now, write a python class for student class with necessary attributes and methods. [20]