

Department of Computer Science & Engineering

University of Asia Pacific (UAP)

Program: B.Sc. in Computer Science and Engineering

Final Examination

Fall 2021

3rd Year 1st
Semester

Course Code: CSE 309

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

Credits: 3

Full Marks: 150

Duration: 3 Hours

Instructions:

1. There are Six (06) Questions. Answer all of them. All questions are of equal value. Part marks are shown in the margins.
2. Programmable calculators are not allowed.

1. a) Perform the following operations using Python Programming Language— 15
 - i. Take an integer 'n' from the user.
 - ii. Print the summation from 0 to that number using a for-loop.
 - iii. Print the multiplication from 1 to that number using a while-loop.
 - iv. Determine whether the number is odd or even using conditional statements.
- b) Create a function that takes the parameter of a quadratic equation and prints out the real as well as complex solution of that equation. 10

If the equation is $ax^2+bx+c=0$, then the function parameters are a, b, and c. Use the following equation to print the solution—

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$
2. a) Explain the difference between list, tuples, set, and dictionaries with coding examples. 15
- b) Define a class that has two functions. One function will return the surface area of a cylinder and another function will return the volume of the cylinder. 5+5

The surface area of the cylinder is defined as, $A = 2\pi r(r + h)$.
The volume of the cylinder is, $V = \pi r^2 h$.
Here, r = Radius of the base of the cylinder.
h = Height of the cylinder.
3. a) Design an HTML page containing a table that has 3 columns and 4 rows. 8
- b) Differentiate between margin, padding, and border using a CSS code example associated with an Image. 7
- c) Demonstrate a code that will insert 10 random integers into an empty list. 10

4. ✕ a) Write a JavaScript code to iteratively print the elements of an array.
b) Mention the necessary commands to run the server using Django.

OR,

- a) Write a JavaScript code to print the multiplication of 'n' numbers using a function.
- b) Mention the necessary commands to run a Web App using Django.
5. a) Create a function that will take two lists as parameters. The first list will contain some persons' names and the second list will contain the ages of those persons in order. The function will return a dictionary containing only the persons who are 18 years old or more. Here the persons' names will be the keys of the dictionary and ages will be the values of those keys.
- b) Write an HTML code to create a link using an Image.
6. ✓ a) Give an example of how could we run external CSS and JavaScript files using HTML.
- b) Write a CSS code to create a three-layer depth background.

OR,

6. a) Demonstrate 'div' and 'layout' tags using examples.
- b) Write a CSS code to demonstrate various relation position of an Image or Paragraph.