1. Which of the following statements is/are correct about APIs? [MSQ]

   √ APIs let your application or service communicate with other applications and services without having to know how they are implemented.

   √ It is an intermediary software that allows two application to talk to each other.

   √ It is a standardized way to communicate with the server.

   √ API is the acronym for Application Programming Interface.

   Solution: All of the above options are correct about API.

2. In the URL:- http://www.example.com:80, the set of characters written between forward slashes (//) and colon (:) on the right denote the _____. [MCQ]

   ○ Parameters

   ○ Path

   ○ Port

   √ Domain name

   Solution: In the URL: http://www.example.com:80, the domain name is located in between // and colon (:). It indicates which web server is being requested.

3. In the URL:- http://www.example.com:80, the set of characters located to the immediate right of the second colon(:) is _____. [MCQ]

   ○ Domain name

   ○ Parameters

   √ Port

   ○ Scheme

   Solution: The port is located just after the second colon. The domain name (e.g., www.example.com) and port (80) are separated by a colon.

4. What will be the output of the following Python code? [MCQ]

```
def func(x):
    def func1():
        print("I am a decorator")
        x()
    return func1
@func
def func2():
    print("I am an ordinary function")
func2()
```

  ○ I am a decorator
    I am a decorator

  ○ I am an ordinary function
    I am an ordinary function

  ✓ I am a decorator
    I am an ordinary function

  ○ I am an ordinary function
    I am a decorator

> **Solution:** The code shown above first prints the word "I am a decorator" and then "I am an ordinary function". Hence, the output of this code is:
> I am a decorator
> I am an ordinary function

5. Which one of the following option will be the output of the Python code given below? [MCQ]

```
def func1(func):
    def wrapper_func(a, b):
        print("Hey There!")
        if b==0:
            print("Hello!")
            return
    return  wrapper_func
@func1
def f2(a, b):
    return a%b
f2(2,5)
```

  ○ Hello!
    Hey There!

  ✓ Hey There!

○ Hey There!
  Hello!

○ Hello!

> **Solution:** The output of this code is:
> Hey There!

6. What will be the output of the following Python code? [MCQ]

```python
def double(func):
    def wrapper():
        func()
        func()
        func()
    return wrapper
@double
def f1():
    print("Hello There")
f1()
```

○ Hello There

○ Hello There
  Hello There

√ Hello There
  Hello There
  Hello There

○ Error

> **Solution:** The code shown above prints "Hello There" three times. Hence output of this code is:
> Hello There
> Hello There
> Hello There

7. Web is different from standalone GUI applications because_____. [MSQ]

√ In web applications, the server and the client are not required to be on the same machine.

√ Web applications can be accessed from anywhere, whereas the standalone GUI applications can only be accessed from machines they are installed in.

○ All the GUI applications can be separated explicitly according to MVC design pattern, which is not possible for web applications.

○ Web applications and GUI applications are different with respect to their appearances.

> **Solution:** The web is different from a GUI application because:
>
> - The web applications do not have location constraint. Thus they can be accessed from anywhere whereas, a standalone GUI application is confined only to the machine it is installed in.
>
> - The MVC design pattern is not capable of accommodating the designing of all the web applications. As a result, we have variants of architectures.
>
> - The MVC design pattern was designed for GUI applications and hence, it is capable enough to define any GUI application.

8. What will the following python code do?   [MCQ]

```python
from flask import Flask
app = Flask(__name__)

@app.route('/page1')
def generate():
    return '<p> This is first page of my flask document </p>'

@app.route('/page2')
def generate():
    return '<p> This is second page of my flask document </p>'

app.run()
```

○ It will create a local web server with an endpoint 'page1'.

○ It will create a local web server with an endpoint 'page2'.

√ It will throw an assertion error.

○ None of the above

> **Solution:** Here, view function mapping is overwriting an existing endpoint function: generate. Hence, an assertion error will be thrown. The end point 'page2' should be defined by a new function.

9. Which of the following is/are correct regarding URL?

[MSQ]

    √ URL is an abbreviation for uniform resource locator.

    √ A URL points to a unique resource on the web.

    ○ A URL can point to multiple resources on the web.

    ○ `https://www.google.com is not an example of URL.`

> **Solution:** "URL" is an abbreviation for Uniform Resource Locator. It points to a unique resource on the web. For example. https://www.google.com.

10. Which of the following options is/are true?   [MSQ]

    √ "enctype" attribute is used in the form element only if request method is POST.

    ○ "enctype" attribute is used in the form element only if request method is GET.

    √ If enctype = "multipart/form-data", each value is sent as a block of data.

    ○ If enctype = "multipart/form-data", each of the values are sent as key-value pair separated by & and = in between key and value.

> **Solution:** "enctype" attribute is used in the form element to specify how the data should be encoded, while submitting it to the server, if the method is "POST". It cannot be used with GET method. enctype = "multipart/form-data" specifies that each value is sent as a block of data. enctype = "multipart/form-data" is mandatory if user is submitting a file using form.

11. Which of the following lines of code will change the default port of Flask to 8000? [MCQ]

    ○ app.run(debug = True, port=8080)

    √ app.run(debug = True, port=8000)

    ○ app.set(port=8000)

    ○ app(debug = True, port=8000)

> **Solution:** Flask default port is 5000. It is changed by passing the values to port parameter while calling run method on the app.

12. The syntax for adding an image in the HTML document is given below.

```
<img src="static/img_name.png">
```

The correct syntax for doing the same using template in the flask app using url_for function is [MCQ]

- √ `<img src="{{ url_for('static', filename='img_name.png') }}">`
- ○ `<img src="{{ url_for('static', 'img_name.png') }}">`
- ○ `<img src="{{ url_for(filename='img_name.png') }}">`
- ○ `<img src="{{ url_for('static/img_name.png') }}">`

Solution: The url_for() function builds URL for any function and its syntax to add an image is given b:

```
<img src="{{ url_for('<folder_name>', filename='<filename>') }}">
```