

<p style="text-align: center;">BSCCS2003: Graded Questions with Solutions Week 5</p>
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1. What will the output of the following Python code? [MCQ : 3 Points]

```
def decor(func1):
    def inner():
        s=func1()
        return s.upper()
    return inner

def decor1(func2):
    def wrapper():
        s=func2()
        return s.split()
    return wrapper

def decor2(func3):
    def wrapper1():
        s=func3()
        return s.lower()
    return wrapper1

@decor1
@decor
@decor2
def print_s():
    return "hello world!"

print(print_s())
```

- ☐ Hello World!
- ☐ HELLO WORLD!
- ☒ ['HELLO', 'WORLD!']
- ☐ None of the above

Solution: The above code prints ['HELLO', 'WORLD!'].
Here decor2 function is not changing any functionality as the print_s function is already in the lowercase.
After that, decor() function converts "hello world!" to "HELLO WORLD!" and then decor1() function converts "HELLO WORLD!" to ["HELLO", "WORLD!"].

2. Consider the code segment given below and choose the correct option(s). [MSQ: 2 points]

```
def My_func1(a,b):  
    sum1 = a+b  
    print(sum1)  
  
def update(original_func):  
    def My_func2(*args):  
        My_func1(*args)  
        a,b = args  
        print((a+b)**2)  
    return My_func2  
  
My_func_1 = update(My_func1)
```

- ✓ 'My_func1' prints the sum of numbers a and b.
- ✓ 'My_func_1' prints the sum, and also the square of the sum of numbers a and b.
- ✓ The function 'update' works in a way Python decorators work
- ✓ when "My_func_1 = update(My_func1)" is executed, 'My_func2' is assigned to 'My_func_1'.

Solution: The function 'update' alters the functionality of function 'My_func1' such that it returns the sum and also the square of the resulting sum. Thus, the equation: My_func_1 = update(My_func1) works in the way a decorator works.

3. The default 'methods' parameter in the route decorator is_____. [MCQ: 1 points]

- ☐ POST
- ✓ ☒ GET
- ☐ UPDATE
- ☐ CREATE

Solution: The parameter 'methods' of the route method accepts a list of methods that the given rule is limited to. By default, it listens to the 'GET' method.

4. Which of the following is/are correct regarding the URL? [MSQ : 1 points]

"http://www.example.com/student/marks.html?id=201"

- ☐ www.example.com is a query string.
- ✓ /student/marks.html is the path to the resource.
- ✓ id = 201 is a parameter.
- ✓ www.example.com is a domain name.

Solution: In this URL, example.com is domain name, /student/marks.html is path to the resource and id = 201 is a parameter.

5. Consider the following code.

[MCQ : 2 points]

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

@app.route("/")
def ind():
    return "Hello students !"

@app.route("/home/<name>")
def home(name):
    return f"Hello {name} students!"
```

If the flask application is running on http://127.0.0.1:5000, what will browser render for url http://127.0.0.1:5000/home/iitm?

- ☐ Hello iitm!
- ☐ Hello students!
- ✓ Hello iitm students!
- ☐ Hello world!

Solution: If you visit the url “http://127.0.0.1:5000/home/iitm” flask will invoke home function which will return Hello iitm students!

6. A Python code with a Flask app and two HTML files in the template folder are shown below.

```
from flask import Flask, render_template
app = Flask(__name__)
@app.route('/index')
def info():
    return render_template('web1.html')
```

```
@app.route('/info')
def index():
    return render_template('web2.html')
```

```
if __name__ == '__main__':
    app.run(debug = True)
```

HTML file: web1.html

```
<!DOCTYPE html>
<html>
<head>
<title>Web 1</title>
</head>
<body>
<h3>This is the index page of my website</h3>
<p>This page gives introduction of the website.</p>
</body>
</html>
```

HTML file: web2.html

```
<!DOCTYPE html>
<html>
<head>
<title>Web 2</title>
</head>
<body>
<h3>This is the info page of my website</h3>
<p>This page gives information of the website.</p>
</body>
</html>
```

Choose the correct statement(s)

[MCQ : 3 points]

- ✓ For the URL 'http://127.0.0.1:5000/index', the browser will render the HTML file as;

This is the index page of my website

This page gives introduction of the website.

- For the URL 'http://127.0.0.1:5000/index', the browser will render the HTML file as;

This is the info page of my website

This page gives information of the website.

- For the URL 'http://127.0.0.1:5000/info', the browser will render the HTML file as;

This is the index page of my website

This page gives introduction of the website.

- ✓ For the URL 'http://127.0.0.1:5000/info', the browser will render the HTML file as;

This is the info page of my website

This page gives information of the website.

Solution: The HTML file rendered by the browser depends on the route method. The route method with endpoint '/index' will render HTML file 'web1.html' and that with endpoint '/info' will render HTML file 'web2.html'. For the flask app to run without error, the name of functions under the decorator should have different names, and these names are independent of the rendered HTML file.

7. A model class 'Users' is used to create a table with name 'users' in the database, which is shown in the figure below.

id	user_name	e_mail_id
1	Shiv	shiv@example.com
2	Rudra	rudra@example.org
3	Mahesh	mahesh@example.com
4	Neel	neel@example.org

What will be the output if the following lines of code are executed with help of Python console?

```
>>> Names = Users.query.order_by(Users.user_name).all()
>>> for name in Names:
...     print(name.user_name)
```

[MCQ : 2 points]

- ☐ Shiv
Rudra
Mahesh
Neel
- ☐ Rudra
Shiv
Mahesh
Neel
- ☒ Mahesh
Neel
Rudra
Shiv
- ☐ mahesh
neel
rudra
shiv

Solution: The 'query.order_by()' method sorts all the records in the 'users' table with respect to the field passed to it as an argument. In this case, it will sort the table with respect to user_name. The following 'for' loop prints the alphabetically sorted user_names in newline.