There are $N$ stones, numbered $0, 1, 2, \ldots, N-1$. For each $i (0 \leq i \leq N-1)$, the height of Stone $i$ is $h_i$ .

There is a frog who is initially on Stone $0$. He will repeat the following action some number of times to reach Stone $N$

If the frog is currently on stone $i$, can jump to Stone $i+1$ or Stone $i+2$. Here, a cost of $| h_i - h_j |$ is incurred, where $j$ is the stone to land on.

Find the minimum possible total cost to reach stone 5 from stone 0 for the following sequence of heights for 6 stones.

```
10, 15, 30, 20, 28, 36
```

**Response Type :** Numeric

**Evaluation Required For SA :** Yes

**Show Word Count :** Yes

**Answers Type :** Equal

**Text Areas :** PlainText

**Possible Answers :**

26

# AppDev1

| | |
|---|---|
| **Section Id :** | 64065349262 |
| **Section Number :** | 3 |
| **Section type :** | Online |
| **Mandatory or Optional :** | Mandatory |
| **Number of Questions :** | 31 |
| **Number of Questions to be attempted :** | 31 |
| **Section Marks :** | 100 |
| **Display Number Panel :** | Yes |
| **Section Negative Marks :** | 0 |
| **Group All Questions :** | No |
| **Enable Mark as Answered Mark for Review and Clear Response :** | Yes |

| | |
|---|---|
| **Maximum Instruction Time :** | 0 |
| **Sub-Section Number :** | 1 |
| **Sub-Section Id :** | 640653103258 |
| **Question Shuffling Allowed :** | No |
| **Is Section Default? :** | null |

**Question Number : 48 Question Id : 640653697622 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 0**

Question Label : Multiple Choice Question

**THIS IS QUESTION PAPER FOR THE SUBJECT "DIPLOMA LEVEL : MODERN APPLICATION DEVELOPMENT I (COMPUTER BASED EXAM)"**

**ARE YOU SURE YOU HAVE TO WRITE EXAM FOR THIS SUBJECT?**
**CROSS CHECK YOUR HALL TICKET TO CONFIRM THE SUBJECTS TO BE WRITTEN.**

**(IF IT IS NOT THE CORRECT SUBJECT, PLS CHECK THE SECTION AT THE TOP FOR THE SUBJECTS REGISTERED BY YOU)**

**Options :**

6406532329892. ✔ YES

6406532329893. ✖ NO

| | |
|---|---|
| **Sub-Section Number :** | 2 |
| **Sub-Section Id :** | 640653103259 |
| **Question Shuffling Allowed :** | Yes |
| **Is Section Default? :** | null |

**Question Number : 49 Question Id : 640653697623 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

Consider the given URL below.

```
https://seek.study.iitm.ac.in/courses/ns_23t3_cs2003?type=lesson&tab=course
s
```

Select the appropriate option that correctly identifies different components of a given URL.

**Options :**

6406532329894. ✖

```
Protocol: https
Domain: seek
Sub-Domain: study.iitm.ac.in
Path: /courses/ns_23t3_cs2003
Parameters: ?type=lesson&tab=courses
```

6406532329895. ✖

```
Protocol:  https
Domain:  seek
Sub-Domain:  study.iitm.ac.in/courses
Path:  /ns_23t3
Parameters: cs2003?type=lesson&tab=courses
```

6406532329896. ✖

```
Protocol:  https
Domain:  study.iitm.ac.in/courses
Sub-Domain:  seek
Path: /ns_23t3
Parameters: cs2003?type=lesson&tab=courses
```

6406532329897. ✔

```
Protocol:  https
Domain:  study.iitm.ac.in
Sub-Domain:  seek
Path:  /courses/ns_23t3_cs2003
Parameters: ?type=lesson&tab=courses
```

**Question Number : 50 Question Id : 640653697628 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

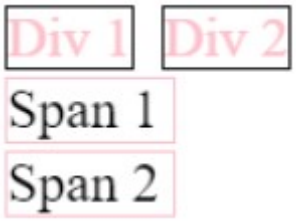
How will the browser render the following HTML document?

```
<!DOCTYPE html>
<html>
<head>
    <title>Document</title>
    <style>
        div{
            border: 1px solid black;
            color:pink;
        }
        span{
            border: 1px solid pink;
            display: block;
        }
        div,span{
            width:8%;
            margin: 2px;
        }
    </style>
</head>
    <body>
        <div>Div 1</div>
        <div>Div 2</div>
        <span>Span 1</span>
        <span>Span 2</span>
    </body>
</html>
```

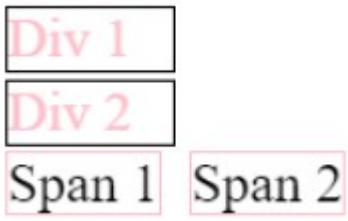
**Options :**

6406532329910. ✔


6406532329911. ✖




6406532329912. ✖ 


6406532329913. ✖ 


**Question Number : 51 Question Id : 640653697636 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

Consider the statements given below and choose the correct option.

**Statement 1:** 100% statement coverage automatically implies 100% branch coverage.

**Statement 2:** 100% statement coverage automatically implies 100% condition coverage.

**Options :**

6406532329938. ✖ Both statement 1 and 2 are correct.

6406532329939. ✔ Both statement 1 and 2 are incorrect.

6406532329940. ✖ Statement 1 is correct but, statement 2 is incorrect.

6406532329941. ✖ Statement 2 is correct but, statement 1 is incorrect.

**Question Number : 52 Question Id : 640653697642 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

Consider a simple web server using command prompt.

**Filename - Hello.sh**

```
#!/bin/bash
while true; do
echo -e "Current date and time is \n\t $(date)"
| nc -l localhost 4100;
done
```

If this program creates a server in a terminal, the correct way to make a request to this server is _____.

**Options :**

6406532329962. ✖ Type `curl http://localhost:5000` in the same terminal where the server is running.

6406532329963. ✖ Type `curl http://localhost:4100` in the same terminal where the server is running.

6406532329964. ✖ Open a new terminal and type `curl http://localhost:5000`

6406532329965. ✔ Open a new terminal and type `curl http://localhost:4100`

**Question Number : 53 Question Id : 640653697645 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

Consider the following flask application.

Python file: app.py

```
from flask import Flask, render_template, request

app = Flask(__name__)

emp = {'admin':'manoj', 'user':'sumit'}

@app.route('/profile/<user>')
def profile(user):
    access = request.args.get('access')
    if emp[access] != user:
        return render_template("profile.html", user = user,
                               access = access, error = True)
    return render_template("profile.html", user = user,
                           access = access, error = False)

app.run()
```

Template file: profile.html

```
<body>
    <div>
        {% if error %}
            <h3>Hi {{user}}, {{access}} access denied</h3>
        {% else %}
            <h3>Hi {{user}}, you are logged in as {{access}}.</h3>
        {% endif %}
    </div>
</body>
```

If the application is running locally on `http://127.0.0.1:5000`, then what will be rendered by the browser for URL, `http://127.0.0.1:5000/profile/sumit?access=admin` ?

**Options :**

6406532329974. ✖ **Hi sumit, you are logged in as admin.**

6406532329975. ✖ **Hi sumit, you are logged in as user.**

6406532329976. ✔ **Hi sumit, admin access denied.**

6406532329977. ✖ **Hi sumit, user access denied.**

**Question Number : 54 Question Id : 640653697646 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

Consider the following function to be tested and test functions given in the Python code snippet below.

test_file.py

```
import pytest

def square(x):
    sum = 0
    for counter in range(x):
      sum += x
      return sum

@pytest.mark.marker1
def testcase_1():
    assert square(13) == 144

@pytest.mark.marker2
def testcase_2():
    assert square(6) == 6

@pytest.mark.marker3
def testcase_3():
    assert square(3) == 9
```

On running this file on the terminal using pytest, the summary of the output is;

```
============ 1 passed, 2 deselected, 3 warnings in 0.02s =============
```

What command will result into the outcome given above?

**Options :**

6406532329978. ✖ `pytest test_file.py -k marker1`

6406532329979. ✖ `pytest test_file.py -m marker1`

6406532329980. ✖ `pytest test_file.py -m marker3`

6406532329981. ✔ `pytest test_file.py -m marker2`

**Question Number : 55 Question Id : 640653697647 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

The hexadecimal equivalent of the IPv4 address `171.216.21.100` would be _____.

**Options :**

6406532329982. ✖ ABD8 6415

6406532329983. ✖ D8AB 6415

6406532329984. ✔ ABD8 1564

6406532329985. ✖ D8AB 1564

**Question Number : 56 Question Id : 640653697648 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

Consider the following models `Creator` and `Song` corresponding to tables `creator` and `song` in SQLite database.

```
class Creator(db.Model):
    id = db.Column(db.Integer(), primary_key = True)
    c_name = db.Column(db.String(), unique = True)

class Song(db.Model):
    id = db.Column(db.Integer(), primary_key = True)
    s_title = db.Column(db.String(), unique = True)
    singer = db.Column(db.Integer(), db.ForeignKey("creator.id"))
```

Based on the model schemas, what relationship do the table `creator` and `song` share?

**Options :**

6406532329986. ✖ Many-to-Many

6406532329987. ✔ One-to-Many

6406532329988. ✖ One-to-One

6406532329989. ✖ The tables are not at all related

**Question Number : 57 Question Id : 640653697654 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

Which curl option is used to set the request method in an HTTP request?

**Options :**

6406532330010. ✖ -H

6406532330011. ✔ -X

6406532330012. ✖ -d

6406532330013. ✖ -r

| | |
|---|---|
| **Sub-Section Number :** | 3 |
| **Sub-Section Id :** | 640653103260 |
| **Question Shuffling Allowed :** | Yes |
| **Is Section Default? :** | null |

**Question Number : 58 Question Id : 640653697624 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Read the statements given below carefully and select the correct option.

**Statement 1:** If an element is styled externally using both the class and the ID, then for the same

attribute, it will acquire styling from the ID.

**Statement 2:** If an element is styled internally using ID and class selector as well as using inline styling for the same style attribute, then it will always acquire inline styling.

**Options :**

6406532329898. ✔ Both statements 1 and 2 are correct

6406532329899. ✖ Both statements 1 and 2 are incorrect

6406532329900. ✖ Statement 1 is correct but statement 2 is incorrect

6406532329901. ✖ Statement 2 is correct but statement 1 is incorrect

**Question Number : 59 Question Id : 640653697629 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Consider two python files, one.py and two.py with following code snippets.

File1: one.py

```
import sys
import two
print(f'{sys.argv[1]} {sys.argv[3]}')
```

File2: two.py

```
import sys
print(f'{sys.argv[2]} {sys.argv[0]}')
```

What is the output of the following command “python one.py two.py two.py one.py ”?

**Options :**

6406532329914. ✖
one.py two.py
one.py two.py

6406532329915. ✖ two.py one.py
one.py two.py

6406532329916. ✔ two.py one.py
two.py one.py

6406532329917. ✖ one.py two.py
two.py one.py

**Question Number : 60 Question Id : 640653697640 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Which of the following is not a web component?

**Options :**

6406532329954. ✖ Custom Elements

6406532329955. ✖ Shadow DOM

6406532329956. ✖ HTML Templates

6406532329957. ✔ Web Assembly

**Question Number : 61 Question Id : 640653697641 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Consider the following statements and select the correct option.

**Statement 1:** The command, `git del <filename>` deletes the file from the staging area as well as from the working tree.

**Statement 2:** The command, `git rm --cached <filename>` deletes the file from the staging area but keeps it in the working tree.

**Options :**

6406532329958. ✖ Statement 1 is correct, but statement 2 is incorrect.

6406532329959. ✔ Statement 1 is incorrect, but statement 2 is correct.

6406532329960. ✖ Both statements 1 and 2 are correct.

6406532329961. ✖ Both statements 1 and 2 are incorrect.

**Question Number : 62 Question Id : 640653697655 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2**

Question Label : Multiple Choice Question

What is Emscripten in the context of WebAssembly?

**Options :**

6406532330014. ✖ A WebAssembly specification

6406532330015. ✖ A JavaScript framework

6406532330016. ✔ A toolchain for compiling C/C++ code to WebAssembly

6406532330017. ✖ An HTML and CSS editor

**Question Number : 63 Question Id : 640653697656 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2**

Question Label : Multiple Choice Question

The ORM(Object-Relational Mapping) sqlalchemy is used for?

**Options :**

6406532330018. ✖ Running SQL queries directly on the database

6406532330019. ✖ Defining the structure of HTML templates

6406532330020. ✔ Mapping Python objects to database tables and records

6406532330021. ✖ Creating Web Routes in a Flask app

| | |
|---|---|
| **Sub-Section Number :** | 4 |
| **Sub-Section Id :** | 640653103261 |
| **Question Shuffling Allowed :** | Yes |
| **Is Section Default? :** | null |

**Question Number : 64 Question Id : 640653697631 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 4.5**

Question Label : Multiple Choice Question

Consider the following Python code snippet.

**arg.py**

```
from jinja2 import Template
import sys
input_list = sys.argv
num1, num2, input_list[3] = int(input_list[1]), int(input_list[2]),
int(input_list[3])

if input_list[3]== 1:
    num3= (num1**num2)
elif input_list[3]== 2:
    num3= (num1-num2)
elif input_list[3]== 3:
    num3= (num1+num2)
else:
    num3= (num1%num2)
template = """
           <!DOCTYPE html>
           <html>
             <div>
                Number 1: {{num1}},
                Number 2: {{num2}},
                Output : {{num3}}
             </div>
           </html>
           """
t = Template(template)
print(t.render(num1=num1, num2=num2, num3=num3))
```

Map the commands in column A with the correct rendered output in the browser in column B.

| Column A | Column B |
|---|---|
| a) python arg.py 2 2 1 | 1) Number 1: 4, Number 2: 2, Output : 0 |
| b) python arg.py 2 2 3 | 2) Number 1: 2, Number 2: 2, Output : 4 |
| c) python arg.py 4 2 2 | 3) Number 1: 2, Number 2: 2, Output : 4 |
| d) python arg.py 4 2 4 | 4) Number 1: 4, Number 2: 2, Output : 2 |

**Options :**

6406532329922. ✖ a - 3, b - 2, c - 1, d - 4

6406532329923. ✖ a - 2, b - 1, c - 4, d - 3

6406532329924. ✖ a - 3, b - 1, c - 2, d - 4

6406532329925. ✔ a - 2, b - 3, c - 4, d - 1

**Question Number : 65 Question Id : 640653697632 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 4.5**

Question Label : Multiple Choice Question

Given a Python code snippet, code.py is run on the terminal with an appropriate temp.html document.

code.py

```
from jinja2 import Template
Products = [
  {'product_id':'101', 'prod_name':'Legion','producer':'Lenovo'},
  {'product_id':'102', 'prod_name':'S21pro', 'producer':'Samsung'},
  {'product_id':'103', 'prod_name':'TabA7','producer':'Samsung'},
  {'product_id':'104', 'prod_name':'Ideapad','producer':'Lenovo'},
                  ]
File = open ('temp.html','r')
temp = File.read()
File.close()
made_temp = Template(temp)
print(made_temp.render(Products=Products))
```

What should be the content of temp.html file if the browser renders the output of the above code, as shown below;

Lenovo

| Product ID | Name |
|---|---|
| 101 | Legion |
| 104 | Ideapad |

Samsung

| Product ID | Name |
|---|---|
| 102 | S21pro |
| 103 | TabA7 |

**Options :**

6406532329926. ✖

```
{% for product in Products| groupby('producer') %}
  <p> {{product.grouper}} </p>
  <table border="1">
  <tr>
      <th>Product ID</th>
      <th> Name </th>
  </tr>
  <tr>
  <td> {{ product.product_id}}</td>
  <td>{{product.prod_name}}</td>
  </tr>
  </table>
{% endfor %}
```

6406532329927. ✔

```
{% for product in Products| groupby('producer') %}
  <p> {{product.grouper}} </p>
  <table border="1">
  <tr>
      <th>Product ID</th>
      <th> Name </th>
  </tr>
  {% for item in product.list %}
  <tr>
  <td> {{ item.product_id}}</td>
  <td>{{item.prod_name}}</td>
  </tr>
  {% endfor %}
  </table>
          {% endfor %}
```

6406532329928. ✖

```
{% for product in Products| groupby('prod_name') %}
  <p> {{product.grouper}} </p>
  <table border="1">
  <tr>
      <th>Product ID</th>
      <th> Name </th>
  </tr>
  {% for item in product.list %}
  <tr>
  <td> {{ item.product_id}}</td>
  <td>{{item.prod_name}}</td>
  </tr>
  {% endfor %}
  </table>
{% endfor %}
```

```
{% for product in Products| groupby('prod_name') %}
  <p> {{product.grouper}} </p>
  <table border="1">
  <tr>
     <th>Product ID</th>
     <th>Name</th>
  </tr>
  <tr>
     <td>{{item.product_id}}</td>
     <td>{{item.prod_name}}</td>
  </tr>
  </table>
{% endfor %}
```

6406532329929. ✖

**Question Number : 66 Question Id : 640653697649 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 4.5**

Question Label : Multiple Choice Question

Consider the following function to be tested and test functions given in the Python code snippet below.

test_file.py

```
powers = []

for i in range(1,5):
    def powers_of_x(x):
        return x**i
    powers.append(powers_of_x)

powers_of_3 = [x(3) for x in powers]

def testcase_1():
    assert 9 in powers_of_3

def testcase_2():
    assert 27 in powers_of_3

def testcase_3():
    assert 64 in powers_of_3
```

For the command `pytest test_file.py`, what will be the output on the terminal?

**Options :**

6406532329990. ✖

```
============ 1 failed, 2 passed in 0.02s =============
```

6406532329991. ✖

```
================= 3 passed in 0.02s ==================
```

6406532329992. ✔

```
================= 3 failed in 0.02s ==================
```

6406532329993. ✖

```
============ 2 failed, 1 passed in 0.02s =============
```

**Question Number : 67 Question Id : 640653697650 Question Type : MCQ Is Question**

**Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 4.5**

Question Label : Multiple Choice Question

Consider the following HTML document rendered using a browser.

```
<!DOCTYPE html>
<html lang="en">
    <head>
        <title>Document</title>
        <style>
            input:valid {
                background: green;
            }
            input:invalid {
                background: red;
            }
        </style>
    </head>
    <body>
        <form>
            <label for="uname">Enter a valid e-mail:</label>
            <input type="text" name="uname" minlength="5"
                   maxlength="8" value="a">
        </form>
    </body>
</html>
```

If a user starts typing "madcourse" letter by letter, how will the background colour of the `<input>` tag change?

**Options :**

6406532329994. ✖ Red for first five letters, turns green till 8th letter and turns red back again after next letter.

6406532329995. ✔ Red for first five letters, and remain green after that.

6406532329996. ✖ Green for first five letters, turns red till 8th letter and turns green back again after next letter.

6406532329997. ✖ Green for first five letters, and remain red after that.

**Question Number : 68 Question Id : 640653697653 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 4.5**

Question Label : Multiple Choice Question

A flask application shown below is running locally on http://127.0.0.1:5000

```
from flask import Flask, request, session, abort

app = Flask(__name__)
app.config['SECRET_KEY'] = "yekterces"

@app.route('/login')
def log_in():
    user = request.args['user']
    role = request.args['role'] if 'role' in request.args else
'general'
    session['user'], session['role'] = user, role
    return "Logged in successfully!"
@app.route('/home')
def land():
    if 'user' in session:
        if session['role'] == 'admin':
            return f"Welcome {session['user']}"
        return abort(401)
    return abort(404)

@app.route('/logout')
def log_out():
    session.pop('user', None)
    session.pop('role', None)
    return "Logged out sucessfully!"

app.run(debug=True)
```

If the application is running locally on http://127.0.0.1:5000, What will be the correct sequence of response status codes if the client visits the URLs one by one in the sequence given below?

1. http://127.0.0.1:5000/home
2. http://127.0.0.1:5000/login/admin
3. http://127.0.0.1:5000/login?user=admin
4. http://127.0.0.1:5000/home
5. http://127.0.0.1:5000/logout

**Options :**

6406532330006. ✖
401
401
200
404
200

6406532330007. ✔
404
404
200
401
200

6406532330008. ✖
404
200
200
200
200

6406532330009. ✖
404
200
404
200
200

| | |
|---|---|
| **Sub-Section Number :** | 5 |
| **Sub-Section Id :** | 640653103262 |
| **Question Shuffling Allowed :** | Yes |
| **Is Section Default? :** | null |

**Question Number : 69 Question Id : 640653697637 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3 Max. Selectable Options : 0**

Question Label : Multiple Select Question

Consider the following two code snippets.

Snippet 1

```
@app.route("/base")
@app.route("/home")
def homepage():
    return "Welcome to MAD I!"
```

Snippet 2

```
@app.route("/mad1")
def homepage():
    return "Welcome to MAD I!"

@app.route("/mad2")
def homepage():
    return "Welcome to MAD II!"
```

Which of the following is/are correct options if the above snippets are run as view functions of a flask application ?

**Options :**

6406532329942. ✔ Snippet 1 is valid, but Snippet 2 is invalid.

6406532329943. ✖ Snippet 2 is valid, but Snippet 1 is invalid.

6406532329944. ✔ Snippet 1 will run successfully, while Snippet 2 will raise an AssertionError.

6406532329945. ✖ Snippet 2 will run successfully, while Snippet 1 will raise an AssertionError.

**Question Number : 70 Question Id : 640653697638 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3 Max. Selectable Options : 0**

Question Label : Multiple Select Question

Consider the following flask application.

app.py

```
from flask import Flask, render_template, url_for, request, redirect
app = Flask(__name__)
list_of_courses = ['Java', 'Python', 'DBMS', 'PDSA']

@app.route("/if")
def if_loop():
      name = request.args.get("name")
      if name == "MADI":
            return redirect("/home")
      elif name in list_of_courses:
            return url_for("for_loop")
      return "You are not authorized to view this page"

@app.route("/home")
def home_page():
      return "Welcome to MADI!"
@app.route("/for")
def for_loop():
      return render_template("for_course.html", courses=list_of_courses)

app.run(debug=True)
```

Which of the following statements is/are true if the application is running locally on `http://127.0.0.1:5000` ?

**Options :**

6406532329946. ✖ For URL, `http://127.0.0.1:5000/if?name=MADI` browser will display, `/home` as output.

6406532329947. ✖ For URL, `http://127.0.0.1:5000/if?name=Java` browser will render, `for_course.html`

6406532329948. ✔ For URL `http://127.0.0.1:5000/if` browser will display, `You are not authorized to view this page!` as output.

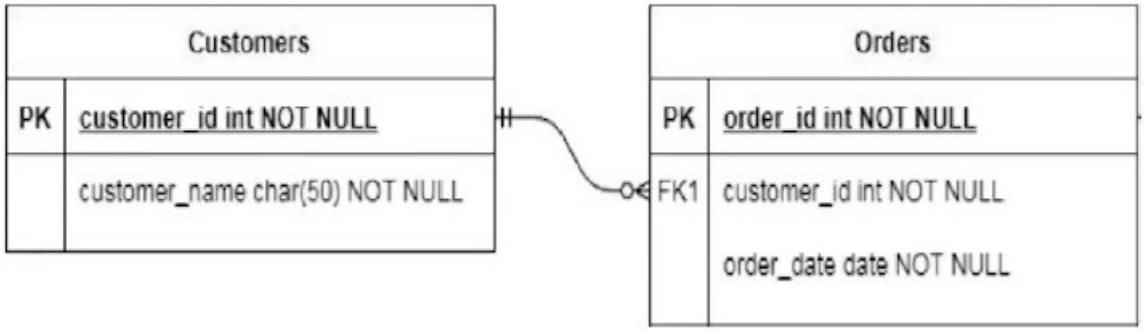
6406532329949. ✔ For URL `http://127.0.0.1:5000/if?name=Python` browser will display, `/for` as output.

**Question Number : 71 Question Id : 640653697639 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3 Max. Selectable Options : 0**

Question Label : Multiple Select Question

Consider the ER diagram below.




Which of the following statement is/are correct?

**Options :**

6406532329950. ✔ One order must have exactly one customer associated with it.

6406532329951. ✖ One customer must have many orders associated with it.

6406532329952. ✔ One customer may have zero or many orders associated with it.

6406532329953. ✔ It's not mandatory for a customer to have an order.

**Question Number : 72 Question Id : 640653697643 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3 Max. Selectable Options : 0**

Question Label : Multiple Select Question

The table "Student" in SQLite database is used by an application.

| ID | Name | Age | Marks | Courses |
|---|---|---|---|---|
| 102 | Ravi | 21 | 45 | Geography |
| 105 | Ashnoor | 22 | 80 | Physics |
| 109 | Kavya | 20 | 71 | Mathematics |
| 114 | Vivek | 25 | 63 | Chemistry |

Which of the following SQL commands will change the state of the database server?

**Options :**

6406532329966. ✔
```
CREATE TABLE Student (ID int NOT NULL, Name varchar(255) NOT NULL,
Age int, Marks int, Courses varchar(255), PRIMARY KEY (ID));
```

6406532329967. ✖
```
SELECT * from Student;
```

6406532329968. ✔
```
UPDATE Student SET Name = 'Kavya', Age = 20 WHERE ID = 109;
```

6406532329969. ✖
```
SELECT Name, Courses from Student where Marks>60;
```

**Question Number : 73 Question Id : 640653697644 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3 Max. Selectable Options : 0**

Question Label : Multiple Select Question

Consider the following Python code snippet.

```
from string import Template

statement = Template("the $var1 boxing $var2 jump $var3")

out = statement.substitute(var_dict)

print(out)
```

Which of the following options correctly represent(s) the dictionary `var_dict`, such that the code does not throw any error when run in the terminal?

**Options :**

6406532329970. ✖ `var_dict = {'var1': 'five', 'var2': 'wizards'}`

6406532329971. ✔ `var_dict = {'var1': 'five', 'var2': 'wizards', 'var3': 'quickly'}`

6406532329972. ✔
```
var_dict = {'var1': 'five', 'var2': 'wizards', 'var3': 'quickly',
'var4': 'away'}
```

6406532329973. ✖ None of these

| | |
|---|---|
| **Sub-Section Number :** | 6 |
| **Sub-Section Id :** | 640653103263 |
| **Question Shuffling Allowed :** | Yes |
| **Is Section Default? :** | null |

**Question Number : 74 Question Id : 640653697630 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 4.5 Max. Selectable Options : 0**

Question Label : Multiple Select Question

An HTML code is given below then which of the following CSS code will render the output as

shown below.

HTML Code:

```
<!DOCTYPE html>
<html>
<head>
    <title>Document</title>
    <link href="style.css" rel="stylesheet">
    <style>
        body{background-color:lightgray !important; text-align: center;}
        h2{color: purple !important ;}
    </style>
</head>
<body style="background-color:lavender;" >
    <h2 style="color: blue;">CSS Selectors</h2>
    <p class="one">ID</p>
    <p class="two" >Class</p>
    <p class="three" id="id">Element</p>
</body>
</html>
```

Rendered Output:


**Options :**

6406532329918. ✔

```
body{background-color: skyblue !important;}
#id{color: blue ;}
.one{color: yellow;}
.two{color: red;}
.three{color: green;}
```

6406532329919. ✖

```
body{background-color: skyblue ;}
#id{color: red ;}
.one{color: yellow;}
.two{color: blue;}
.three{color: green;}
```

6406532329920. ✖

```
body{background-color: skyblue !important;}
#id{color: red ;}
.one{color: blue;}
.two{color: yellow;}
.three{color: green;}
```

6406532329921. ✔

```
body{background-color: skyblue ;}
#id{color: blue ;}
.one{color: yellow;}
.two{color: red;}
```

**Question Number : 75 Question Id : 640653697651 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 4.5 Max. Selectable Options : 0**

Question Label : Multiple Select Question

Consider the following python code snippet and choose the correct option.

```
def modify(func):
    def wrapper(x):
        list = func(x, [])
        return list
    return wrapper

@modify
def expandList(x, list = []):
    list.append(x)
    return list

print(expandList(5))
print(expandList(6))
```

**Options :**

6406532329998. ✖

If `@modify` is commented and the updated code is run on the terminal, the output will be;

```
[5]
[6]
```

6406532329999. ✔

If `@modify` is commented and the updated code is run on the terminal, the output will be;

```
[5]
[5, 6]
```

6406532330000. ✔

If the code is run on the terminal directly, the output on the terminal will be;

```
[5]
[6]
```

6406532330001. ✖

If the code is run on the terminal directly, the output on the terminal will be;

```
[5]
[5, 6]
```

**Question Number : 76 Question Id : 640653697652 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 4.5 Max. Selectable Options : 0**

Question Label : Multiple Select Question

Consider the following flask application.

```python
from flask import Flask, abort
app = Flask(__name__)
modules = ['python', 'react', 'node']

@app.route('/home/modules/')
def all_modules():
    return f"<h3>List of modules: {modules}</h3>"

@app.route('/get/<string:module_1>')
def get_module(module_1):
    if module_1 in modules:
        return f"<h3>One module found: {module_1}.</h3>"
    else:
        abort(400)

@app.errorhandler(400)
def module_error(error):
    return "<h3>Cannot find module</h3>"

@app.errorhandler(404)
def module_error(error):
    return "<h3>Incorrect Path</h3>"

app.run(debug=True)
```

If the application is running locally on `http://127.0.0.1:5000`, select the correct statement(s).

**Options :**

6406532330002. ✔ For the URL, `http://127.0.0.1:5000/home/modules`, the browser will render; **List of modules: ['python', 'react', 'node']**

6406532330003. ✖ For the URL, `http://127.0.0.1:5000/home/modules`, the browser will render; **Incorrect Path**

6406532330004. ✖ For the URL, `http://127.0.0.1:5000/get/react/`, the browser will render; **One module found: react.**

For the URL, `http://127.0.0.1:5000/get/vuejs`, the browser will render;

6406532330005. ✔ **Cannot find module**

| | |
|---|---|
| **Sub-Section Number :** | 7 |
| **Sub-Section Id :** | 640653103264 |
| **Question Shuffling Allowed :** | No |
| **Is Section Default? :** | null |

**Question Id : 640653697633 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Question Numbers : (77 to 78)**

Question Label : Comprehension

Given below is a part of the HTTP response upon running the command:

```
curl --head https://www.httpbin.org/
```

HTTP response

```
HTTP/2 200
date: Fri, 02 Dec 2022 16:38:16 GMT
content-type: text/html; charset=utf-8
content-length: 9593
server: gunicorn/19.9.0
access-control-allow-origin: *
access-control-allow-credentials: true
```

Based on the above data, answer the given subquestions.

**Sub questions**

**Question Number : 77 Question Id : 640653697634 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Which part of the response indicates the MIME type of the response body?

**Options :**

6406532329930. ✖ charset=utf-8

6406532329931. ✖ server: gunicorn/19.9.0

6406532329932. ✔ content-type: text/html;

6406532329933. ✖ None of these

**Question Number : 78 Question Id : 640653697635 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2**

Question Label : Multiple Choice Question

Which part of the response indicates that the request created a successful response?

**Options :**

6406532329934. ✖ server: gunicorn/19.9.0

6406532329935. ✖ content-type: text/html;

6406532329936. ✔ HTTP/2 200

6406532329937. ✖ None of these

| | |
|---|---|
| **Sub-Section Number :** | 8 |
| **Sub-Section Id :** | 640653103265 |
| **Question Shuffling Allowed :** | No |
| **Is Section Default? :** | null |

**Question Id : 640653697625 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Question Numbers : (79 to 80)**

Question Label : Comprehension

A machine client M makes multiple requests to three different servers A, B and C in the order A then B followed by C. However, it can make a request to server B only after receiving the response from server A and same with server C i.e. the client can make a request to server C only after receiving response from server B. If the servers A, B and C are located at 900 kms, 1200 kms and 1500 kms respectively, answer the given subquestions.[Consider speed of light in air to be $3 \times 10^8$ m/s]

**Sub questions**

**Question Number : 79 Question Id : 640653697626 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

What is the maximum number of requests that can be made to A per second?

**Options :**

6406532329902. ✖ 166

6406532329903. ✔ 42

6406532329904. ✖ 56

6406532329905. ✖ 111

**Question Number : 80 Question Id : 640653697627 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 3**

Question Label : Multiple Choice Question

What is the round trip time (RTT) in milliseconds for server C?

**Options :**

6406532329906. ✖ 24

6406532329907. ✖ 12

6406532329908. ✔ 10

6406532329909. ✖ 5

# MLF

| | |
|---|---|
| **Section Id :** | 64065349263 |
| **Section Number :** | 4 |
| **Section type :** | Online |
| **Mandatory or Optional :** | Mandatory |
| **Number of Questions :** | 16 |
| **Number of Questions to be attempted :** | 16 |
| **Section Marks :** | 40 |
| **Display Number Panel :** | Yes |
| **Section Negative Marks :** | 0 |
| **Group All Questions :** | No |
| **Enable Mark as Answered Mark for Review and Clear Response :** | Yes |
| **Maximum Instruction Time :** | 0 |
| **Sub-Section Number :** | 1 |
| **Sub-Section Id :** | 640653103266 |
| **Question Shuffling Allowed :** | No |
| **Is Section Default? :** | null |

**Question Number : 81 Question Id : 640653697657 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 0**

Question Label : Multiple Choice Question

**THIS IS QUESTION PAPER FOR THE SUBJECT "DIPLOMA LEVEL : MACHINE LEARNING**