

Question Label : Multiple Choice Question

What is the time complexity of function LIS() ?

Options :

6406533043486. ✖ $O(n)$

6406533043487. ✖ $O(n \log n)$

6406533043488. ✖ $O(\log n)$

6406533043489. ✔ $O(n^2)$

AppDev1

Section Id :	64065364122
Section Number :	9
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	32
Number of Questions to be attempted :	32
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 :	No
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653134029
Question Shuffling Allowed :	No

Question Number : 254 Question Id : 640653903822 Question Type : MCQ Calculator : Yes
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 :

6406533043505. ✓ YES

6406533043506. ✗ NO

Sub-Section Number :

2

Sub-Section Id :

640653134030

Question Shuffling Allowed :

Yes

Question Number : 255 Question Id : 640653903823 Question Type : MCQ Calculator : Yes

Correct Marks : 2

Question Label : Multiple Choice Question

Consider that you have installed some python packages using requirements.txt. Which command you will use to list the installed packages in the virtual environment?

Options :

6406533043507. ✗ pip list

6406533043508. ✓ pip freeze

6406533043509. ✗ ls -la

6406533043510. ✗ ls

Question Number : 256 Question Id : 640653903825 Question Type : MCQ Calculator : Yes

Correct Marks : 2

Question Label : Multiple Choice Question

A certain text document consisting of only alphanumeric characters (including spaces) takes 1,52,000 bits, when encoded with UCS-4 (32 bit) encoding. How many bits will the same document take if encoded with ASCII 7-bit encoding?

Options :

6406533043515. ✗ 24000 bits

6406533043516. ✗ 68000 bits

6406533043517. ✓ 33250 bits

6406533043518. ✗ 152000 bits

Question Number : 257 Question Id : 640653903830 Question Type : MCQ Calculator : Yes

Correct Marks : 2

Question Label : Multiple Choice Question

The ability of an application to work with different input modalities beyond keyboard highlights which of the following accessibility principle?

Options :

6406533043535. ✗ Perceivable

6406533043536. ✗ Robust

6406533043537. ✖ Understandable

6406533043538. ✔ Operable

Question Number : 258 Question Id : 640653903840 Question Type : MCQ Calculator : Yes

Correct Marks : 2

Question Label : Multiple Choice Question

Consider the following Python code snippet "code.py".

Filename: code.py

```
import sys
from jinja2 import Template
vars = sys.argv

course_technologies = {'python': 'backend', 'javascript': 'frontend'}
template = Template("This course focuses on {{ technology }} development.")

if len(vars) > 2 and vars[2] in course_technologies:
    course = vars[1]
    technology = course_technologies[course]
    print(template.render(technology=technology))
else:
    print("Please specify a valid course name!")
```

Which of the following will be the correct command line input to the terminal to get the output: Please specify a valid course name!.

Options :

6406533043571. ✖ python code.py course python

6406533043572. ✖ python code.py python javascript

6406533043573. ✖ python code.py python python

6406533043574. ✔ python code.py python backend

Question Number : 259 Question Id : 640653903843 Question Type : MCQ Calculator : Yes

Correct Marks : 2

Question Label : Multiple Choice Question

Consider the following flask app and Jinja2 template.

app.py

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

@app.route('/')
def index():
    return render_template("index.html", data=['Harry', 'Karl', 'John',
'Jason', 'Ros'])

app.run()
```

index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Macro</title>
</head>
<body>
    {% macro unordered_list(items)%}
        <ul>
            {% for item in items %}
                {% if item|length >= 5 %}
                    <li>{{item}}</li>
                {% endif %}
            {% endfor %}
        </ul>
    {% endmacro %}
    {{ unordered_list(data) }}
</body>
</html>
```

If the flask app is running locally on `http://127.0.0.1:5000`. What will be the output on the browser for the base URL?

Options :

- Harry
- Karl
- John
- Jason
- Ros

6406533043583. ✖

- Harry
- Jason

6406533043584. ✔

- Karl
- John

6406533043585. ✖

- Karl
- John
- Ros

6406533043586. ✖

Question Number : 260 Question Id : 640653903844 Question Type : MCQ Calculator : Yes Correct Marks : 2

Question Label : Multiple Choice Question

Match the following types of testing with their functionality.

A. Regression testing	1. Beta Testing
B. User Acceptance testing	2. one step beyond integration testing, includes server and environment
C. System Testing	3. Simulates actual user interaction, allows to script browser
D. System testing Automation	4. Type of testing that runs after every change to ensure that the change introduces no unintended breaks.

Which of the following is the correct matching?

Options :

6406533043587. ✖ A → 1, B → 2, C → 3, D → 4

6406533043588. ✔ A → 4, B → 1, C → 2, D → 3

6406533043589. ✖ A → 4, B → 3, C → 2, D → 1

6406533043590. ✖ A → 3, B → 2, C → 1, D → 4

Question Number : 261 Question Id : 640653903852 Question Type : MCQ Calculator : Yes Correct Marks : 2

Question Label : Multiple Choice Question

The hexadecimal equivalent of the IPv4 address 172.16.254.10 would be

_____.

Options :

6406533043619. ✖ AC0A FE01

6406533043620. ✖ CA10 EF0A

6406533043621. ✔ AC10 FE0A

6406533043622. ✖ AC01 0AEF

Question Number : 262

Question Id : 640653903824

Question Type : MCQ

Calculator : Yes

Correct Marks : 3

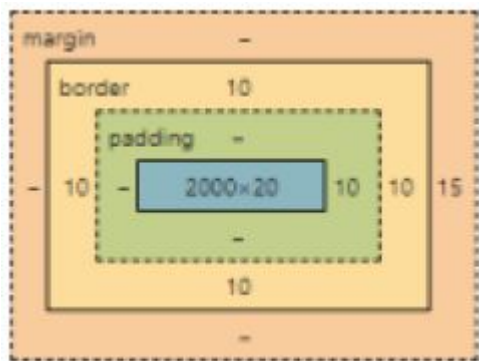
Question Label : Multiple Choice Question

Consider the following HTML document with an embedded style sheet.

```
<!DOCTYPE html>
<html>
  <head>
    <title>Quiz 1</title>
    <style type="text/css">
      div{
        padding-left: 10px;
        margin-right: 15px;
        border-style: solid;
        border-width: 5px;
        width: 2000px;
        height: 20px;
      }
    </style>
  </head>
  <body>
    <div>My first Div element</div>
  </body>
</html>
```

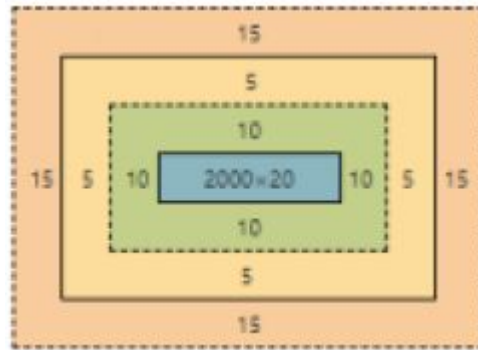
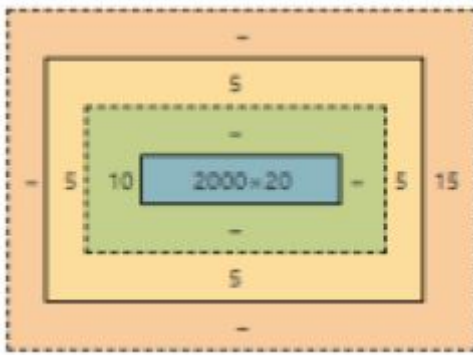
Which of the following figures correctly represents the box model of the above HTML document?

Options :

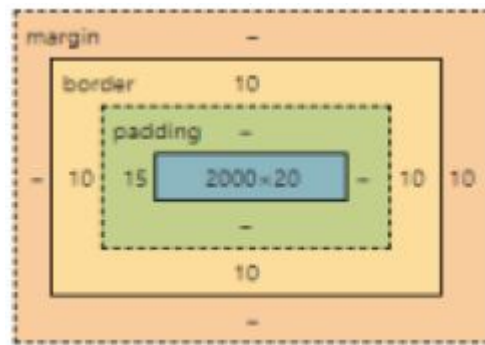


6406533043511. ✖

6406533043512. ✔



6406533043513. ✖



6406533043514. ✖

Question Number : 263 Question Id : 640653903829 Question Type : MCQ Calculator : Yes

Correct Marks : 3

Question Label : Multiple Choice Question

Match the component in column A with its correct feature given in column B.

Column A	Column B
1. Telephone Networks	a. Wires occupied only when data to be sent
2. Packet Switched Networks	b. First public packet switched network
3. ARPANET	c. Physical wires tied up for duration of call even if nothing said
4. TCP	d. Establishes reliable communications

Options :

6406533043531. ✔ 1 - c, 2 - a, 3 - b, 4 - d

6406533043532. ✖ 1 - a, 2 - b, 3 - c, 4 - d

6406533043533. ✖ 1 - b, 2 - d, 3 - a, 4 - c

6406533043534. ✖ 1 - d, 2 - c, 3 - b, 4 - a

Question Number : 264 Question Id : 640653903832 Question Type : MCQ Calculator : Yes

Correct Marks : 3

Question Label : Multiple Choice Question

If N_x is a number N represented in the base 'x' and the equation.

$$625_a = 405_b = 195_c$$

Holds for a specific set of a, b and c. The correct values of a, b and c that satisfy the above equation are:

Options :

6406533043543. ✔ a = 8; b = 10; c = 16;

6406533043544. ✖ a = 10; b = 2; c = 16;

6406533043545. ✖ a = 8; b = 16; c = 10;

6406533043546. ✖ a = 2; b = 16; c = 8;

Question Number : 265 Question Id : 640653903837 Question Type : MCQ Calculator : Yes

Correct Marks : 3

Question Label : Multiple Choice Question

Consider the following Python code snippet.

file.py

```
from jinja2 import Template
import sys
input_list = sys.argv
var_a, var_b = input_list[1], input_list[2]

if input_list[1]=="Meera":
    var_b = "Data Analyst"
elif input_list[1]=="Radha":
    var_b = "Scientist"
else:
    pass
template = "{{var_a}} is {{var_b}}"
t = Template(template)
print(t.render(var_a = var_a, var_b = var_b))
```

Map the commands in column A with the output on the terminal in column B.

Column A	Column B
a) python file.py Radha Data Analyst	1) Meera is Scientist
b) python file.py Meera Scientist	2) Sneha is Web
c) python file.py Sneha Web Developer	3) Meera is Data Analyst
	4) Radha is Data Analyst
	5) Radha is Scientist
	6) Sneha is Web developer

Options :

6406533043559. ✖ a - 4, b - 1, c - 6

6406533043560. ✔ a - 5, b - 3, c - 2

6406533043561. ✖ a - 5, b - 1, c - 2

6406533043562. ✖ a - 5, b - 3, c - 6

Question Number : 266 Question Id : 640653903838 Question Type : MCQ Calculator : Yes

Correct Marks : 3

Question Label : Multiple Choice Question

Consider the following HTML document.

```
<!DOCTYPE html>
<html>
<head>
  <style>
    span {
      background-color: yellow;
      color: red;
    }
    #id {
      border: 2px solid purple;
      color:blue ;
      display: inline-block;
    }
    .class {
      background-color: aqua;
      color: red;
      width:20%;
    }
  </style>
</head>
<body>
  <span class="class" id="id">SPAN</span>
  <span class="class" >SPAN</span>
  <span>SPAN</span>
</body>
</html>
```

How will the browser render above HTML file?

Options :

6406533043563. ✓   

6406533043564. ✗   

6406533043565. ✗   

6406533043566. ✗

SPAN

SPAN

SPAN

Question Number : 267 Question Id : 640653903839 Question Type : MCQ Calculator : Yes

Correct Marks : 3

Question Label : Multiple Choice Question

Consider the following flask application.

app.py

```
from flask import Flask, request
app = Flask(__name__)
@app.route('/calculate')
def calculate():
    a = request.args.get('a')
    b = request.args.get('b')
    operator = request.args.get('operator')
    if a and b and operator:
        if operator == 'one':
            return f'{a} + {b} = {a+b}'
        elif operator == 'two':
            return f'{a} - {b} = {int(a) - int(b)}'
        elif operator == 'three':
            return f'{a} x {b} = {int(a)*b}'
    else:
        return 'Error: Insufficient arguments'
app.run(debug=True)
```

If the application is running locally on <http://127.0.0.1:5000> then match the URLs with their rendered output?

URLs		Output	
1	http://localhost:5000/calculate?a=4&b=2&operator=two	a	$4 \times 2 = 8$
2	http://localhost:5000/calculate?a=4&b=2&operator=three	b	$4 + 2 = 6$
3	http://localhost:5000/calculate?a=4&b=2&operator=one	c	$4 - 2 = 2$
		d	$4 + 2 = 42$
		e	$4 \times 2 = 2222$

Options :

6406533043567. ✓ 1-c, 2-e, 3-d

6406533043568. ✗ 1-c, 2-a, 3-b

6406533043569. ✖ 1-c, 2-a, 3-d

6406533043570. ✖ 1-a, 2-d, 3-e

Question Number : 268 Question Id : 640653903845 Question Type : MCQ Calculator : Yes

Correct Marks : 3

Question Label : Multiple Choice Question

Consider the following python code snippet app.py, the HTML files, base.html and home.html residing in "templates" folder.

app.py

```
from flask import Flask, render_template
app = Flask(__name__)
@app.route('/')
def home():
    return render_template('home.html')
app.run(debug=True)
```

home.html

```
{% extends "base.html" %}
{% block content %}
<p>MAD I</p>
<span>MAD II</span>
<p>DBMS</p>
{% endblock %}
```

base.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>IITM</title>
</head>
<body>
    <h2 style="color: violet;"> Diploma Courses </h2>
    {% block content %}
    {% endblock %}
</body>
</html>
```

What will be the rendered output for base URL if flask app is running locally on <http://localhost:5000> ?

Options :

6406533043591. ✖

MAD I

MAD II

DBMS

MAD I

6406533043592. ✖ MAD II DBMS

Diploma Courses

MAD I

6406533043593. ✖ MAD II DBMS

Diploma Courses

MAD I

MAD II

6406533043594. ✔ DBMS

Question Number : 269 Question Id : 640653903848 Question Type : MCQ Calculator : Yes

Correct Marks : 3

Question Label : Multiple Choice Question

Consider the below two python files code snippets *app.py* and *test_app_route.py*.

app.py

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

@app.route("/greet/<string:name>")
def home(name):
    return "Hello, " + name

if __name__ == "__main__":
    app.run()
```

test_app_route.py:

```
import pytest, requests

@pytest.fixture
def get_response():
    resp = requests.get("http://127.0.0.1:5000/greet/IITM")
    return resp

def test_response(get_response):
    assert get_response.text == "Hello, iitm"
```

Assume that *app.py* and *test_app_route.py* are running on two different terminals. And also all required modules are installed. Which of the below statement(s) are True?

- i) Executing the command `pytest test_app_route.py` on the terminal returns
===== 1 passed =====
- ii) Executing the command `pytest test_app_route.py` on the terminal returns
===== 1 failed =====
- iii) Executing the command `pytest test_app_route.py` on the terminal returns
===== 1 selected, 1 passed =====
- iv) Executing the command `pytest test_app_route.py` on the terminal returns
===== 1 deselected =====

Options :

- 6406533043603. ✖ Only statement i is correct
- 6406533043604. ✔ Only statement ii is correct
- 6406533043605. ✖ Statements i and iii are correct
- 6406533043606. ✖ Statements ii and iv are correct

Question Number : 270 Question Id : 640653903849 Question Type : MCQ Calculator : Yes Correct Marks : 3

Question Label : Multiple Choice Question

You have a DRAM module with bus width of 8 bits, clock speed of 1.4 GHz, and operating in DDR (double-data-rate or two values per clock cycle) mode. What is the maximum bandwidth (in Giga-bytes per second) of data transfer achievable with this module?

Options :

6406533043607. ✓ 2.8

6406533043608. ✗ 3.2

6406533043609. ✗ 6.4

6406533043610. ✗ 12.8

Question Number : 271 Question Id : 640653903850 Question Type : MCQ Calculator : Yes

Correct Marks : 3

Question Label : Multiple Choice Question

Consider the following flask resource created using flask_restful.

```
from flask import Flask, request
from flask_restful import Api, Resource, reqparse

app = Flask(__name__)
api = Api(app)

parser = reqparse.RequestParser()
parser.add_argument("val")

class RestApi(Resource):
    def post(self, val):
        arg1 = parser.parse_args()
        arg2 = request.args
        return {
            "Course_1": arg1["val"],
            "Course_2": arg2["val"],
            "Course_3": val
        }

api.add_resource(RestApi, "/api/courses/<val>")
app.run(debug = True)
```

If the application is running locally on `http://127.0.0.1:5000`, What will be the output on the terminal for the command:

```
curl http://127.0.0.1:5000/api/courses/DBMS?val=JAVA -d
{"val": "PDSA"} -X POST -H "Content-Type: application/json"
```

Options :

```
{
    "Course_1": "JAVA",
    "Course_2": "PDSA",
    "Course_3": "DBMS"
}
```

6406533043611. ✖

6406533043612. ✖

```
{  
  "Course_1": "DBMS",  
  "Course_2": "JAVA",  
  "Course_3": "PDSA"  
}
```

```
{  
  "Course_1": "PDSA",  
  "Course_2": "DBMS",  
  "Course_3": "JAVA"  
}
```

6406533043613. ✖

```
{  
  "Course_1": "PDSA",  
  "Course_2": "JAVA",  
  "Course_3": "DBMS"  
}
```

6406533043614. ✔

Question Number : 272 Question Id : 640653903854 Question Type : MCQ Calculator : Yes

Correct Marks : 3

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 :

401

401

200

404

6406533043627. ✖ 200

6406533043628. ✔

404
404
200
401
200

404
200
200
200
200

6406533043629. ✖

404
200
404
200
200

6406533043630. ✖

Question Number : 273 Question Id : 640653903855 Question Type : MCQ Calculator : Yes
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 :

6406533043631. ✖ **Hi sumit, you are logged in as admin.**

6406533043632. ✖ **Hi sumit, you are logged in as user.**

6406533043633. ✖ **Hi sumit, user access denied.**

6406533043634. ✓ **Hi sumit, admin access denied.**

Sub-Section Number : 4
Sub-Section Id : 640653134032
Question Shuffling Allowed : Yes

Question Number : 274 Question Id : 640653903828 Question Type : MCQ Calculator : Yes
Correct Marks : 4.5

Question Label : Multiple Choice Question

A server, using the inbuilt http module of Python, is running for a directory My_app whose file structure and content of each file is given below.

```
Folder: My_app

My_app
|_ home.html
|_ index.html
|_ main.html
```

File: home.html

```
<h1>Hello from Home!</h1>
```

File: index.html

```
<h1>Hello from Index!</h1>
```

File: main.html

```
<h1>Hello from Main!</h1>
```

What will be rendered by the browser for the URL: <http://localhost:8000> assuming that 8000 is the port of connection?

Options :

Directory listing for /

- [home.html](#)
- [index.html](#)
- [main.html](#)

6406533043527. ✖

6406533043528. ✓ Hello from Index!

6406533043529. ✖ Hello from Home!

6406533043530. ✖ Hello from Main!

Question Number : 275 Question Id : 640653903831 Question Type : MCQ Calculator : Yes

Correct Marks : 4.5

Question Label : Multiple Choice Question

The lens of an HDD can read data on the rotating disk with the speed of 56,000 bits per second. The disk is designed such that 800 bits pass under the lens for every revolution of the disk, what should be the maximum speed of disk so that the lens does not miss any data?

Options :

6406533043539. ✖ 70 RPM

6406533043540. ✖ 100 RPM

6406533043541. ✓ 4200 RPM

6406533043542. ✖ 8000 RPM

Question Number : 276 Question Id : 640653903833 Question Type : MCQ Calculator : Yes

Correct Marks : 4.5

Question Label : Multiple Choice Question

Consider a function remainder, and a set of test cases given below.

Filename: test_file.py

```
def remainder(numerator, denominator):  
    rem = numerator % denominator  
    return rem  
  
def test_func0():  
    assert remainder(5,7) == 5  
  
def test_function1():  
    assert remainder(20,4) == 0  
  
def test_func2():  
    assert remainder(31,8) == 6  
  
def test_function3():  
    assert remainder(19,3) == 1
```

What will be the output on the terminal for the command `pytest test_file.py -k func ?`

Options :

6406533043547. ✖

===== 1 failed, 1 passed, 2 deselected in 0.41s =====

6406533043548. ✖

===== 3 passed, 1 deselected in 0.41s =====

6406533043549. ✔

===== 1 failed, 3 passed in 0.41s =====

6406533043550. ✖

===== 2 failed, 2 deselected in 0.41s =====

Question Number : 277 Question Id : 640653903846 Question Type : MCQ Calculator : Yes
Correct Marks : 4.5
Question Label : Multiple Choice Question

Consider the following Python code snippet.

log.py

```
import logging
import sys

logging.basicConfig(level=logging.CRITICAL,
                    format='%(asctime)s - %(levelname)s - %(message)s')

def check_val(value):
    if value < 0:
        raise ValueError("Invalid value: Please enter a positive value.")
    else:
        logging.info("Value added: %s", value)

try:
    input_value = -int(sys.argv[1])
    check_val(input_value)
except ValueError as ve:
    logging.exception("Exception occurred: %s", str(ve))
```

What will be the output on the terminal for the command: `python log.py 24` ?

Options :

6406533043595. ✖ `2023-08-14 21:01:05,684 - INFO - Value added: -24`

6406533043596. ✖ `2023-08-14 21:01:05,684 - CRITICAL - Value added: -24`

6406533043597. ✖ `Error: Exception occurred: Invalid value: Please enter a positive value.`

6406533043598. ✔ None.

Question Number : 278 Question Id : 640653903851 Question Type : MCQ Calculator : Yes

Correct Marks : 4.5

Question Label : Multiple Choice Question

Consider the below flask application.

```
from flask_sqlalchemy import SQLAlchemy
from flask import Flask

app = Flask(__name__)
app.config['SQLALCHEMY_DATABASE_URI'] = 'sqlite:///testdb.sqlite3'
db = SQLAlchemy(app)
app.app_context().push()

class Material(db.Model):
    m_id = db.Column('m_id', db.Integer, primary_key = True)
    name = db.Column('name', db.String(100), unique = True)

db.create_all()

material1 = Material(name = 'Steel')
db.session.add(material1)
material2 = Material(name = 'Iron')
material3 = Material(name = 'Aluminium')
db.session.add(material2)
db.session.commit()

all_material = Material.query.all()
print([(x.m_id, x.name) for x in all_material])
```

If you run the flask application using a terminal. What will be the output in the terminal?

Options :

6406533043615. ✓ ☒ [(1, 'Steel'), (2, 'Iron')] will be displayed in the terminal and two records will be added in the "testdb" database.

6406533043616. ✗ ☐ [(1, 'Steel'), (2, 'Iron'), (3, 'Aluminium')] will be displayed in the terminal and three records will be added in the "testdb" database.

6406533043617. ✗ ☐ [(1, 'Steel'), (2, 'Iron'), (3, 'Aluminium')] will be displayed in the terminal and two records will be added in the "testdb" database.

6406533043618. ✗ ☐ [(1, 'Steel', 2, 'Iron', 3, 'Aluminium')] will be displayed in the terminal and two records will be added in the "testdb" database.

Sub-Section Number :

5

Sub-Section Id :

640653134033

Question Shuffling Allowed :

Yes

Question Number : 279 Question Id : 640653903842 Question Type : MSQ Calculator : Yes

Correct Marks : 2 Max. Selectable Options : 0

Question Label : Multiple Select Question

Consider the following flask application.

app.py

```
from flask import Flask, abort, request
app = Flask(__name__)

data = {"CS2001": "DBMS", "CS2003": "MAD-I", "CS2006": "MAD-II"}
@app.route('/login')
def login():
    username = request.args.get('uname')
    if username not in data:
        abort(400, "Bad Request: Invalid Username")
    return f'<h1>Welcome to {data[username]} course!</h1>'

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 :

6406533043579. ✓ For URL `http://127.0.0.1:5000/login?uname=CS2003` the browser will render **Welcome to MAD-I course!**

6406533043580. ✗ For URL `http://127.0.0.1:5000/login` the browser will render **Welcome to MAD-I course!**

6406533043581. ✓ For URL `http://127.0.0.1:5000/login?uname` the browser will render **Bad Request: Invalid Username**

6406533043582. ✗ For URL `http://127.0.0.1:5000/uname=CS2006` the browser will render **Welcome to MAD-II course!**

Sub-Section Number :

6

Sub-Section Id :

640653134034

Question Shuffling Allowed :

Yes

Question Number : 280 Question Id : 640653903826 Question Type : MSQ Calculator : Yes

Correct Marks : 3 Max. Selectable Options : 0

Question Label : Multiple Select Question

Which of the following statements is/are true about indexing?

Options :

6406533043519. ✓ Indexes are special lookup tables that the database search engine can use to speed up data retrieval.

6406533043520. ✓ Columns that are frequently manipulated should not be indexed.

6406533043521. ✗ Indexes enhance the performance even if the table is updated frequently.

6406533043522. ✓ Indexes should be avoided for tables that have frequent, large batch updates or insert operations.

Question Number : 281 Question Id : 640653903827 Question Type : MSQ Calculator : Yes

Correct Marks : 3 Max. Selectable Options : 0

Question Label : Multiple Select Question

Consider the following Model for Student.

```
class Student(db.Model):
    id = db.Column(db.Integer, primary_key=True)
    email = db.Column(db.String(100), unique=True, index=True)
    name = db.Column(db.String(100))
    password = db.Column(db.String(100))
```

Which of the following methods from the Flask-sqlalchemy query will behave the same as SQL query `select * from Student where name='Ram'?`

Options :

6406533043523. ✗ `Student.query.filter_by('Ram').all()`

6406533043524. ✗ `Student.query.get(name = 'Ram').all()`

6406533043525. ✓ `Student.query.filter_by(name = 'Ram').all()`

6406533043526. ✓ `Student.query.filter(Student.name = 'Ram').all()`

Question Number : 282 Question Id : 640653903841 Question Type : MSQ Calculator : Yes

Correct Marks : 3 Max. Selectable Options : 0

Question Label : Multiple Select Question

Consider the following flask application.

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

@app.route('/home')
def home():
    var_a = request.args.get('method')
    if var_a == "GET":
        return "Hello from GET method"

    elif var_a == "POST":
        return "Hello from POST method"

    else:
        return "Invalid Method"

app.run(debug=True)
```

If the application is running locally on `http://127.0.0.1:5000` then which of the following statements are correct?

Options :

6406533043575. ✓ The command `curl -X GET http://127.0.0.1:5000/home?method=GET` will give output as `Hello from GET method` on terminal

6406533043576. ✗ The command `curl -X POST http://127.0.0.1:5000/home?method=PATCH` will give output as `Invalid Method` on terminal

6406533043577. ✗ The command `curl -X POST http://127.0.0.1:5000/home?method=POST` will give output as `Hello from POST method` on terminal

6406533043578. ✓ The command `curl http://127.0.0.1:5000/home?method` will give output as `Invalid Method` on terminal

Sub-Section Number :

7

Sub-Section Id :

640653134035

Question Shuffling Allowed :

Yes

Question Number : 283 Question Id : 640653903847 Question Type : MSQ Calculator : Yes

Correct Marks : 4.5 Max. Selectable Options : 0

Question Label : Multiple Select 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(10) == 100

@pytest.mark.marker2
def testcase_2():
    assert square(4) == 4

@pytest.mark.marker3
def testcase_3():
    assert square(5) == 25

@pytest.mark.marker4
def testcase_4():
    assert square(6) == 6
```

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

```
===== 1 failed, 3 deselected, 4 warnings in 0.04s =====
```

What command will result into the outcome given above?

Options :

6406533043599. ✖

```
pytest test_file.py -m marker4
```

6406533043600. ✔

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

6406533043601. ✖

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

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

6406533043602. ✓

Question Number : 284 Question Id : 640653903853 Question Type : MSQ Calculator : Yes

Correct Marks : 4.5 Max. Selectable Options : 0

Question Label : Multiple Select Question

Consider the following flask application.

```
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 :

6406533043623. ✖

For the URL, `http://127.0.0.1:5000/home/modules/`, the browser will render;

List of modules: ['python', 'react', 'node']

For the URL, `http://127.0.0.1:5000/home/modules`, the browser will render;

Incorrect Path

6406533043624. ✖

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

One module found: react.

6406533043625. ✔

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

One module found: python.

6406533043626. ✔

Sub-Section Number :

8

Sub-Section Id :

640653134036

Question Shuffling Allowed :

No

Question Id : 640653903834 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None

Question Numbers : (285 to 286)

Question Label : Comprehension

A client machine C is 18000 kms away from the server machine S. A router R is situated somewhere in between the client C and the server S and is connected to client C with cable and makes aerial connection with the server S.

[Assume: The speed of light on cable is 1.5×10^8 m/s and in air is 3×10^8 m/s.

The client, server and the router lie on a straight line]

Based on the above data, answer the given subquestions.

Sub questions

Question Number : 285 Question Id : 640653903835 Question Type : MCQ Calculator : Yes Correct Marks : 4.5

Question Label : Multiple Choice Question

At what distance (kms) should the router be placed from the client so that round-trip latency of the network remains as low as 150 milliseconds?

Options :

6406533043551. ✖ 8000 kilometers

6406533043552. ✖ 7500 kilometers

6406533043553. ✓ 4500 kilometers

6406533043554. ✖ 3000 kilometers

Question Number : 286 Question Id : 640653903836 Question Type : MCQ Calculator : Yes

Correct Marks : 3

Question Label : Multiple Choice Question

What will be the round-trip latency (milliseconds) of the network if the router is placed at exactly midway from the client and the server?

Options :

6406533043555. ✖ 45

6406533043556. ✖ 90

6406533043557. ✓ 180

6406533043558. ✖ 270

MLF

Section Id :	64065364123
Section Number :	10
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	13
Number of Questions to be attempted :	13
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 :	No
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653134037
Question Shuffling Allowed :	No

Question Number : 287 Question Id : 640653903856 Question Type : MCQ Calculator : Yes

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DIPLOMA LEVEL : MACHINE LEARNING FOUNDATIONS (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.