

Question Number : 180 Question Id : 640653586192 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 recurrences and choose the correct option.

1. $T_1(n) = 3T_1(n/3) + O(n)$

2. $T_2(n) = 2T_2(n/4) + O(n^2)$

Base Case:- $T_1(1) = T_2(1) = 1$

Options :

6406531956307. ✖ $T_1 = O(n)$ and $T_2 = O(n^2)$

6406531956308. ✔ $T_1 = O(n \log n)$ and $T_2 = O(n^2)$

6406531956309. ✖ $T_1 = O(n)$ and $T_2 = O(n \log n)$

6406531956310. ✖ $T_1 = O(n^2)$ and $T_2 = O(n^2)$

AppDev1

Section Id :	64065339671
Section Number :	10
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	17
Number of Questions to be attempted :	17
Section Marks :	50
Display Number Panel :	Yes

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 :	64065384036
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 181 Question Id : 640653586193 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 :

6406531956311.  YES

6406531956312.  NO

Sub-Section Number :	2
Sub-Section Id :	64065384037
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 182 Question Id : 640653586194 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 flask application and select the correct option if the application is running locally on `http://127.0.0.1:5000`.

```
from flask import Flask

app = Flask(__name__)

@app.route('/work')
@app.route('/home')
def my_task():
    return "<h1>Hello! Reporting for my task</h1>"

app.run()
```

Options :

6406531956313. ✖ The application will return `200` OK status code for `/home` endpoint only

6406531956314. ✖ The application will return `200` OK status code for `/work` endpoint only

6406531956315. ✔ The application will return `200` OK status code for both the endpoints

6406531956316. ✖ The application will throw an `AssertionError` for both the endpoints

Question Number : 183 Question Id : 640653586195 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 statements about OpenAPI Specification (OAS) is true?

Options :

6406531956317. ✖ OAS is a programming language used for building APIs.

6406531956318. ✔ OAS is a way to describe interfaces for building RESTful APIs.

6406531956319. ✖ OAS is a tool used for testing the performance of APIs.

6406531956320. ✖ OAS is a software library used for authenticating API requests.

Question Number : 184 Question Id : 640653586198 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

Map the terms in column A with their correct interpretations in column B.

	Column A		Column B
a	Scale up	1	financial transactions
b	ACID	2	adding more physical servers
c	Scale out	3	increasing RAM
d	BASE	4	social media

Options :

6406531956329. ✔ a → 3, b → 1, c → 2, d → 4

6406531956330. ✖ a → 4, b → 2, c → 1, d → 3

6406531956331. ✖ a → 4, b → 3, c → 1, d → 2

6406531956332. ✖ a → 3, b → 2, c → 1, d → 4

Question Number : 185 Question Id : 640653586204 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 view function.

```
@app.route('/student', methods = ['GET', 'POST'])
def show_student():
    std = request.args
    details = {
        'Department': std['dept'],
        'Course-level': std['level'],
        'Course': std['course']
    }
    return details
```

If this flask app is running locally on <http://127.0.0.1:5000>, which of the following URLs will be handled by the controller correctly?

Options :

6406531956353. ✖

<http://127.0.0.1:5000/student/Electrical/Diploma/MAD1>

6406531956354. ✖

<http://127.0.0.1:5000/Electrical/Diploma/MAD1>

6406531956355. ✔

<http://127.0.0.1:5000/student?dept=Electrical&level=Diploma&course=MAD1>

6406531956356. ✖

<http://127.0.0.1:5000?endpoint=student&dept=Electrical&level=Diploma&course=MAD1>

Sub-Section Number :

3

Sub-Section Id :

64065384038

Question Shuffling Allowed :

Yes

Is Section Default? :

null

Question Number : 186 Question Id : 640653586196 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 will be the output of the following Python code snippet on the terminal?

```
def modify(n):
    def modifier(n):
        ser = [0,1]
        for i in range(n-2):
            new = ser[i]+ser[i+1]
            ser.append(new)
        print(ser)
    return modifier

@modify
def list_num(n):
    nums = []
    for i in range(n):
        nums.append(i+1)
    print(nums)

list_num(10)
```

Options :

6406531956321. ✖ [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

6406531956322. ✖ [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

6406531956323. ✖ [0, 1, 1, 2, 3, 5, 8, 13, 21]

6406531956324. ✔ [0, 1, 1, 2, 3, 5, 8, 13, 21, 34]

Question Number : 187 Question Id : 640653586199 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 HTML Document file given below.

index.html

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

Suppose the index.html is rendered on the browser. What will be the background color of the input box when the user enters the name "madcourse.mail.com"?

Options :

6406531956333. ✖ red

6406531956334. ✖ white

6406531956335. ✔ green

6406531956336. ✖ insufficient information

Question Number : 188 Question Id : 640653586201 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 Python code snippet.

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

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

class MyApi(Resource):
    def get(self):
        return {"greet": "Hello from GET Api!"}

    def put(self):
        return {"greet": "Hello from PUT Api!"}

api.add_resource(MyApi, '/api/get', '/api/put', '/api/post')

app.run()
```

If this application is running locally on `http://127.0.0.1:5000`, which of the following curl commands will throw an error?

1. `curl http://127.0.0.1:5000/api/get -X get`
2. `curl http://127.0.0.1:5000/api/put -X put`
3. `curl http://127.0.0.1:5000/api/post -X post`
4. `curl http://127.0.0.1:5000/api/get -X put`
5. `curl http://127.0.0.1:5000/api/put -X get`
6. `curl http://127.0.0.1:5000/api/post -X get`

Options :

6406531956341. ✔ Only 3

6406531956342.

✖ Only 3 and 4

6406531956343. ✖ Only 5 and 6

6406531956344. ✖ Only 3, 4, 5 and 6

Question Number : 189 Question Id : 640653586203 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 code.

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

@app.route('/')
def generate1():
    return "This is generate1"

@app.route('/')
def generate2():
    return "This is generate2"

@app.errorhandler(404)
def page_not_found(e):
    # setting 404 status explicitly
    return 'page not found'

app.run()
```

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/>

Options :

6406531956349. ✖ Page not found

6406531956350. ✖ This is generate2

6406531956351. ✔ This is generate1

6406531956352. ✖ Code will throw error

Question Number : 190 Question Id : 640653586209 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

In the code snippet given below, what should come in place of *code 1* and *code 2* such that one parent can have multiple children and the converse does not hold true?

```
from sqlalchemy import ForeignKey
from sqlalchemy import Integer, Column
from sqlalchemy.orm import DeclarativeBase
from sqlalchemy.orm import relationship

class Base(DeclarativeBase):
    pass

class Parent(Base):
    __tablename__ = "parent_table"
    id = Column(Integer, primary_key=True)
    # write your code 1 here

class Child(Base):
    __tablename__ = "child_table"
    id = Column(Integer, primary_key=True)
    # write your code 2 here
```

Options :

```
code 1: parent_id=Column(Integer, ForeignKey("child_table.id"))
code 2: children = relationship("Parent")
```

6406531956370. ✖

```
code 1: children = relationship("Child")
code 2: parent_id=Column(Integer, ForeignKey("parent_table.id"))
```

6406531956371. ✔

```
code 1: parent_id=Column(Integer, ForeignKey("parent_table.id"))
code 2: children = relationship("Child")
```

6406531956372. ✖

```
code 1: children = relationship("Parent")
code 2: parent_id=Column(Integer, ForeignKey("child_table.id"))
```

6406531956373. ✖

Sub-Section Number :	4
Sub-Section Id :	64065384039
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 191 Question Id : 640653586197 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 models Brand and Cellphone corresponding to tables brand and cellphone in SQLite database.

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

class Cellphone(db.Model):
    id = db.Column(db.Integer(), primary_key = True)
    name = db.Column(db.String(), unique = True)
    brand = db.Column(db.Integer(), unique = True, db.ForeignKey("brand.id"))
```

Based on the model schemas, what relationship do the classes Brand and Cellphone share?

Options :

- 6406531956325. ✔ One-to-One
- 6406531956326. ✖ One-to-Many
- 6406531956327. ✖ Many-to-Many
- 6406531956328. ✖ The tables are not at all related

Question Number : 192 Question Id : 640653586205 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 schema for the Class Student.

```
CREATE TABLE "student" (  
    "s_id"      INTEGER,  
    "roll_number" TEXT NOT NULL UNIQUE,  
    "first_name" TEXT NOT NULL,  
    "last_name" TEXT NOT NULL,  
    PRIMARY KEY("s_id" AUTOINCREMENT)  
);
```

What will be the output of the flask_sqlalchemy command given below?

```
>>> s1 = Student(roll_number = M01, first_name = "Yash", last_name = "Raj")  
>>> db.session.add(s1)  
>>> s2 = Student(roll_number = M02, first_name = "Yash", last_name = "Maurya")  
>>> db.session.add(s2)  
>>> s3 = Student(roll_number = M03, first_name = "Ansh", last_name = "Raj")  
>>> db.session.add(s3)  
>>> db.session.commit()  
>>> user1= Student.query.filter_by(first_name="Yash").first()  
>>> user1.first_name= "Ansh"  
>>> user1.last_name= "Maurya"  
>>> db.session.commit()  
>>> s1 = Student.query.all()  
>>> for student in s1:  
    print(student.first_name)  
    print(student.last_name)
```

Options :

```
Yash  
Raj  
Yash  
Maurya  
Ansh  
Raj
```

6406531956357. ✖

6406531956358. ✔

Ansh
Maurya
Yash
Maurya
Ansh
Raj

Ansh
Maurya
Ansh
Maurya
Ansh
Raj

6406531956359. ✖

6406531956360. ✖ None

Sub-Section Number :	5
Sub-Section Id :	64065384040
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 193 Question Id : 640653586200 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 route in the flask for a signup page and select the correct option.

```
@app.route('/signup', methods=['GET', 'POST'])
def signup():
    if request.method == 'GET':
        return """<form action='/signup' method='POST'>
            <label for='username'>Username</label>
            <input type='text' name='username' required>
            <label for='password'>Password</label>
            <input type='text' name='password' required minlength="8">
            <input type='submit' value='Submit'>
        </form>
        """
    if request.method == 'POST':
        if request.form.get('username') is None:
            return redirect(url_for(signup))
        if request.form.get('password') is None:
            return redirect(url_for(signup))
        if len(request.form.get('password')) < 8:
            return redirect(url_for(signup))
        return f"<h1>Welcome, {request.form.get('username')}!</h1>"
```

Options :

6406531956337. ✓ The signup page is dynamically generated.

6406531956338. ✓ The signup page uses server-side rendering.

6406531956339. ✖ The signup page uses frontend validation only.

6406531956340. ✓ The signup page uses backend validation.

Question Number : 194 Question Id : 640653586202 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 app. Given that `test_request_context()` allows text to be printed on the terminal, which of the following statements is/are correct?

```
from flask import Flask, url_for

app = Flask(__name__)

@app.route('/home')
def index():
    return 'Mad-I welcomes you!'

@app.route('/user/<username>')
def profile(username):
    return f'{username}\s profile'

with app.test_request_context():
    #== print statement ==#
```

Options :

6406531956345. ✖ If `#== print statement ==#` is replaced by `print(url_for('home'))`, the output on the terminal will be Mad-I welcomes you!.

6406531956346. ✔ If `#== print statement ==#` is replaced by `print(url_for('profile', username='Harry'))`, the output on the terminal will be /user/Harry

6406531956347. ✖ If `#== print statement ==#` is replaced by `print(url_for('profile', username='Harry', next='course'))`, the output on the terminal will be /user/Harry/course

6406531956348. ✔ If `#== print statement ==#` is replaced by `print(url_for('index', username='Harry'))`, the output on the terminal will be /home?username=Harry

Sub-Section Number :

6

Sub-Section Id :

64065384041

Question Shuffling Allowed :

Yes

Is Section Default? :

null

Question Number : 195 Question Id : 640653586206 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

Which of the following is/are valid JSON format.

Options :

```
{
  "Age": 27,
  "firstName": "John",
  "lastName": "Pollard",
  "married": false,
  "phone_numbers": ["212-555-1234", "212-666-5678"]
}
```

6406531956361. ✓

```
{
  "RollNumber": 11,
  "firstName": "Nick",
  "lastName": "Paul",
  "phone_numbers": [2125551234, "2124441234"]
}
```

6406531956362. ✓

```
{
  "firstName": "Will",
  "lastName": "Smith",
  "address": [
    "addressLine": "Lake Union Hill Way",
    "city": "Atlanta",
    "zipCode": 50005
  ]
}
```

6406531956363. ✗

6406531956364. ✓

```
{
  "firstName": "Hannah",
  "lastName": "Smith",
  "cities": ["Dallas", "San Antonio", "Irving"],
  "phone_numbers": ["212-555-1234", "212-666-5678"]
}
```

Question Number : 196 Question Id : 640653586208 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.

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

@app.route('/')
def out():
    val = request.args

    if val['num'] == '':
        return "<html><body> <h1>Invalid number</h1></body></html>"
    elif val['num'].isalpha()==True:
        return "<html><body><h1>Enter a valid number</h1></body></html>"
    else:
        out = int(val['num']) * int(val['num'])
        return f'<html><body> <h1>The output is {out}</h1></body></html>'

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

If this flask app is running locally on <http://localhost:5000>, then which of the following statements is/are correct?

Options :

For URL: <http://localhost:5000/?num=abc>

6406531956366. ✖ Output is: **Invalid number**

6406531956367. ✓ For URL: <http://localhost:5000/?num=abc>
Output is: **Enter a valid number**

6406531956368. ✓ For URL: <http://localhost:5000/?num=>
Output is: **Invalid number**

6406531956369. ✗ For URL: <http://localhost:5000/?num=12>
Output is: **The output is 1212**

Sub-Section Number : 7
Sub-Section Id : 64065384042
Question Shuffling Allowed : Yes
Is Section Default? : null

Question Number : 197 Question Id : 640653586207 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Short Answer Question

Consider the following flask application.

```
from flask import Flask, redirect, url_for
app = Flask(__name__)

@app.route('/admin')
def hello_admin():
    return 'Hello Admin'

@app.route('/guest/<guest>')
def hello_guest(guest):
    return 'Hello ' + guest + ' as Guest'

@app.route('/user/<name>')
def hello_user(name):
    if name == 'admin':
        return redirect(url_for('hello_admin'))
    else:
        return redirect(url_for('hello_guest', guest = name))

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

If this flask app is running locally on <http://localhost:5000>, what is the output for the following URL?

For input: <http://localhost:5000/user/admin?guest=appdev1>

Response Type : Alphanumeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Answers Case Sensitive : No

Text Areas : PlainText

Possible Answers :

Hello Admin

MLF

Section Id :

64065339672

Section Number :

11