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Question Paper Code: 98501

B.E./B.Tech. DEGREE EXAMINATION, MAY 2022

Fifth Semester

Information technology

19UIT501 - Object Oriented Programming Using Python

(Regulation 2019)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Summarize the benefits of object oriented programming in solving the real world problems CO1- U
2. Compare List and Set data types CO1- U
3. Write down the syntax for extending a class and their attributes in python. CO1- U
4. How will you make an attribute shared across the objects of a class? Give example CO1- U
5. class Parent: CO2- App

```
def __init__(self):
```

```
    self.num=100
```

```
class Child(Parent):
```

```
    def __init__(self):
```

```
        super().__init__()
```

```
        self.var=200
```

```
    def show(self):
```

```
        print(self.num)
```

```
        print(self.var)
```

```
son=Child()
```

```
son.show()
```

What is the output of this code?

- | | | |
|-----|---|--------|
| 6. | Draw a class diagram to represent inheritance relationship. | CO1- U |
| 7. | Differentiate Exceptions from Errors with example | CO1- U |
| 8. | What happen to the code when exceptions are not handled properly? | CO1- U |
| 9. | Define TDD | CO1- U |
| 10. | Why do you use escape characters in python strings? | CO1- U |

PART – B (5 x 16= 80 Marks)

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|-----|--|--------|------|
| 11. | (a) What is Modular Programming? How it is achieved through Object Oriented approach | CO1- U | (16) |
|-----|--|--------|------|

Or

- | | | | |
|--|--|--------|------|
| | (b) Explain any one of the available python Packages.(NumPy,Pandas,SciPy,DJango) | CO1- U | (16) |
|--|--|--------|------|

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|-----|--|--------|------|
| 12. | (a) What is the purpose of Static Data Members and Functions. Explain with suitable examples | CO1- U | (16) |
|-----|--|--------|------|

Or

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|--|---|--------|------|
| | (b) How do you enforce Abstraction and encapsulation in Python. Give examples | CO1- U | (16) |
|--|---|--------|------|

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|-----|--|----------|------|
| 13. | (a) In a library there are many books. Each book is written by an author. All authors are identified by their name, age and country which they belong to. The books are identified by name, ISBN code, year of publication and price. The authors write books and attend press meetings. Through the books one should be able to get details of the author who wrote the book. | CO2- App | (16) |
|-----|--|----------|------|

Create the class diagram for representing the above scenario by choosing the class names, attributes, methods and relationships from the list given.

Assume that all instance variables cannot be accessed outside the class whereas methods can be accessed.

Write code to implement the aggregation operation

Or

- (b) In a bank, there can be many customers. Some customers are also privileged customers. CO2- App (16)

While all customers have a customer id, name and age, privileged customers also have bonus points. Privileged customers can get their bonus points increased only whenever they withdraw. Otherwise they should not be able to increase their bonus points. Also, all customers can withdraw money and take card from ATM. All customers also have an account. Each account has balance amount, minimum amount and belong to an account type.

Assume that all the instance variables are public. Determine the access specifier for methods based on description given above.

Write python code to implement the scenario

14. (a) Explain the ways of raising inbuilt exceptions with example. CO1-U (16)

Or

- (b) Briefly explain the purpose of abstract classes with example CO4-U (16)

15. (a) Develop a python program that matches a word contain gin 'g' followed by one or more e's using regex CO2-App (16)

Or

- (b) Develop a python program to find all the patterns of "1(0+)1" in a given string using python regex CO2-App (16)

