



Register Number:
Date: 28-11-2020

ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE-27

B.Sc. Computer Science - III SEMESTER

SEMESTER EXAMINATION: NOVEMBER 2020

CS318- Object Oriented Programming using Python and Database Management Systems

Time- 2 1/2 hrs

Max Marks-70

This paper contains 3 printed pages and three parts

PART A

Answer All the Questions.

10 * 2=20

1. What is dictionary? How is it different from list?
2. Define class and object.

3. What is output for -

```
a = ['he', 'she', 'we'] ''.join(a)
```

A) - ['heshewe']

B) - 'heshewe'

C) - ['he she we']

D) - 'he she we'

4. What will be the output of the following Python code?

```
i = 1
```

```
while True:
```

```
    if i%3 == 0:
```

```
        break
```

```
    print(i)
```

```
    i += 1
```

- a) 1 2
- b) 1 2 3
- c) error
- d) none of the mentioned

5. Which one of these is floor division?

- a) /
- b) //
- c) %
- d) None of the mentioned

6. What is Data Independence of DBMS?

7. Write a short note on project operation in RDBMS.

8. Under what conditions must a foreign key not be null?

9. Explain difference between 1:1 and 1: N relationship.

10. What are different types of normalization?

PART B

Answer any FIVE.

5*6=30

11. Write a Python program that prints the intersection of two lists.

12. Describe the working of sort function with Python code.

13. Write a Python code to check if two Strings are Anagrams or not.

14. What is an ER-diagram? Construct an ER diagram by taking a suitable example.

15. How does SQL implement the integrity constraints of the relational model? Explain with an example.

16. Suggest and explain 3 different techniques to achieve 1NF using suitable example.

17. Consider the following relation for CARSALE (CAR-NO,Date-sold,Salesman No,Commission,Discount)

Assume a car can be sold by multiple salesman and hence primary key is

[CAR_No,Salesman_No]

Additional dependencies are

Date_Sold->Discount

Salesman_No->Commision

i) Is this realtion in 1NF,2NFor 3NF? Why or why not? (3 marks)

ii) How would you normalize this completely? (3 marks)

PART C

Answer any TWO.

2*10=20

1. a) Describe the Use of Inheritance in Python? (5 Marks)
b) With neat diagram, explain "three schema architecture". (5 Marks)
2. a) With an example program, illustrate how to pass arguments to function. (5 Marks)
b) Write Pythonic code to overload "+" and "-" operators by providing the methods `__add__`, `__sub__`. (5 marks)
3. Consider the following tables:
works(Pname,Cname,Salary)
lives(Pname,Street,City)
located-In(Cname,City)
write the following queries in SQL:
 - i) List the names of the people who work for the company 'ABC' along with the cities they live in. (3 marks)
 - ii) Find the names of the persons who do not work for 'XYZ'. (4 marks)
 - iii) Find the person who works and lives in the same city. (3marks)