9b. (i) Explain cursor object. Show how do we get and close a cursor object with an example.

(ii) Develop python program to do following operations

1.Add into EMPLOYEE table ("Ram". empID = 101. salary = 100) to columns(name, empID, salary) respectively.

SELECT all rows with salary greater than 1000

[3] [3] [3] [10]

OR

10a. How can we retrieve data from a table in SQLite database? Which are the methods used? Illustrate with an example.

[3] [3] [3] [10]

10b. What is a cursor object and what is its significance? Explain with an example how to

(i)get a cursor object from the connection object

(ii)execute a SELECT statement

(iii)automatically close a cursor object

[3] [3] [3] [10]

Sixth Semester B.E. FASTTRACK Examination, October 2022
PYTHON PROGRAMMING

Time: 3 hrs

Max. Marks : 100

Instructions : 1. Answer any FIVE full Questions selecting at least ONE Question from Each Unit.

MODULE 1

| | L | CO | PO | M |

1a. Why python a great first language and explain 3 of its applications.

1. Give the output of code below with justification.

$$x = 10y=20x= x-yprint\ x$$

Write a snippet of code to find the number of 'a' in a given line of text.

[3] [2] [3] [10]

1b. Explain with a neat diagram how python compiles and runs source code. Develop a python program to convert dollars to rupees (Assume: 1 dollar = Rs. 70)

[3] [2] [3] [10]

OR

2a. Develop a python program for the pseudocode given below.
Display user message
WHILE user wants to continue
get monthly investment, yearly interest rate and years
convert yearly interest rate to monthly interest rate
convert years to months
set the future value to zero
FOR each month
add monthly investment amount to future value
calculate interest for month
add interest to future value
display future value
ask if user wants to continue

2b. How would you use round function. Develop a python program to find the total and average of 3 scores which are input by the user. Round the average score to 2 decimal places.

[3] [2] [3] [10]

MODULE 2

[3] [2] [3] [10]

3a. What is a list and how do you create it? How to use append, insert and remove items to/ from a list? Explain with suitable examples.

3b. How do you use a for loop and a while loop. Develop a python program to find the Fibonacci of a number using any loop.

[3] [2] [3] [10]

OR

[3] [2] [3] [10]

4a. Develop code for (i)Iteration structures (ii) Dictionary (add and remove item)

4b. Develop a python program to read a list with 5 items from the console. Search whether an item (key) which the user inputs, exists in the list. Display appropriate message.

[3] [2] [3] [10]

MODULE 3

[3] [2] [3] [10]

5a. Which are the read and write methods of a file object? Explain with examples for each. List the functions that can be used to write to a CSV file. Write a program to initialize a list and write the contents of this list to a csv file

5b. How do we raise an exception in python?
Demonstrate multiple exception handling in Python.
Illustrate with an example.
What will the following Python code produce? Justify your answer.

try:
num= int(input("Number"))
except Value Error:

[3]   [2]   [3]   [10]

OR

6a. (i) Differentiate between the 3 different read methods of a file object with an example for each. The program to read the length and breadth from a file "in.txt". Compute the area and write the result to a file "output.txt".
(ii)How do read from and write to a csv file?

[3]   [2]   [3]   [10]

6b. What is serialization and de-serialization? How is the pickle module used to serialize and de-serialize data. Write a code snippet to do the same.

[3]   [2]   [3]   [10]

MODULE 4

7a. Develop a complete python program with definition and UML as below. (Faculty class inherits from Doctor class)
A hospital doctor may be a faculty. Override the Set Salary method in the Faculty class to show that the doctor gets Rs. 5000/- more by teaching.

Doctor
nameagesalaryHospitalName
SetSalary ()

Faculty
CollegeName
Dept

[3]   [3]   [3]   [10]

7b. Develop an object oriented python program which reads details of students who wrote an exam from a file namely in.txt Name, Marks. Find the number of students who scored more than 80 marks

[3]   [3]   [3]   [10]

OR

8a. Develop an object-oriented python program to implement a program which has a class that performs the following operations:

1.Read a number
2.Display a number.
3.Add 2 numbers
Instantiate an object and perform the above operations

[3]   [3]   [3]   [10]

8b. Define the terms with an example for each (i)Class (ii)Object (iii)Encapsulation (iv)Inheritance (v)Object overriding.
What is function overriding? Develop a simple function (which displays a message "Hello!! str is overriden") to override a ___ str ___ () method of the object class in Python

[3]   [3]   [3]   [10]

MODULE 5

9a. Develop the below GUI in Python which
(i)Displays "Button 1 was clicked !!"(in tiltle window) if Button 1 was clicked.
Closes the window if Button 2 was clicked.