

R.N.G.PATEL INSTITUTE OF TECHNOLOGY-RNGPIT
(An Autonomous Institute U/s UGC Act 1956)

B.Tech. SEMESTER-II, SEMESTER END EXAMINATION – WINTER 2025

SUBJECT CODE: 1CS202

DATE: 07-01-2026

SUBJECT NAME: PYTHON PROGRAMMING

TIME: 11:00 AM to 01:30 PM

TOTAL MARKS: 70

Instructions

1. It is **compulsory** for students to write **Enrolment No. /Seat No.** on the question paper.
2. Write answers of **Section A** and **Section B** in **separate answer books**.
3. Attempt all questions from both **Section A** and **Section B**.
4. Each section carries **35 marks**, with a total of **70 marks** for the examination.
5. The figures to the right of each question indicate full marks, make suitable assumptions with justification.
6. BL - Bloom's Taxonomy Levels (R-Remember, U-Understanding, A –Application, N –Analyze, E – Evaluate, C -Create), CO - Course Outcomes.

SECTION A

Marks BL CO

Q.1 Multiple-Choice Questions

[05]

(a) Python is best described as which type of programming language?

1 U 1

(i) Low-level machine language

(ii) High-level, interpreted language

(iii) Assembly language

(iv) Markup language

(b) What does IDLE stand for in Python?

1 R 1

(i) Integrated Development Language
Editor

(ii) Interactive Development Learning
Environment

(iii) Integrated Development and
Learning Environment

(iv) Interactive Debugging Language
Editor

(c) Which mode is used to open a file for writing in Python?

1 U 4

(i) r

(ii) w

(iii) a

(iv) x

(d) Which keyword is used to manually raise an exception in Python?

1 U 4

- (i) throw
- (ii) raise
- (iii) error
- (iv) exception

(e) Which module in Python is commonly used to create GUI applications? 1 U 5

- (i) PyGame
- (ii) Tkinter
- (iii) Matplotlib
- (iv) NumPy

Q.2 Attempt Any Two [10]

- (a) Explain the different file modes available in Python. 5 U 1
- (b) Explain what Python identifiers are and list the guidelines for creating valid identifiers with examples. 5 U 1
- (c) Explain the concept of variables and keywords in Python programming. 5 U 1

Q.3 Attempt Any Two [10]

- (a) Explain file handling in Python. Describe different types of files and file modes used in Python with suitable examples. 5 U 4
- (b) Write a Python program that demonstrates both reading and writing operations with CSV files which contain Students data like Enrolment no, Name, Age, and City. 5 A 4
- (c) What are additional file methods in Python? Explain methods like close (), tell (), seek (), and flush () with examples. 5 A 4

Q.4 Attempt Any Two [10]

- (a) Explain the different types of widgets available in Tkinter. 5 U 5
- (b) Differentiate between Zero Division Error and Value Error exceptions in Python and demonstrate each with an example. 5 N 5
- (c) What is polymorphism in Python? Explain polymorphism using method overloading and method overriding. 5 R 5

SECTION B

Marks BL CO

Q.5 Multiple-Choice Questions

[05]

(f) Which of the following is immutable in Python?

1 R 3

(v) List

(vi) Set

(vii) Dictionary

(viii) Tuple

(g) What is the data type of x in $x = 5 / 2$?

1 U 2

(v) int

(vi) float

(vii) complex

(viii) decimal

(h) Which function is used to check the data type of a variable?

1 R 2

(v) typeof()

(vi) id()

(vii) type()

(viii) is_type()

(i) What is the output of `print ("abc" * 2)`?

1 A 2

(v) aabbcc

(vi) abcc

(vii) abcabc

(viii) abc2

(j) What does a function return if a return statement is not used inside it?

1 A 3

(v) 0

(vi) None

(vii) Null

(viii) Any Random Number

Q.6 Attempt Any Two

[10]

(d) Describe elif ladder structure and nested if..else.. statement.

5 R 2

(e) Describe mathematical and logical operators in python.

5 R 2

(f) Explain for loop in python. Display odd numbers from 0 to 100 using for loop.

5 A 2

Q.7 Attempt Any Two

[10]

(d) How list is different from tuple? Write advantages of tuple.

5 N 3

- (e) Explain user defined function in python using example. **5 U 3**
- (f) Define a function named even. This function expects a number as an argument and returns true if the number is divisible by 2, or it returns False otherwise. **5 A 3**

Q.8 Attempt Any Two [10]

- (d) Describe dictionary example in python. How to access individual members? **5 U 3**
- (e) Explain following List methods in python with appropriate example. **5 A 3**
a) append() b) insert() c) remove() d) clear() e) reverse()
- (f) Write a Python function to calculate the factorial of a number (a nonnegative integer). The function accepts the number as an argument. **5 A 3**
