

B.Tech II Year I Semester (R19) Supplementary Examinations August 2021

PYTHON PROGRAMMING

(Common to CE, ME & CSE)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- What do you mean by string slicing and give an example?
 - How are arguments passed by reference in Python?
 - What is infinite recursion in Python?
 - What is refactoring? Explain it with an example.
 - Explain the 'break' statement and its syntax with an example.
 - How strings can be compared in Python?
 - Write any FIVE functions that are used in the tuples with examples.
 - Give the features of python dictionaries.
 - How to create object in python? Give an example.
 - What is polymorphism? How is it useful in python programming?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 (a) Explain the importance and usage of functions in python with a suitable example.
 (b) Write a function for checking a given string is palindrome and use the function in a program.
- OR**
- 3 (a) Write a simple python program that will accept N integer numbers from the user and print the largest and smallest values in it.
 (b) Give explanation and examples for the following string functions:
 (i) replace()
 (ii) zfill()
 (iii) translate()

UNIT – II

- 4 (a) What is generalization and interface design? Explain with the help of examples.
 (b) Write a Python program to draw a square in turtle using a loop.
- OR**
- 5 (a) Describe the following: (i) Incremental development. (ii) Composition.
 (b) What is floor division and modulus in Python? Explain with the help of examples.

UNIT – III

- 6 (a) Describe the following:
 (i) What is a 'List', and how we can create a list?
 (ii) Accessing and updating the values in a list.
 (b) Write a python program to search for an element in a list. The element to search should be read from the keyboard.

OR

- 7 (a) Explain the list of methods in Python.
 (b) Describe negative indexing in Python with the help of an example.

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UNIT – IV

- 8 (a) Explain the attribute reference and instantiation operations in detail.
(b) What is the use of the pickle module in Python? Explain with an example.

OR

- 9 (a) Explain how errors and exceptions in Python are handled.
(b) Write a Python program to input 'n' names and phone numbers to store in a dictionary and to search and print the phone number of given name.

UNIT – V

- 10 (a) How object oriented programming in python differ from other high level programming language.
(b) Explain the significance of inheritance in OOP with an example in python.

OR

- 11 (a) Explain `_init_` method and `_str_` method with examples.
(b) What is class diagram? Draw the graphical representation of class diagram.

B.Tech IV Year II Semester (R13) Supplementary Examinations April 2021

PYTHON PROGRAMMING

(Computer Science & Engineering)

(For 2013, 2014 regular & 2015 lateral entry admitted batches only)

Time: 3 hours

Max. Marks: 70

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) Why might you want to use python in an application?
 - (b) Why does “Spam” show up in so many python examples in books and on the web?
 - (c) Explain the significance of escape sequences.
 - (d) What are comments? Explain their uses.
 - (e) Differentiate the del statement and remove ().
 - (f) Explain tuple assignment.
 - (g) Discuss global variables with example.
 - (h) Explain the use of return statement.
 - (i) Differentiate between a class and object.
 - (j) Differentiate kernel thread and a user space thread.

PART – B
(Answer all five units, 5 X 10 = 50 Marks)**UNIT – I**

- 2 (a) Explain different execution model variations of python.
(b) List all key words of python and explain import, raise, nonlogical, yield key words with suitable example.

OR

- 3 (a) Describe the features of python and compare with C language.
(b) Write a python program to swap two numbers using a temporary variable.

UNIT – II

- 4 (a) Differentiate between counter controlled loops and sentinel controlled loops.
(b) Write a program using for loop to calculate the average of first n natural numbers.

OR

- 5 (a) Explain the use of break and continue statements with the help of an example.
(b) Write a program to generate calendar of a month given the start-day and the number of days in that month.

UNIT – III

- 6 (a) Explain basic tuple operations with example.
(b) Write a program to remove all duplicates from a list.

OR

- 7 (a) Is it possible to use the list comprehension to combine the elements of two lists? Justify with the help of an example.
(b) Write a program that calculates fib(n) using dictionary.

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UNIT – IV

- 8 (a) What are variable – length arguments? Explain with help of suitable code fragments.
(b) Write a program that calculates lambda(n) for all positive values of n where lambda(n) can be recursively defined as:

$$\text{lambda}(n) = \begin{cases} \text{lambda} \left(\frac{n}{2} \right) + 1 & \text{if } n > 1 \\ 1 & \text{if } n = 1 \end{cases}$$

OR

- 9 (a) Discuss different standard library modules with example?
(b) Write a program using a function to calculate compound interest given the principle, rate of interest, and number of years (C(n, r).

UNIT – V

- 10 (a) What are the merits and demerits of OOP?
(b) “Inheritance helps to make reusable code”. Justify.

OR

- 11 (a) Write a python program to create a thread using threading module.
(b) Explain unit testing in python in detail.

B.Tech II Year II Semester (R19) Regular Examinations September/October 2021

PYTHON PROGRAMMING

(Common to EEE, ECE, IT and FT)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- What are the key features of python?
 - Write a python function to sum all the numbers in a given list of N elements.
 - Describe about any two conditional statements in python.
 - What is a recursion operation in python and give an example?
 - What is string slicing? How it is obtained in python?
 - Write down the main operations which can be performed on a list.
 - Define the importance of dictionary in python.
 - Write the python code to convert a list to a tuple.
 - What do you mean by operator overloading in python?
 - Write the importance of classes in python programming.

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 (a) Explain the facilities available in python for string operations. Using proper examples, explain string operations in python.
- (b) What is the importance of functions in python programming? Write the functions for any three matrix operations and explain its working.

OR

- 3 (a) Differentiate Fruitful function with void function with suitable examples.
- (b) Explain in detail about stack diagrams. Include proper examples in your explanation.

UNIT – II

- 4 (a) Explain the use of turtle module in python? Write the procedure to check the presence of turtle module in python platform.
- (b) Write a program to find the greatest common divisor (gcd) of two integers using recursion.

OR

- 5 (a) Write notes on docstring and leap of faith in python.
- (b) Illustrate the working of nested conditions with the help of a program.

UNIT – III

- 6 (a) Write a program to print inverted right triangle of * using while loop.
- (b) Write a program to count the number of times a particular letter appears on a long string.

OR

- 7 (a) What is a list? Explain the list operations in detail with suitable example.
- (b) Explain the use of map, filter and reduce methods in python.

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UNIT – IV

- 8 (a) With the help of an example, show how variable length argument tuples are created.
(b) Write a program that searches a directory and all of its subdirectories, recursively, and returns a list of complete paths for all files with a given suffix without duplication.

OR

- 9 (a) Explain Reverse Lookup and Memos in dictionaries.
(b) Explain how the exceptions can be effectively handled in python?

UNIT – V

- 10 (a) Compare and contrast Pure functions and Modifiers with suitable example.
(b) Using one example explain the working of `_init_` and `_str_` methods in python.

OR

- 11 (a) Write a python program that can effectively and efficiently shuffle a deck of cards.
(b) Explain the working of any and all functions with the help of one example.

B.Tech IV Year II Semester (R13) Supplementary Examinations November/December 2020

PYTHON PROGRAMMING

(Computer Science & Engineering)

(For readmitted, 2013, 2014 regular & 2014, 2015 lateral entry admitted batches only)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- How are CPython, JPython and Iron Python different?
 - What is name space? How does it relate to module files?
 - Write the following values in the exponential notation:
 - 1230.789.
 - 0.00000078005.
 - 5000708.0000003.
 - Why '*' is called string repetition operator? Give an example.
 - What is sequence? Give an example.
 - Write the syntax for list comprehension and explain with example.
 - What are docstrings?
 - How to redefine functions in python?
 - What is containership?
 - Define operating system interface.

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 (a) Write short notes on debugging.
 (b) Explain different output formattings in python with examples.

OR

- 3 (a) Compare and contrast python2.x and python3.x versions.
 (b) Explain concept of REPL and its applications in python.

UNIT – II

- 4 (a) What is type conversion? Explain the need of type conversion with relevant example.
 (b) Write a program that counts the lower case characters, upper case characters and digits entered by a user.

OR

- 5 (a) When should we use nested if statements? Illustrate your answer with the help of an example.
 (b) Write a program to enter a decimal number. Calculate and display the binary equivalent of this number.

UNIT – III

- 6 (a) Explain the advantages of tuple over list.
 (b) Write a program that generates a set of prime numbers and another set of odd numbers. Demonstrate the result of union, intersection, difference, and symmetric difference operations on these data sets.

OR

- 7 (a) Explain accessing values, adding and modifying an item in a dictionary with example.
 (b) Write a program to store a sparse matrix as a dictionary.

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UNIT – IV

- 8 (a) Arguments may be passed in the form of expressions to the called function. Justify with help of example.
(b) Write a program to calculate $\exp(x, y)$ using recursive functions.

OR

- 9 (a) What are modules? How do you use them in your program?
(b) Write a program using functions to perform calculator operations.

UNIT – V

- 10 (a) Explain the main features of an object oriented programming language.
(b) Discuss the applications of object oriented programming.

OR

- 11 (a) Discuss about turtle graphics in brief.
(b) Why testing is required? And discuss basic concepts of testing.
