

**II B. Tech I Semester Regular Examinations, March - 2021**  
**PYTHON PROGRAMMING**  
(Com to CSE,IT)

Time: 3 hours

Max. Marks: 75

Answer any **FIVE** Questions each Question from each unit  
All Questions carry **Equal** Marks  
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- 1 a) Write a Python program to convert temperature in degree Celsius to degree Fahrenheit. If water boils at 100 degree C and freezes as 0 degree C, use the program to find out what is the boiling point and freezing point of water on the Fahrenheit scale. (Hint:  $T(^{\circ}F) = T(^{\circ}C) \times 9/5 + 32$ ) [8M]  
b) Explain about input validation loops and nested loops with examples. [7M]
- Or
- 2 a) Write a program to generate Fibonacci series using Python. [8M]  
b) Write a program to repeat the string "GOOD MORNING" n times. Here 'n' is an integer entered by the user. [7M]
- 3 a) What are Python string padding functions? Explain with examples. [8M]  
b) Explain about string formatting operators methods with examples. [7M]
- Or
- 4 a) How to encrypt and decrypt strings in Python? Explain. [8M]  
b) Write a program that reads a string from the user and uses a loop to determines whether or not it is a palindrome. Display the result, including a meaningful output message. [7M]
- 5 a) What are Python list/Array methods? Explain. [8M]  
b) How to import modules in Python? Explain with examples. [7M]
- Or
- 6 a) What are Python directory methods? Explain. [8M]  
b) Describe Python default and keyword arguments with examples. [7M]
- 7 a) What are advantages and disadvantages of OOP? Explain. [8M]  
b) What are built-in class attributes? Explain. [7M]
- Or
- 8 a) Explain about structuring classes with inheritance and polymorphism. [8M]  
b) Describe readline( ) and readlines( ) methods with examples. [7M]
- 9 Explain the following:  
a) Handling exceptions [8M]  
b) Multi-line text widgets [7M]

Or

10 Explain the following:

a) Defining clean-up actions

[8M]

b) Entry fields for the input and output of text

[7M]



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- 1 a) What is about Python programming language? Explain program development cycle. [8M]  
 b) The formula  $E = mc^2$  states that the equivalent energy (E) can be calculated as the mass (m) multiplied by the speed of light ( $c = \text{about } 3 \times 10^8 \text{ m/s}$ ) squared. Write a program that accepts the mass of an object and determines its energy. [7M]
- Or
- 2 a) Describe if, if-else, if-elif-else Statements with examples. [8M]  
 b) Write a program that asks the user to enter their name and age. Print a message addressed to the user that tells the user the year in which they will turn 100 years old. [7M]
- 3 a) What are Python string substitution functions? Explain with examples. [8M]  
 b) Explain in detail about while loop with suitable example. [7M]
- Or
- 4 a) Write a Python program to check a prime a prime number. [8M]  
 b) Write a Python program to convert decimal integer into binary. [7M]
- 5 a) Discuss about variable length and keyword arguments with examples. [8M]  
 b) What are docstrings for Python modules? Explain. [7M]
- Or
- 6 a) Write a Python program to create three dictionaries, then create one dictionary that will contain the other three dictionaries. [8M]  
 b) Discuss about dictionary `clear()`, `copy()`, `get()` and `items()` methods. [7M]
- 7 a) Explain about creating classes and instance objects with examples. [8M]  
 b) Discuss about real time use of class in live projects. [7M]
- Or
- 8 a) Describe manipulating file pointer using seek with suitable example. [8M]  
 b) What are base overloading methods? Explain. [7M]
- 9 Explain the following:
- a) Syntax errors [8M]  
 b) Scrolling list boxes [7M]

Or

10 Explain the following:

a) Predefined clean-up actions

[8M]

b) Event-driven programming

[7M]



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- 1 a) Write a program to calculate in how many days a work will be completed by three persons A, B and C together. A, B, C take x days, y days and z days respectively to do the job alone. The formula to calculate the number of days if they work together is  $xyz/(xy + yz + xz)$  days where x, y, and z are given as input to the program. [8M]
- b) Discuss about mutable and immutable Data types in Python with examples. [7M]
- Or
- 2 a) Explain about precedence of all operators in Python. [8M]
- b) Write the corresponding Python assignment statements: [7M]
- i) Assign 10 to variable length and 20 to variable breadth.
- ii) Assign the average of values of variables length and breadth to a variable sum.
- iii) Assign a list containing strings 'Paper', 'Gel Pen', and 'Eraser' to a variable stationery.
- iv) Assign the strings 'Mohandas', 'Karamchand', and 'Gandhi' to variables first, middle and last.
- v) Assign the concatenated value of string variables first, middle and last to variable fullname. Make sure to incorporate blank spaces appropriately between different parts of names.
- 3 a) Discuss about string search functions with examples. [8M]
- b) What are built-in string conversion functions? Explain. [7M]
- Or
- 4 a) Explain about text files and their format with examples. [8M]
- b) What are string operators in Python? Explain with examples. [7M]
- 5 a) Discuss about list pop( ), insert( ) and remove( ) methods with examples. [8M]
- b) Explain the concept nested dictionary with suitable example. [7M]
- Or
- 6 a) Explain about Python dictionary update( ), value( ), get( ) and keys ( ) methods. [8M]
- b) What are Python built-in functions? Explain. [7M]
- 7 a) Explain in detail about read functions in Python with examples. [8M]
- b) Discuss about class inheritance in Python with example. [7M]

Or

1 of 2

8 a) Describe adding and retrieving dynamic attributes of classes in detail. [8M]

b) Explain about reading numbers from a file using Python program. [7M]

9 Explain the following:

a) Exceptions [8M]

b) Grid attributes [7M]

Or

10 Explain the following:

a) User-defined exceptions [8M]

b) Using nested frames to organize components [7M]

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- 1 a) Write a Python program to calculate the amount payable if money has been lent on simple interest. [8M]  
 Principal or money lent = P, Rate of interest = R% per annum and Time = T years. Then Simple Interest (SI) =  $(P \times R \times T) / 100$ .  
 Amount payable = Principal + SI.  
 P, R and T are given as input to the program.
- b) Explain about explicit conversion with examples. [7M]
- Or
- 2 a) Presume that a ladder is put upright against a wall. Let variables length and angle store the length of the ladder and the angle that it forms with the ground as it leans against the wall. Write a Python program to compute the height reached by the ladder on the wall for the following values of length and angle: [8M]  
 i) 16 feet and 75 degrees  
 ii) 20 feet and 0 degrees  
 iii) 24 feet and 45 degrees  
 iv) 24 feet and 80 degrees
- b) What are assignment operators in Python? Explain with examples. [7M]
- 3 a) Write a Python program to check a palindrome sequence. [8M]
- b) Explain about data encryption in Python. [7M]
- Or
- 4 a) Discuss about while loop in Python with suitable examples. [8M]
- b) Write a Python program to convert Decimal integer into binary. [7M]
- 5 a) Explain about anonymous or Lambda function with merits and demerits. [8M]
- b) Discuss about importing module from a package. [7M]
- Or
- 6 a) What is recursion? Explain recursion concept with suitable Python program. [8M]
- b) Explain about Python functions with examples. [7M]
- 7 a) Discuss about concepts of class, object and instances in Python. [8M]
- b) Explain the concept of inheritance in Python with examples. [7M]
- Or
- 8 a) Give an overview of OOP terminology. [8M]
- b) Describe case study of an ATM using classes. [7M]

9 Explain the following:

- a) Raising exceptions [8M]
- b) Terminal based version [7M]

Or

10 Explain the following:

- a) User-defined exceptions [8M]
- b) Command buttons and responding to events [7M]