**20EI504**

**Hall Ticket Number:**

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| **III/IV B.Tech (Regular) DEGREE EXAMINATION** | | | |
| **February,2023** | **Mechanical Engineering** | | |
| **Fifth Semester** | **Python Programming** | | |
| **Time:** Three Hours | | **Maximum: 7**0 Marks | |
| *Answer Question No. 1 Compulsorily.* | | | (14X1 = 14 Marks) |
| *Answer* ***ANY ONE*** *question from each Unit.* | | | (4X14=56 Marks) |

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| 1. | a) | Write the syntax of **for** loop in python? | CO1 | L1 | 1M |
|  | b) | When to use a list vs dictionary in Python? | CO1 | L1 | 1M |
|  | c) | Write a for loop that prints numbers from 1 to 30, using range function. | CO1 | L2 | 1M |
|  | d) | There is a spelling mistake in the word saved in a string variable Ex: “Hello zorld” how to correct this to “Hello World” in the same variable | CO2 | L3 | 1M |
|  | e) | What is the use of \_init\_ ? When is it called? | CO2 | L2 | 1M |
|  | f) | What is a Negative Index in Python? | CO2 | L1 | 1M |
|  | g) | Define function overloading. | CO3 | L1 | 1M |
|  | h) | How does continue work? | CO3 | L1 | 1M |
|  | i) | What does [::-1] do? | CO3 | L2 | 1M |
|  | j) | Is python case sensitive? | CO3 | L2 | 1M |
|  | k) | Is multiple inheritance supported in Python? | CO3 | L2 | 1M |
|  | l) | What are the operations allowed on tuple? | CO4 | L1 | 1M |
|  | m) | def pyfunc(r):  for x in range(r):  print(' '\*(r-x-1)+'\*'\*(2\*x+2))  pyfunc(5)  What is the output for the above program? | CO4 | L4 | 1M |
|  | n) | How will you read a line in a file? | CO4 | L2 | 1M |
| **Unit -I** | | | | | |
| 2. | a) | Write a Python program to find those numbers which are divisible by 3 and multiples of 6, between 1 and 1000. | CO1 | L2 | 7M |
|  | b) | Demonstrate the use of break and continue keywords in looping structure using a code  snippet. | CO1 | L2 | 7M |
|  |  | **(OR)** |  |  |  |
| 3. | a) | Write a python program to calculate the total amount to be paid by user for shopping, after giving a reduction of 15% discount on purchases more than 2500 rupees. | CO1 | L4 | 7M |
|  | b) | Write a Python program that reads four integers from user, prints them with a single print statement, without any space or newline between/after the values. | CO1 | L3 | 7M |
|  |  | **Unit -II** |  |  |  |
| 4. | a) | What are the Principles of Object Orientation? | CO2 | L1 | 7M |
|  | b) | Write about Class Inheritance and demonstrate the usage of issubclass() and isinstance() methods in Python. | CO2 | L2 | 7M |
|  |  | **(OR)** |  |  |  |
| 5. | a) | Write a Python program to compute the natural logarithm of 2, by adding up to n terms in the series 1 – 1⁄2+ 1/3 – 1⁄4 + 1/5 -... 1/n | CO2 | L4 | 7M |
|  | b) | Explain about an exception with suitable examples. | CO2 | L2 | 7M |
|  |  | **Unit -III** | |  |  |
| 6. | a) | Write a Python program that counts the number of occurrences of a letter in a string, using dictionaries. | CO3 | L4 | 7M |
|  | b) | What is an Access Mode? Explain the different access modes available in python with a program explaining each. | CO3 | L2 | 7M |
|  |  | **(OR)** |  |  |  |
| 7. | a) | Write a Python program with the function named as Students and Semester\_grades where Students function should consist of the details like, Student\_ID, Student\_Name, Branch, Subjects and Semester\_grades should read the marks obtained by the student in the individual subjects and display a grade for each subject if marks >=90 as O Grade, marks >=85 as A+, marks >=80 as A and marks <80 as B Grade.  Note: Student\_ID and Student\_Name should be maximum of 3 characters each, read 5 subject per student | CO3 | L4 | 7M |
|  | b) | Write a python program which displays the length of each word in a list using functions. | CO3 | L2 | 7M |
|  |  | **Unit -IV** |  |  |  |
| 8. | a) | What’s the difference between else block and finally block in exception handling? Explain with an example program. | CO4 | L2 | 7M |
|  | b) | Write a python program that reads a text file and display it on the monitor. | CO4 | L3 | 7M |
|  |  | **(OR)** |  |  |  |
| 9. | a) | Write a program to demonstrate the multiple exception handling technique in python | CO4 | L2 | 7M |
|  | b) | Write a Python program to read a file and match a string that contains only upper and lowercase letters, numbers, and underscores using Regular Expression | CO4 | L3 | 7M |

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