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| Image result for adamas university logo | **ADAMAS UNIVERSITY**  **END SEMESTER EXAMINATION**  (Academic Session: 2020 – 21) | | |
| **Name of the Program:** | MCA | **Semester:** | I |
| **Paper Title:** | Computer Programming with Python | **Paper Code:** | ECS 51141 |
| **Maximum Marks:** | 50 | **Time Duration:** | 3 Hrs |
| **Total No. of Questions:** | **17** | **Total No of Pages:** | 02 |
| *(Any other information for the student may be mentioned here)* | 1. At top sheet, clearly mention Name, Univ. Roll No., Enrolment No., Paper Name & Code, Date of Exam. 2. All parts of a Question should be answered consecutively. Each Answer should start from a fresh page. 3. Assumptions made if any, should be stated clearly at the beginning of your answer. | | |

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| **Group A**  **Answer All the Questions (5 x 1 = 5)** | | | |
| 1 | **Find** the error and rewrite the following code in python after removing all syntax error(s).  Underline each correction done in the code.  30=To  for K in range(0, To)  IF k%4==0:  print (K\*4)  Else:  print (K+3) | **R** | **CO1** |
| 2 | **What** is a dictionary in Python? | **R** | **CO2** |
| 3 | **What** is default argument? | **R** | **CO3** |
| 4 | **How** to make a Python class member variable hidden from outside the class? | **R** | **CO4** |
| 5 | **Explain** Exception. | **U** | **CO5** |
| **Group B**  **Answer All the Questions (5 x 2 = 10)** | | | |
| 6 a) | 1. **Define** id() function. 2. **What** is implicit type conversion? | **R** | **CO1** |
| **(OR)** | | | |
| 6 b) | 1. **What** is conditional loop. 2. **Show** the flowchart of If-Else loop. | **R** | **CO1** |
| 7 a) | List a is defined as follows:  a = [1, 2, 3, 4, 5];  **Show** all statements that remove the middle element 3 from a so that it equals [1, 2, 4, 5]. | **U** | **CO2** |
| **(OR)** | | | |
| 7 b) | **Explain** why strings are immutable with an example. | **U** | **CO2** |
| 8 a) | **What** is input () function? | **R** | **CO3** |
| **(OR)** | | | |
| 8 b) | **What** is docstring? | **R** | **CO3** |
| 9 a) | **Define** class. | **R** | **CO4** |
| **(OR)** | | | |
| 9 b) | **What** is Encapsulation? | **R** | **CO4** |
| 10 a) | **What** is File? Give syntax of open () function. | **R** | **CO3** |
| **(OR)** | | | |
| 10 b) | **Define** readline() and readlines () method. | **R** | **CO3** |
| **Group C**  **Answer All the Questions (7 x 5 = 35)** | | | |
| 11 a) | 1. **How** indentation can be implemented? 2. **List** down the rules for defining identifier in Python | **R** | **CO1** |
| **(OR)** | | | |
| 11 b) | 1. Write a program to **identify** a user input number is Armstrong number or not. [153 is Armstrong number as 1^3 + 5^3+3^3=153] 2. Write a program that prompts the user to input a year and **identify** whether the year is a leap year or not. | **AP** | **CO1** |
| 12 a) | **Explain** with example how + and \* operators work on string. | **U** | **CO2** |
| **(OR)** | | | |
| 12 b) | Write a Python program to **solve** if a string is palindrome or not. Take user input | **AP** | **CO2** |
| 13 a) | Write a recursive Python function that recursively **solve** sum of elements in a list of lists. Sample Input: [1, 2, [3,4], [5,6]] Expected Result: 21 | **AP** | **CO3** |
| **(OR)** | | | |
| 13 b) | **What** is Global and Local variable? Give example. | **R** | **CO3** |
| 14 a) | **Develop** a Python program that overloads + operator, to add two objects of a class | **AP** | **CO4** |
| **(OR)** | | | |
| 14 b) | **Compare** between OOP and Procedural Programming language. | **U** | **CO4** |
| 15 a) | **Develop** a function in python to count the number of lines from a text file "story.txt" which is not starting with an alphabet "T".  **Example**:  If the file "story.txt" contains the following lines:  A boy is playing there. There is a playground. An aeroplane is in the sky. The sky is pink. Alphabets and numbers are allowed in the password. | **AP** | **CO6** |
| **(OR)** | | | |
| 15 b) | **List** the different file opening mode with coding syntax. | **R** | **CO6** |
| 16 a) | **Build** a program that prompts the user to input a number and reverse its digits. For example, the reverse of 12345 is 54321; reverse of 5600 is 65. | **AP** | **CO1** |
| **(OR)** | | | |
| 16 b) | **What** type of parameter passing is used in Python? Justify your answer with sample programs. | **R** | **CO4** |
| 17 a) | **How** to create, raise and handle user defined exceptions in Python | **R** | **CO5** |
| **(OR)** | | | |
| 17 b) | Write a program to **solve** cosine of x. The user should supply x and a positive integer n. We compute the cosine of x using the series and the computation should use all terms in the series up through the term involving xn  cos x = 1 - x2/2! + x4/4! - x6/6! .... | **AP** | **CO1** |