Reg. No. \_\_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **17BI2007** | **Duration :** | **3hrs** |
| **Sub. Name :** | **PERL AND PYTHON PROGRAMMING** | **Max. Marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Paraphrase the variants of input and output functions in Perl programming with an example program. | CO1 | 10 |
| b. | Write a PERL script to calculate life expectany of a person. Assume that the average life expectancy is 70 and then adjust this according to the following recorded variables:   * Are you male or female? Females get an extra 4 years. * Are you a smoker? Add 5 years if not, subtract 5 years if yes. * How often (per week) do you exercise? Subtract 3 years if never, add one year for each exercise session. * Do you eat fatty food? Add 3 years if not.   Calculate the life expectancy of a male non-smoker who exercises twice a week, drinks 10 units of alcohol a week and eats fatty food. | CO1 | 10 |
| **(OR)** | | | | |
| 2. | a. | Discuss in details about scalars, lists and hash and its functions in Perl programming. | CO1 | 10 |
| b. | Name and explain the various loop control statements in Perl with example programs. | CO1 | 10 |
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| 3. | a. | Elaborate on various regular expressions in Perl programming. Give the syntax and show its usage with necessary examples. | CO2 | 15 |
| b. | Write a Perl program to open a file in read only mode and read the content of the entire file and print. | CO3 | 5 |
| **(OR)** | | | | |
| 4. | a. | Given the DNA string “ATATCAGTACAGATATATACGCGCGGGCTTACTATTA”  Write a PERL subroutine that reverse-complements the sequence. To reverse-complement a string of DNA, one needs to replace  A with T, T with A, C with G and G with C, while any other character is complemented in N. Finally, the sequence has to be reversed. Use appropriate PERL functions to perform the above task. | CO3 | 10 |
| b. | Distinguish packages from modules in Perl programming with example programs. | CO4 | 10 |
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| 5. | a. | Show the syntaxes of *tuples, lists, sets,* and *dictionaries* in Python programming with its usage. | CO4 | 10 |
| b. | Write a python program to solve the following quadratic equation. Prompt the user to enter the necessary values.  Image result for quadratic equation formula | CO1 | 10 |
| **(OR)** | | | | |
| 6. | a. | Discuss the various operators available for Python programming with code snippets. | CO3 | 15 |
| b. | Differentiate between mutable and immutable types of variables in Python. | CO3 | 5 |
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| 7. | a. | Draw the flow charts for Python conditional statements and explain with example program. | CO5 | 10 |
| b. | State the different ways to access a file in Python programming. | CO5 | 10 |
| **(OR)** | | | | |
| 8. |  | Write a python program to create an integer *list* with 10 elements. Then perform the following using python.   1. Create a function *calculate()* to print the sum and average of the list. 2. Create a function *oddoreven()* to count the number of odd numbers and even numbers in the list 3. Create a function *findmember()* to get an input from the user and check if it is a member of the list. 4. Create a function *sort()* to sort the elements of the list. | CO6 | 20 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Write a Python program with classes and object. Define necessary user defined functions inside the class. Create an object for the class and access the members of the class. Discuss the class and objects properties. | CO6 | 10 |
| b. | Show the ways to create and import packages for your program. | CO5 | 10 |