KUMARAGURU
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B.E DEGREE EXAMINATIONS: MAY 2017

(Regulation 2014)

Sixth Semester

COMPUTER SCIENCE AND ENGINEERING

U14CSTE25 : Perl Programming

COURSE OUTCOMES

CO1: Demonstrate the proper use of Perl syntax, including control structures and expressions.
CO2: Apply the concept of list, arrays and hashes.
CO3: Explain the concept of file handling and references.
CO4: Develop Perl modules using built-in Perl functions as a team.
CO5: Explain the proper usage of Perl regular expressions.

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Match list I with list II and select the correct answer using the codes given below.   CO1 [K₁]

List I (Operators)	List II (Symbols)
A. Concatenation operator	i. ..(Double dot)
B. Range operator	ii. .(Dot)
C. Single quote operator	iii. ~
D. Complement operator	iv. q{ }

	A	B	C	D
a)	ii	i	iii	iv
b)	iii	iv	ii	i
c)	ii	i	iv	iii
d)	iii	i	ii	iv

2. What is the purpose of chomp( ) function?   CO1   [K₂]

   a) Removes the last character of a string and returns that character
   b) Removes characters at the end of string and returns the characters removed
   c) Removes characters at the end of string and returns the number of characters removed
   d) Removes the last character of a string and returns the number of characters removed

3. The syntax used to extract keys and values separately from the hash data structure are _____ and _____ respectively.

   CO2 [K₁]

   1: @key_names = keys(%hash_name)
   2: @key_values = values($hash_name)
   3: @key_names = keys($hash_name)
   4: @key_values = values(%hash_name)

   a) 3,4　　　　　　　　　　　b) 1,4
   c) 1,2　　　　　　　　　　　d) 3,4

4. Write the output of the program given below:

   CO2 [K₂]

   ```
   my @x = qw(fat_11  bat_2  mat_3);
   say join " ", sort @x;
   ```

   a) fat_11 bat_2 mat_3　　　b) bat_2 mat_3 fat_11
   c) bat_2 fat_11 mat_3　　　d) mat_3 bat_2 fat_11

5. Assertion (A): Diamond operator is almost exclusively used in a while-loop.

   CO3 [K₁]

   Reason (R): Diamond operator allows to iterate over the rows in all the files given on the command line

   a) Both A and R are Individually true and R is the correct explanation of A
   b) Both A and R are Individually true but R is not the correct explanation of A
   c) A is true but R is false
   d) A is false but R is true

6. Which of the following functions opens a file in writing mode without truncating the file?

   CO3 [K₁]

   a) open(DATA, ">file.txt");　　　b) open(DATA, "+<file.txt");
   c) open(DATA, "<file.txt");　　　d) open(DATA, "+file.txt");

7. Arrange the following sequence of programming statements in correct order:

   CO4 [K₂]

   1. use module_name
   2. package package_name
   3. no module_name
   4. program/module statements

   a) 2-1-4-3　　　　　　　　　b) 1-2-4-3
   c) 2-4-1-3　　　　　　　　　d) 4-1-2-3

8. Predict the execution of the given program.

   CO4 [K₁]

   ```
   open(IN,"in");
   my @lines = <IN>
   close(IN);
   open(OUT,">out");
   foreach (@lines)
   {
       print OUT m/([^\s]+)/,"\n";
   }
   close(OUT);
   ```

a) After reading a file it will print the first word of each line into another file.   b) After reading a file it will print all the lines into another file.

c) After reading a file it will print the last word of each line into another file.   d) Error in execution

9. Assertion (A): The context of a subroutine is defined as the type of return value that is expected.   CO5 [K$_2$]

Reason (R): Perl allows use of a single function that returns different values based on what the user is expecting to receive.

a) Both A and R are Individually true and R is the correct explanation of A   b) Both A and R are Individually true but R is not the correct explanation of A

c) A is true but R is false   d) A is false but R is true

10. Write the output of the program given below: CO5 [K$_2$]

$string = 'food';

$string = 'food';

$string =~ tr/a-z/a-z/s;

print "$string\n";

a) food   b) fodfod

c) fod   d) foodfood

PART B (10 x 2 = 20 Marks)

(Answer not more than 40 words)

11. List the Perl data types and their representations.   CO1 [K$_1$]

12. Illustrate the additional control mechanisms that Perl provides to exit out of the Loops?   CO1 [K$_2$]

13. Interpret the output of the following Perl operations using $x=7, $a="ATCG"?   CO2 [K$_3$]

   a. $y = $x++; print "x=$x"; print 'y=$y';

   b. $x **= 2; print "x=$x";

   c. $b = $a x3; print $b;

   d. $b = $a.$a; print $b;

14. Write a perl program to create complex list?   CO2 [K$_3$]

15. How do you read input using standard input stream?   CO3 [K$_2$]

16. What is meant by file handle in Perl?   CO3 [K$_1$]

17. Explain the use of strict pragma.   CO4 [K$_2$]

18. Define a Perl subroutine to find factorial of a given number.   CO4 [K$_3$]

19.	List the Perl regex simple quantifiers along with its usage.	CO5 [K$_1$]
20.	How are the match quantifiers used in Perl regex?	CO5 [K$_2$]

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Answer any FIVE Questions:-

PART C (5 x 14 = 70 Marks)

(Answer in not more than 300 words)

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Q.No. 21 is Compulsory

21.	Illustrate the usage of arrays and their various functions with suitable example in Perl programming.	CO2 [K$_2$]
22.	Explain about the various Perl control structures with appropriate example.	CO1 [K$_2$]
23.	a. Write a perl program to perform the following file operations. (10)	CO3 [K$_2$]

     I.   Open a file "file1.txt" to write a content "Perl is a open source language.Perl is good, perl is better and perl is best"

    II.   Read the content of "file1.txt" and write it into another file "file2.txt"

    III. Open the file "file2.txt" and append the text "Perl is a text processing language."

    IV. Count the Number of occurances of the word "Perl" in file2.txt

  b. Write a perl program to get and print all files in a directory? (4)

24.	a. Classify Perl operators in detail using suitable example? (8)	CO1 [K$_2$]
	b. Write a perl program to sort a list of N integer elements in ascending order and print the maximum and minimum element of the list? (6)	
25.	a. Explain about hash structure, hash function and the uses of hash structures. (8)	CO2 [K$_2$]
	b. Implement matrix addition using Perl programming. (6)	CO2 [K$_3$]
26.	Elaborate on the usage of Perl subroutines with suitable example.	CO4 [K$_2$]
27.	a. Explain the use of following regex with an example string value: (7)	CO5 [K$_3$]

    1. $string =~ /[df]og/
    2. $string =~ /aX{4}a/
    3. $string =~ /aX{2,5}a/
    4. $string =~ /bob/g
    5. $string =~ /bob/i
    6. $string =~ /\s+/
    7. $string =~ /b.b/

  b. Summarize the concept of text processing using Perl regular expressions. (7)   CO5 [K$_2$]

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