

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086  
(For candidates admitted from the academic year 2010 – 2011)

SUBJECT CODE: BI/PC/PC34

M. Sc. DEGREE EXAMINATION, NOVEMBER 2011  
BIOINFORMATICS  
THIRD SEMESTER

COURSE : CORE  
PAPER : PERL AND COMMON GATEWAY INTERFACE  
TIME : 1½ HOURS  
MAX. MARKS: 50

SECTION – A

ANSWER ALL THE QUESTIONS: (30x1=30)  
CHOOSE THE CORRECT ANSWER:

1. Perl frequently used in Life sciences because of \_\_\_\_\_  
A) Easy to learn  
B) No. of lines is very less compared to other programming language  
C) Text processing /String Handling  
D) All of the above
2. \_\_\_\_\_ function is used to remove the elements from the beginning of an array  
a. Push  
b. Pop  
c. Unshift  
d. Shift
3. What is the output of the following program  
\$dna = "ATCGATCG";  
\$rna = \$dna;  
\$rna = ~s/T/U/g;  
Print "\$rna";  
a. AUCGAUCG  
b. AUCGATCG  
c. ATCGATCG  
d. TAGCTAGC
4. What is the output of the following program  
\$n = 5;  
\$sum = 0;  
\$i = 1;  
While ( \$i <= \$n)  
{  
    \$sum = \$sum + i;  
    \$i = \$i + 1;  
}  
Print "\$sum";  
a. 25  
b. 15  
c. 5  
d. 20

5. Find out the following pattern from the given output  
 PATTERN = a \*b? c+
- aaaaabc
  - aaaaaabbcbcccc
  - bbbbbbbbcbcccc
  - ababababcbcccc
6. \_\_\_\_\_ provides the communication between the subroutine and the main program
- Parameter
  - Variable
  - Constant
  - None of the above
7. Find out the odd man out
- lowecase
  - index
  - rindex
  - substring
8. What is the output of the following program
- ```
$v = 'Flowers';
$r = chop($v);
print "$r";
```
- Flowers
  - Flower
  - Flowe
  - Flow
9. What is the output of the following program
- ```
my $names = "John Peterson Anne Mike";
my $oneName = substr($names, 5, 8);
print "$oneName\n";
```
- John
  - John Peterson
  - Peterson
  - Anne Mike
10. Find out the following pattern from the given output  
 PATTERN = /a{5} b{6,} c{4,8}/
- aaaaa bbbbbb ccccc
  - aaa bbb ccc
  - aaaaa bbbbbbbbbbbbbbb ccccc
  - aaaaabbbbccc
11. Hash is also called as
- Array
  - Associative Array
  - Scalar
  - None of the above
12. Three basic file handles are
- Creates ,writes and truncate
  - Write,append and create
  - STDIN,STDOUT and STDERR
  - Read,Write and append

13. Find out the syntax to open the file for updating without truncating
- Open (DATA, ">file.txt")
  - Open (DATA, "+>file.txt")
  - Open (DATA, ">>file.txt")
  - Open (DATA, "+<file.txt")
14. How to call a subroutine in perl?
- &subroutinename
  - \$subroutinename
  - %subroutinename
  - @subroutinename
15. Find out the output of the following program
- ```
my @books=("PERL","DBMS","C");
print $books[2]
```
- PERL
  - C
  - DBMS
  - PERL DBMS C
16. PERL stands for
- Practical Extraction Report Language
  - Practical Expression Report Language
  - Practice Extraction Report Language
  - Practical Extraction Result Language
17. Find out the valid variable from the following
- \$perl
  - Perl
  - 123perl
  - Perl programming
18. What is the output of the following program
- ```
$dna1="ATCG";
$dna2="CTGC";
$dna3=$dna1.$dna2;
Print "$dna3";
```
- ATCG
  - CTGC
  - ATCGCTGC
  - Atcgctgc
19. In perl "use strict" is used for
- Shows certain common programming errors.
  - Shows all programming errors
  - Does not show errors along with line number
  - None of the above
20. What is the output of the following program
- ```
%ages = ('Martin' => 28,'Sharon' => 35, 'Rikke' => 29,);
print "Rikke is $ages{Rikke} years old\n";
```
- Rikke is 29 years old
  - Rikke is 28 years old
  - Rikke is 35 years old
  - Error

21. Syntax used to refer variables within a package is.....
- \$packagename::variable name**
  - Packagename::variablename
  - \$packagename::\$variablename
  - \$packagename::\$variablename
22. .... and ..... are two necessary functions of Perl Module.
- Use and eval
  - require and use**
  - require and eval
  - eval and @INC
23. CGI stands for
- Common gateway Interface**
  - Common Graphical Interface
  - Common Graphical Interaction
  - Continous graphical Interface
24. Which tag is used to get the input from the user
- <input>**
  - <user>
  - <print>
  - <get>
25. Bioperl is .....
- Object**
  - Variable
  - Tool
  - Constant
26. BioPerl provides software modules for .....
- Searching for similar sequences
  - Creating and manipulating sequence alignments
  - Searching for [genes](#) and other structures on [genomic](#) DNA
  - All of the above**
27. Bioperl played a integral role in the .....
- Human Genome Project**
  - World Hapmap Project
  - Mitochondrial Decoding Project
  - World Health Grid Project
28. Perl developed by
- Peterson
  - Larry Wall**
  - Dennis Ritchie
  - Tata Mcgraw hill
29. ....returns the position of the last occurance of the specified SEARCH string.
- Index
  - Substr
  - rindex**
  - chomp

30. What is the output of the following program

```
$count = 0;
while ($count < 7 )
{
print $count ;
$count++;
}
```

- a. 01234567
- b. 1234567
- c. 0123456
- d. 123456

## SECTION – B

**ANSWER ANY TWO**

**(2x10=20)**

- 31. Describe how to add and remove an element from hash.
- 32. Explain the procedure to refer a variable within a package.
- 33. Explain any 4 HTML controls.
- 34. Write about string matching operators.

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**SECTION – C**

1. Write a Perl program to convert RNA to protein. (not less than 5 amino acids)

Write a program to find the motif using file handling.

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