

**M. SC. BIOINFORMATICS SEM.-II (C.B.C.S.) (2013 COURSE) /**  
**ADVANCED DIPLOMA IN BIOINFORMATICS SEM.-II**  
**(C.B.C.S.) (2013 COURSE) : SUMMER - 2018**  
**SUBJECT: PERL & BIOPERL PROGRAMMING**

Day: **Monday**  
Date: **16/04/2018**

**S-2018-1130**

Time: **02.00 PM TO 05.00 PM**  
Max. Marks: 60

**N.B.:**

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of the remaining attempt **TWO** questions from each section.
- 2) Answers to two section should be written in **SEPARATE** answer books.
- 3) Figures to the **RIGHT** indicate full marks.
- 4) Draw neat labelled diagrams **WHEREVER** necessary.

**SECTION-I**

**Q.1** Answer any **FIVE** of the following: **(10)**

- a) What are range operators? How will you get size of an array?
- b) What does '\$\_' and '\$' mean?
- c) What the difference between (\$x++) and (++\$x)?
- d) Name two reasons why subroutines are useful.
- e) What happens when you declare a 'my' variable with the same name as global variable?
- f) **BUG BUSTER;**  
what wrong with this program;  
Print "Enter the word foo"  
    Chomp ( \$input = < STDIN> );  
    if (\$input = 'foo') {  
        print "thank you";                    }  
Else{ print "that's not the word foo \n" : }

**Q.2** Write a program that accepts any number of lines of any kind of input, ending with a reference Enter. Return the number of line that were entered. **(10)**

**OR**

```
BUG BUSTER;  
while ( ) {  
    print " enter a name";  
    chomp ( $input = < STDIN > );  
    if ($input ne "") { $names ++  
    }  
    Else { last ; }  
}
```

**Q.3** What are datatypes of PERL? **(10)**

**OR**

Write a script that prompts you for a character and then returns the number of times the character occurs in string. Use index function.

- Q.4** When you assign to list, the elements are copied over from right to left; (10)  
(\$a, \$b) = ( 10, 20)  
\$a becomes 10 and \$b becomes 20. Investigate what happens;  
i) there are more element on right than on left .  
ii) there are more elements on left than on right.  
iii) there is a list on left but a single scalar on right.  
iv) there is a single scalar on left but a list on right.

**OR**

Write a subroutine that takes a string as an argument and returns the string in reverse order by words.

## **SECTION-II**

- Q.5** Answer any **FIVE** of the following: (10)

- a) How do you sort a hash?
- b) What does the following function do?
  - i) Split
  - ii) Chop
- c) What are subroutines?
- d) How will you print all the values of a hash?
- e) What are quantifiers?
- f) BUG BUSTER;  
print 'Search for what?' ;  
chomp ( \$pat = < STDIN> ) ;  
while ( <> ) { while (/\$pat /) {  
\$ count ++; }}}

- Q.6** What is a POD file? Why are POD in your PERL scripts over some other (10)  
format like HTML?

**OR**

What does the following hash function do?

- i) Reverse
- ii) Sort
- iii) Merge

- Q.7** How will you print the sequence of a FASTA file in a single line? (10)

**OR**

Write short note on POD.

- Q.8** What do each of the following patterns do? (10)

- i) / ice\s\*cream/
- ii) ^d\d\d/
- iii) / xy|yz+ /
- iv) / [\d\s] {2, 3} /

**OR**

Explain DBI module.

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