CENTRE FOR BIOINFORMATICS, UNIVERSITY OF KERALA

MSc COMPUTATIONAL BIOLOGY – ENTRANCE MODEL QUESTION PAPER

Logical Reasoning:

1. Find the next number in the series 0, 1, 1, 2, 4, 7...?

    a. 11   b. 8   c. 13   d. 14   e. None of these

2. An M.Phil Bioinformatics scholar has to secure 40% marks to pass. He got 90 and failed by 30 marks. What is the maximum mark?

    a. 300   b.280   c. 320   d. 360   e. none of these

3. What is the 12th term of the series 2, 5, 8...?

    a. 20   b. 12   c. 30   d. 35   e. none of these

4. Father's age is 5 times his son's age. 4 years back the father was 9 times older than son. Find the father's present age?

    a. 45   b. 40   c. 35   d. 60   e. none of these

5. "If Tom buys a red skateboard, then Amanda buys green in-line skates." Which statement below is logically equivalent?
    a. If Amanda does not buy green in-line skates, then Tom does not buy a red skateboard.
    b. If Tom does not buy a red skateboard, then Amanda does not buy green in-line skates.
    c. If Amanda buys green in-line skates, then Tom buys a red skateboard.
    d. If Tom buys a red skateboard, then Amanda does not buy green in-line skates.
    e. None of the above is equivalent

6. If in a certain language, SHIFT is coded as RFFBO, which word would be coded as LKUMB?
    a. MMXQG   b. KJVLA   c. KJTLA   d. MLVNC   e. MJVLC

7. Which of the following is the converse of the statement: "If x>4, then x+2>5"?
    a. if x+2<5, then x<4.
    b. if x is not greater than 4, then x+2 is not greater than 5
    c. if x+2>5, then x>4,

d. if x+2 is not greater than 5, then x is not greater than 4

e. none of these

8. A mixture is composed of 6 parts of white rum and 2 parts of water. After adding 10 litres of water, the ratio changed to 1:1. How many litres of white rum does it contain?

    a. 11   b. 15   c. 10   d. 18   e. None of these

9. 15 men can do a piece of work in 75 days. In how many days 6 men can complete it?

    a. 180   b. 190   c. 187.5   d. 188.5   e. none of these

10. Two pipes can together fill a tank in 20 minutes. A third pipe can empty the tank in 15 minutes. Then how long it will take to fill the tank if all the pipes are open?

    a. 35   b. 5   c. 300   d. never fills   e. none of these

Computer Science:

11. What is the correct output for the program code given below?

```
#include<stdio.h>
void main()
{
        int a=5, b =6, c=7;
        int i;
        i= a<b<c;
        printf("%d", i);
}
```
a. 1   b. 0   c. syntax error   d. run time error   e. none of these

12. What will be the values of the x, y & after executing the following C code

```
#include<stdio.h>
void main()
{
        int x, y=2, z, a;
        x= (y *= 2) + (z = a= y);
        prntf("%d", x);
}
```

a. 8   b. 7   c. 6   d. 10   e. none of these

13. What is the maximum value of an unsigned integer, if it uses two bytes for storage?

    a. $2^{16}-1$

    b. $2^{15}-1$

    c. $2^{(15-1)}$

    d. $2^{(16-1)}$

    e. none of these

14. What is the length of the string "Bioinformatics"

    a. 14   b. 13   c. 15   d. 16   e. None of these

15. What is output of the following code

```
int a[]={1,2,3,4};
int *p;
p=a;
p++, p++;
printf(""%d", p);
```

    a. displays 2

    b. compiler error

    c. runtime error

    d. address of the third element in the array.

    e. none of these

There will also be a very simple set of questions on biology.