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NPTEL

Courses » Computational Systems Biology

Announcements　　**Course**　　Ask a Question　　Progress　　Mentor　　FAQ

Unit 2 - Pre-requisite Assignment

Course outline

How to access the portal

Pre-requisite Assignment

○ Quiz : Assignment 0

MATLAB Access and Introduction

MATLAB Learning Modules

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Assignment 0

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.　　**Due on 2018-07-30, 23:59 IST.**

1) Which of the following statements are true:　　　　　　　*1 point*

☐ DNA is translated into RNA which is further transcribed into proteins

☐ Chemical energy is stored as ATP

☐ Transcription occurs in nucleus

☐ A codon is made up of 4 nucleotides

☐ None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Chemical energy is stored as ATP
Transcription occurs in nucleus

2) If the template strand is ATGATCGTGCCTTAG:　　　　　　*1 point*

☐ The reverse complementary strand will be CTAAGGCACGATCAT

☐ The RNA strand will read as AUGAUCGUGCCUUAG

☐ All strands are read from 3' to 5'

☐ The complementary strand is the coding strand

☐ None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
The reverse complementary strand will be CTAAGGCACGATCAT
The complementary strand is the coding strand

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No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 3

1 point

4) What will the output be for the given pseudo-code: *1 point*

for (i=0; i<20; i=i+1)
{
if (i%3 ==0)
{print (3, i)}
elseif (i%5 == 0)
{print (5, i))
elseif (i%3 == 0 & i%5 ==0)
{print (15, i)}
}

○

(3, 0)
(5, 0)
(15, 0)
(3, 3)
(5, 5)
(3, 6)
(3, 9)
(5, 10)
(3, 12)
(3, 15)
(5, 15)
(15, 15)
(3, 18)

○

(15, 0)
(3, 3)
(5, 5)
(3, 6)
(3, 9)
(5, 10)
(3, 12)
(15, 15)
(3, 18)
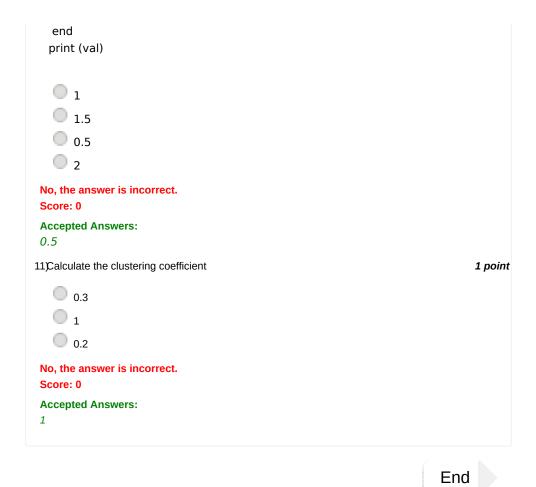
○

(3, 0)
(3, 3)
(5, 5)
(3, 6)
(3, 9)
(5, 10)
(3, 12)
(3, 15)
(3, 18)

○

(3, 3)
(5, 5)

(3, 6)
(3, 9)
(5, 10)
(3, 12)
(15, 15)
(3, 18)

〇

(3, 3)
(5, 5)
(3, 6)
(3, 9)
(5, 10)
(3, 12)
(3, 15)
(5, 15)
(15, 15)
(3, 18)

No, the answer is incorrect.
Score: 0

Accepted Answers:
(3, 0)
(3, 3)
(5, 5)
(3, 6)
(3, 9)
(5, 10)
(3, 12)
(3, 15)
(3, 18)

5) How many times will the function "myfunc" be called when the pseudo-code is executed?

```
function myfunc(x)
{
if (x == 1)
{return x}
else
{myfunc(x-1)}
}

a = myfunc(4)
```

No, the answer is incorrect.
Score: 0

Accepted Answers:
(Type: Numeric) 4

1 point

6) Enzymes act as catalysts in reactions by   *1 point*

〇 Increasing the activation energy of a reaction

〇 Decreasing the activation energy of a reaction

〇 Changing the equilibrium constant of the reaction

〇 Changing the free energy change between the reactants and products

No, the answer is incorrect.
Score: 0

Accepted Answers:
Decreasing the activation energy of a reaction

7) What will be the output of the below pseudocode: *1 point*

```
j=0
for (k=1; k<=5; k++)
  k++
  j=j+2
  print(j)
end
```

○ All even numbers between 0 and 8

○ All even numbers between 0 and 10

○ All even numbers between 0 and 12

○ All even numbers between 0 and 6

No, the answer is incorrect.
Score: 0

Accepted Answers:
All even numbers between 0 and 8

8) Variables in programming languages   *1 point*

☐ Can change in value

☐ Cannot change in value

☐ Can be one of the reserved words

☐ Can be local or global

No, the answer is incorrect.
Score: 0

Accepted Answers:
Can change in value
Can be local or global

9) Which of the following statements are true: *1 point*

☐ Metabolic reactions are non-enzymatic reactions that occur in an organism

☐ Metabolism is composed of two: anabolism and catabolism

☐ ATP forms the energy currency of the cell

☐ Regulation does not play a role in metabolic processes

No, the answer is incorrect.
Score: 0

Accepted Answers:
Metabolism is composed of two: anabolism and catabolism
ATP forms the energy currency of the cell

10) What is the output of the following pseudocode: *1 point*

```
val=20.5;
for (k=1;k=20;k++)
  if k%2==0
  val = val -k +  2;
  else
  val = val + k - 3;
  end
```

```
  end
print (val)
```

  ○ 1

  ○ 1.5

  ○ 0.5

  ○ 2

No, the answer is incorrect.
Score: 0

Accepted Answers:
0.5

11) Calculate the clustering coefficient   *1 point*

  ○ 0.3

  ○ 1

  ○ 0.2

No, the answer is incorrect.
Score: 0

Accepted Answers:
1

End