

Unit 5 - Week 3

Course outline

How to access the portal

Pre-requisite Assignment

Week 1

Week 2

Week 3

 Lesson 12, Cell cycle

 Lesson 13, Cell division – mitosis

 Lesson 14, Cell division – meiosis

 Lesson 15, Culture growth

 Lesson 16, Mendelian genetics: Genetic disorders

 Lesson 17, Mendelian genetics: Mendelian inheritance principles

 Complete list of sources (links)

 Quiz : Assignment 3

Week 4

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Assignment 3

The due date for submitting this assignment has passed. **Due on 2019-08-21, 23:59 IST.**
As per our records you have not submitted this assignment.

1) Water is flowing into a leaky 20 L tank at the rate of 30 Lh^{-1} . At the same time, the tank leaks water at a rate of **1 point** 100 ml min^{-1} . How long will it take to fill the tank without and with the leak? Choose the option closest to your answer.

- 3 and 4 minutes
 5.4 and 8.6 minutes
 40 and 50 minutes
 0.11 and 0.33 minutes

No, the answer is incorrect.
Score: 0

Accepted Answers:
40 and 50 minutes

2) Imagine a biological entity which is supplied water at a constant rate of water at 1 ml sec^{-1} . It loses some amount **1 point** of water in the form of vapors due to thermoregulatory mechanisms at a constant rate of 0.1 ml sec^{-1} . Interior fluctuations inside the biological entity result in formation of water at the rate of 0.01 ml sec^{-1} and its depletion at a rate of 0.1 ml sec^{-1} . Determine the rate at which water is supplied inside the cell.

- 0.81 ml per second
 1 ml per second
 2 ml per second
 2.1 ml per second

No, the answer is incorrect.
Score: 0

Accepted Answers:
0.81 ml per second

3) Choose the correct match **1 point**

- Achondroplasia - A type of dwarfism
 Down Syndrome- extra chromosome number 21
 G6PD deficiency: glucose - 6 – phosphate dehydrogenase enzyme is faulty
 All of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
All of the above

4) What are the probability of the genotypes formed from below Punnett square **1 point**

male \ Female	T	t
T		
t		

- $TT - \frac{1}{2}$, $Tt - \frac{1}{2}$, $tt - \frac{1}{3}$
 $TT - \frac{1}{4}$, $Tt - \frac{1}{2}$, $tt - \frac{1}{4}$
 $TT - \frac{1}{2}$, $Tt - \frac{1}{2}$, $tt - \frac{1}{4}$
 All of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
 $TT - \frac{1}{4}$, $Tt - \frac{1}{2}$, $tt - \frac{1}{4}$

5) The specific growth rate is non zero in which phase of batch growth **1 point**

- Stationary phase
 Logarithmic phase
 Lag phase
 Both (b) and (c)

No, the answer is incorrect.
Score: 0

Accepted Answers:
Logarithmic phase

6) Which event occurs between G2 and mitotic phase? **1 point**

- G1 checkpoint
 G2 checkpoint
 G1 phase
 G0 phase

No, the answer is incorrect.
Score: 0

Accepted Answers:
G2 checkpoint

7) Which process will take place at S phase? **1 point**

- DNA Replication
 Cytokinesis
 Karyokinesis
 All of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
DNA Replication

8) Meiosis occurs in **1 point**

- Germ line cells of sexually reproducing organisms
 Bacteria
 Somatic cells of plant
 All of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Germ line cells of sexually reproducing organisms

9) Which of the following given below statement is true? **1 point**

- Plant cells have centrioles while animal cells do not have centriole
 Meiosis is a reduction division
 The components of cell plate form in plant cells comes from mitochondria
 All of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Meiosis is a reduction division

10) Select the correct order of events which take place during mitosis **1 point**

- Metaphase, anaphase, telophase, prophase
 Prophase, metaphase, telophase, anaphase
 Telophase ,prophase anaphase, metaphase
 Prophase, metaphase ,anaphase , telophase

No, the answer is incorrect.
Score: 0

Accepted Answers:
Prophase, metaphase ,anaphase , telophase