Test Name : BT101_Quiz 02

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Test Start Time	Marks Scored	Total Questions
2021-05-02 09:30:23	17.625000000000007 / 25.0	40

Attempted Questions	Correct Questions	Incorrect Questions
39	33	6

Skipped Questions	Pending Evaluation
1	0

Status of application for viewing evaluated answers: **Not Applied**

Actions: Apply for viewing evaluated answers

List of Sections

Section - 1

Marks per question : 0.5 | **Marks Scored : 2.63** | Negative marks per question : 25%

Q No.	Q. Type	Status	Marks	Comment	
1	Multiple Choice - Single Answer	✖	-0.12	-	Hide Answer

ATP synthase produces water by combining oxygen, electron and proton.

- False
- True

Q No.	Q. Type	Status	Marks	Comment	
2	Multiple Choice - Single Answer	✔	0.5	-	Hide Answer

The total free energy released from the burning of glucose in the open atmosphere is smaller than in cellular respiration.

- False
- True

Q No.	Q. Type	Status	Marks	Comment	
3	Multiple Choice - Single Answer	✔	0.5	-	Hide Answer

High concentration of LDL in blood may cause plaque formation in our artery

- False
- True

Q No.	Marks
4	0.5

Multiple Choice - Single Answer ✔ - Hide Answer

NADH induce more proton pumping (in the ETC) across the mitochondrial membrane than FADH2

- False
- True

5 Multiple Choice - Single Answer ✖ -0.12 - Hide Answer

Two carbons released as CO_2 from the CAC cycle belong to the Acetyl-CoA introduced at the first step of CAC.

- False
- True

6 Multiple Choice - Single Answer ✔ 0.5 - Hide Answer

ATP is only produced in the mitochondria

- False
- True

7 Multiple Choice - Single Answer ✔ 0.5 - Hide Answer

Liver deliver lipids into the blood as VLDL

- False
- True

8 Multiple Choice - Single Answer ✔ 0.5 - Hide Answer

In absence of oxygen mitochondria primarily contribute for energy production in cell

- False
- True

9 Multiple Choice - Single Answer ⚠ 0.0 - Hide Answer

Oxygen is the final electron acceptor in the electron transport chain

- False
- True

10	Multiple Choice - Single Answer	✖	-0.12	-	Hide Answer

ATP hydrolysis at equilibrium allow cells to perform work

- False
- True

Section - 2

Marks per question : 0.5 | **Marks Scored : 2.0** | Negative marks per question : 25%

Q No.	Q. Type	Status	Marks	Comment	
1	Multiple Choice - Single Answer	✔	0.5	-	Hide Answer

NADH, FADH2 are derived from

- Proteins
- Carbohydrates
- Vitamins
- Lipids

2	Multiple Choice - Single Answer	✔	0.5	-	Hide Answer

β-oxidation is responsible for energy production in cell from

- Protein
- Carbohydrate
- Vitamin
- Lipid

3	Multiple Choice - Single Answer	✔	0.5	-	Hide Answer

Choose the most appropriate option. Non-spontaneous processes in cell occur because

- of coupling to another spontaneous process
- of enzymes

of equilibrium

of protons

4	Multiple Choice - Single Answer	✔	0.5	-	Hide Answer

Acetyl group is connected to CoA by

- Covalent bond
- Hydrogen bond
- Ionic bond
- Vander Waals interaction

Section - 3

Marks per question : 3.0 | **Marks Scored : 1.5** | Negative marks per question : 25%

Q No.	Q. Type	Status	Marks	Comment	
1	Fill in the Blanks	✖	1.5	-	Hide Answer

Hypothetical ATP synthase motor consist of 10 catalytic pockets (located in the F1-region) and 50 C-subunits in the C-ring (located in the F0-region).

How many ATP will be produced from that ATPase if γ stalk undergo a full cyclic rotation?

[ ] Expected Solutions: 10 ATP (WRITE INTEGER ONLY)

How many H+ is required for synthesis of one ATP?

[4] Expected Solutions: 5 H+ (WRITE INTEGER ONLY)

How many H+ will be pumped if γ rotates by 72^0 ?

[10] H+ (WRITE INTEGER ONLY)

Section - 4

Marks per question : 3.0 | **Marks Scored : 0.0** | Negative marks per question : 25%

Q No.	Q. Type	Status	Marks	Comment	
1	Fill in the Blanks	✖	0.0	-	Hide Answer

Kidney needs to transport chloride ion from blood (Cl^- concentration = 0.1 M) to urine (Cl^- concentration = 0.74 M).
How many Cl^- will be transported by the kidney if ATP hydrolysis is coupled.

[3] Expected Solutions: 6 Cl^- / ATP (WRITE INTEGER ONLY)

Given:
R (Gas constant) = 2 $cal.mol^{-1}.K^{-1}$, T= 300 K,
ln(7.4) = 2, ln(74) = 4, ln(1/7.4) = -2, ln(1/74) = -4,
ΔG(ATP hydrolysis) = - 7200 $cal.mol^{-1}$

Section - 5

Marks per question : 0.4 | **Marks Scored : 7.5** | Negative marks per question : 25%

Q No.	Q. Type	Status	Marks	Comment	
1	Multiple Choice - Single Answer	✔	0.4	-	Hide Answer

Which statement is Correct?

- Cell wall is present only in Animal cells
- Lysosomes are found only in Plant cells
- **Lysosome is present only in Animal cells**
- Mitochondria is present only in Plant cells

Q No.	Q. Type	Status	Marks	Comment	
2	Multiple Choice - Single Answer	✔	0.4	-	Hide Answer

In photosynthetic plant tissues, the most significant role of Peroxisome is

- Hydrolysis of fatty acids
- **Photorespiration**
- RNA synthesis
- Protein synthesis

Q No.	Q. Type	Status	Marks	Comment	
3	Multiple Choice - Single Answer	✔	0.4	-	Hide Answer

The main organelle involved in modification and secretion of newly synthesized proteins to their destinations is

- mitochondria
- chloroplast
- **endoplasmic reticulum**
- lysosome

Q No.	Q. Type	Status	Marks	Comment	
4	Multiple Choice - Single Answer	✔	0.4	-	Hide Answer

Which one of the following is not a constituent of cell membrane?

- **DNA**

- Proteins
- Cholesterol
- Phospholipids

5 | Multiple Choice - Single Answer | ✔ | 0.4 | - | Hide Answer

Which statement is Correct?

- Centrosome is single membrane bound organelle
- Mitochondria is a single membrane bound organelle
- **Endosomes are single membrane bound organelles**
- Peroxisomes are cell organelles without the membrane

6 | Multiple Choice - Single Answer | ✔ | 0.4 | - | Hide Answer

The Golgi apparatus is involved in the formation of

- Smooth endoplasmic reticulum
- Nucleus
- Mitochondria
- **Lysosomes**

7 | Multiple Choice - Single Answer | ✔ | 0.4 | - | Hide Answer

Chromosome movement during cell division is regulated by

- Microfilaments
- **Microtubules**
- All of these
- Intermediate filaments

8 | Multiple Choice - Single Answer | ✔ | 0.4 | - | Hide Answer

The plasma membrane consists mainly of

- Phospholipids embedded in a protein bilayer

Proteins embedded in a carbohydrate bilayer

Proteins embedded in a polymer of glucose molecules

Proteins embedded in a phospholipid bilayer

9	Multiple Choice - Single Answer	✔	0.4	-	Hide Answer

Microtubule is involved in the

Membrane architecture

Muscle contraction

DNA recognition

Cell division

10	Multiple Choice - Single Answer	✖	-0.1	-	Hide Answer

In which part of the chloroplast, Chlorophyll is found?

Stroma

Grana

Grana and Stroma

Stroma and Lamella

11	Multiple Choice - Single Answer	✔	0.4	-	Hide Answer

Which statement is Incorrect

Centriole is present only in Animal and lower plants

Microtubules are present in both Plant and animal cells

Both Animal and Plants cells contain Nuclear envelope and Chromatin

Nucleolus is a single membrane bound structure

12	Multiple Choice - Single Answer	✔	0.4	-	Hide Answer

Which one of the following is responsible for the protein synthesis?

Mitochondrion

- Cell membrane
- Golgi apparatus
- **Ribosome**

13 | Multiple Choice - Single Answer | ✔ | 0.4 | - | Hide Answer

The bacterial pathogens are engulfed by animal cells through the process of

- Exocytosis
- Autophagy
- **Phagocytosis**
- Endocytosis and Autophagy

14 | Multiple Choice - Single Answer | ✔ | 0.4 | - | Hide Answer

Peroxisomes contains the Protein

- **Catalase**
- Lamin
- Actin
- Keratin

15 | Multiple Choice - Single Answer | ✔ | 0.4 | - | Hide Answer

Genetically inactive and highly condensed region with tightly packed DNA is

- **Heterochromatin**
- Euchromatin
- Chromosome
- Chromatin

16 | Multiple Choice - Single Answer | ✔ | 0.4 | - | Hide Answer

Lysosome contains

- reductive enzymes
- oxidative enzymes
- anabolic enzymes
- **hydrolytic enzymes**

17	Multiple Choice - Single Answer	✔	0.4	-	Hide Answer

In germinating seeds fatty acids are degraded exclusively in the

- **Glyoxysomes**
- Mitochondria
- Lysosomes
- Golgi apparatus

18	Multiple Choice - Single Answer	✔	0.4	-	Hide Answer

Cellular organelles with membranes are

- **lysosomes, golgi apparatus and mitochondria**
- centrosome, nuclei and mitochondria
- chromosomes, microtubule and endoplasmic reticulum
- endoplasmic reticulum, centriole and nuclei

19	Multiple Choice - Single Answer	✔	0.4	-	Hide Answer

Vacuole in a plant cell

- **is membrane-bound and contains storage proteins and lipids**
- lacks membrane and contains water and excretory substances
- lacks membrane and contains air
- is membrane-bound structure containing cytoplasm

20	Multiple Choice - Single Answer	✔	0.4	-	Hide Answer

Which one of the following organelles is located near the nucleus and contains a collection of flattened membrane bound cisternae?

- Mitochondrion
- Nucleolus
- **Golgi apparatus**
- Centriole

Section - 6

Marks per question : 1.0 | **Marks Scored : 4.0** | Negative marks per question : 25%

Q No.	Q. Type	Status	Marks	Comment	
1	Multiple Choice - Single Answer	✔	1.0	-	Hide Answer

Match the followings.

(A) Storage (i) Haemoglobin
(B) Structural (ii) Ovalbumin
(C) Transport (iii) Pepsin
(D) Enzyme (iv) Keratin

- **(A) (B) (C) (D)**
  (ii) (iv) (i) (iii)
- **(A) (B) (C) (D)**
  (i) (ii) (iv) (iii)
- **(A) (B) (C) (D)**
  (i) (iii) (ii) (iv)
- **(A) (B) (C) (D)**
  (iv) (i) (iii) (ii)

Q No.	Q. Type	Status	Marks	Comment	
2	Multiple Choice - Single Answer	✔	1.0	-	Hide Answer

Match the followings.

(A) Mucopolysaccharide (i) Glycogen
(B) Mucins (ii) Glycosphingolipid
(C) Galactocerebroside (iii) Glycosaminoglycans
(D) Polysaccharide (iv) Glycoprotein

- **(A) (B) (C) (D)**
  (ii) (i) (iv) (iii)
- **(A) (B) (C) (D)**
  (iii) (iv) (ii) (i)

(A) (B) (C) (D)
(ii) (iii) (iv) (i)

(A) (B) (C) (D)
(iv) (i) (iii) (ii)

3 Multiple Choice - Single Answer ✔ 1.0 - Hide Answer

Match the followings.
(A) Centriole (i) Infoldings in mitochondria
(B) Chlorophyll (ii) Thylakoids
(C) Cristae (iii) Nucleic acids and proteins
(D) Ribosomes (iv) Microtubules

(A) (B) (C) (D)
(iv) (ii) (i) (iii)

(A) (B) (C) (D)
(i) (ii) (iv) (iii)

(A) (B) (C) (D)
(i) (iii) (ii) (iv)

(A) (B) (C) (D)
(ii) (iv) (iii) (i)

4 Multiple Choice - Single Answer ✔ 1.0 - Hide Answer

Match the followings.
(A) Cytochrome Q (i) Intracellular messenger
(B) Diglycerides (ii) Electron carrier
(C) Phylloquinone (iii) Emulsifying agent
(D) Diacylglycerol (iv) Enzyme cofactor

(A) (B) (C) (D)
(ii) (iv) (i) (iii)

(A) (B) (C) (D)
(i) (iii) (ii) (iv)

(A) (B) (C) (D)
(ii) (iii) (iv) (i)

(A)	(B)	(C)	(D)
(iv)	(i)	(iii)	(ii)