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Started on Monday, 21 February 2022, 11:00 AM

State Finished

Completed on Monday, 21 February 2022, 11:58 AM

Time taken 57 mins 16 secs

Grade 23 out of 30 (77%)

Question **1**

Correct

Mark 1 out of 1

One of the characteristics of DNA replication is that-

- ☐ a. It is reversible
- ☒ b. It is semiconservative ✓
- ☐ c. It is disruptive
- ☐ d. It is conservative

The correct answer is: It is semiconservative

Question **2**

Correct

Mark 1 out of 1

During an infection, immune cells assume various specific functions as part of defense response. In case of an infested cell, antibodies are mainly produced by:

- ☐ a. T cells
- ☒ b. B cells ✓
- ☐ c. Antigen presenting Cells
- ☐ d. RBCs

The correct answer is: B cells

Question 3

Correct

Mark 1 out of 1

The sequence of the RNA after transcription of this DNA strand: 5'- ATTGCCTGGATCGGA-3' will be-

- ☐ a. 5'-AATTGGCCTTAACCGG-3'
- ☐ b. 5'-TAACGGACCTAGCCT-3-
- ☐ c. 5'-AGGCTAGGTCCGTTA-3'
- ☒ d. 5'-UAACGGACCUAGCCU-3- ✓

The correct answer is: 5'-UAACGGACCUAGCCU-3-

Question 4

Incorrect

Mark 0 out of 1

Cockroaches could survive longer than other organisms in the nuclear radiations of Hiroshima and Nagasaki due to a strong exoskeleton. which of the following biomolecules acts as an exoskeleton?

- ☒ a. Protein ✗
- ☐ b. monosachharide
- ☐ c. Disachharide
- ☐ d. Polysachharide

The correct answer is: Polysachharide

Question 5

Correct

Mark 1 out of 1

The RT-PCR test for Covid-19 diagnosis is based on-

- ☐ a. Microscopic Imaging of infected cells
- ☐ b. Denaturation of viral genetic material into nucleotides
- ☐ c. DNA Microarray of genetic materials of human and virus
- ☒ d. Amplification of the genetic material of the virus by Polymerase chain reaction ✓

The correct answer is: Amplification of the genetic material of the virus by Polymerase chain reaction

Question **6**

Correct

Mark 1 out of 1

DNA replication is

- ☒ a. Bidirectional ✓
- ☐ b. None of these
- ☐ c. Unidirectional
- ☐ d. Nondirectional

The correct answer is: Bidirectional

Question **7**

Correct

Mark 1 out of 1

All the organism's chemical reactions are collectively known as-

- ☒ a. Metabolism ✓
- ☐ b. none of the mentioned
- ☐ c. Entropy
- ☐ d. Energy dynamics

The correct answer is: Metabolism

Question **8**

Correct

Mark 1 out of 1

In the process of evolution, mitochondria are evolved from?

- ☐ a. virus
- ☐ b. eukaryotic cell
- ☒ c. bacterial cell ✓
- ☐ d. None of these

The correct answer is: bacterial cell

Question **9**

Incorrect

Mark 0 out of 1

One of the characteristics of DNA replication is that-

- ☒ a. It is unidirectional ✖
- ☐ b. It is continuous
- ☐ c. It is semi-discontinuous
- ☐ d. It is disruptive

The correct answer is: It is semi-discontinuous

Question **10**

Correct

Mark 1 out of 1

The outside concentration of Cl^- ions is 120 mM and inside concentration of Cl^- is 5 mM. Then the movement of Cl^- ions from inside to outside is -

- ☐ a. Will not require ATP
- ☐ b. Will require a carrier protein
- ☒ c. Will require ATP ✔
- ☐ d. Will require steeper concentration gradient

The correct answer is: Will require ATP

Question **11**

Incorrect

Mark 0 out of 1

Which of the following is way of thermoregulation in Cold-blooded animals:

- ☐ a. change in patterns of blood circulation
- ☒ b. behavioural changes such as panting and shivering ✖
- ☐ c. sensing by hypothalamus
- ☐ d. Hibernation

The correct answer is: Hibernation

Question **12**

Correct

Mark 1 out of 1

In respiration, high energy electrons are carried by-

- ☐ a. None of the mentioned
- ☐ b. NADH
- ☐ c. FADH
- ☒ d. NADH and FADH ✓

The correct answer is: NADH and FADH

Question **13**

Incorrect

Mark 0 out of 1

NADPH is formed during -

- ☐ a. Krebs cycle
- ☒ b. Calvin cycle ✗
- ☐ c. Cyclic electron transfer
- ☐ d. Non-cyclic electron transfer

The correct answer is: Non-cyclic electron transfer

Question **14**

Correct

Mark 1 out of 1

Which of the following does not have a role in immunity?

- ☒ a. RBCs ✓
- ☐ b. T cells
- ☐ c. B cells
- ☐ d. Antigen presenting Cells

The correct answer is: RBCs

Question **15**

Correct

Mark 1 out of 1

If glycolysis contributes 4 ATP out of the total 32 ATP formed from 1 molecule of glucose, then the percentage of ATP contributed by glycolysis is-

- ☐ a. 20%
- ☒ b. 12.5% ✓
- ☐ c. 40%
- ☐ d. 100%

The correct answer is: 12.5%

Question **16**

Correct

Mark 1 out of 1

Which of the following is one of the approaches in Nanotechnology?

- ☒ a. Bottom up ✓
- ☐ b. Bottom side
- ☐ c. front side
- ☐ d. Side top

The correct answer is: Bottom up

Question **17**

Correct

Mark 1 out of 1

Vitamin D causes mobilisation of which of the following nutrients?

- ☐ a. K, Na
- ☐ b. Mg, Mn
- ☐ c. Fe, Zn
- ☒ d. Ca, P ✓

The correct answer is: Ca, P

Question **18**

Correct

Mark 1 out of 1

Which of this is NOT major function of blood?

- ☒ a. stress reponse ✓
- ☐ b. Immunity
- ☐ c. transport of nutrients and gases
- ☐ d. homeostasis

The correct answer is: stress reponse

Question **19**

Correct

Mark 1 out of 1

Complete the following sentence: When different genes are expressed in a cell, it can lead to ...?

- ☐ a. Change in cell metabolism
- ☒ b. All of these ✓
- ☐ c. Different cellular response to environment
- ☐ d. Change in cell behaviour

The correct answer is: All of these

Question **20**

Correct

Mark 1 out of 1

Which of the following is NOT a method for scaffold preparation during tissue engineering?

- ☒ a. Gel eletrophoresis ✓
- ☐ b. Solvent casting ang particulate leaching
- ☐ c. Gas foaming
- ☐ d. self assembly of nanomaterial

The correct answer is: Gel eletrophoresis

Question **21**

Correct

Mark 1 out of 1

Compartmentalisation evolved in the ancient ancestor cell, and led to formation of various cell organelles. It increased the efficiency of the eukaryotic cells by?

- ☐ a. increasing the surface tension of the aqueous surrounding
- ☒ b. increasing the surface area to volume ratio for efficient exchange of matter with surroundings ✓
- ☐ c. increasing the cell size
- ☐ d. decreasing the surface area to volume ratio to create vacuum inside cell

The correct answer is: increasing the surface area to volume ratio for efficient exchange of matter with surroundings

Question **22**

Incorrect

Mark 0 out of 1

Carbohydrate (sugar) is synthesized at the ..

- ☒ a. first phase of Calvin cycle ✗
- ☐ b. none of the mentioned
- ☐ c. third phase of Calvin cycle
- ☐ d. second phase of Calvin cycle

The correct answer is: second phase of Calvin cycle

Question **23**

Correct

Mark 1 out of 1

Tissue engineering is based on

- ☐ a. To fuse different tissues of same person
- ☐ b. Creating a chimera tissue, by fusion of a tissue from 2 species
- ☒ c. Replicating the biological environment to artificially program cells to form exact biologically functional tissue ✓
- ☐ d. To separate cells and grow them individually

The correct answer is: Replicating the biological environment to artificially program cells to form exact biologically functional tissue

Question **24**

Correct

Mark 1 out of 1

The eukaryotic cell lacks?

- ☐ a. Mitochondria
- ☐ b. Ribosomes
- ☐ c. cytoplasm
- ☒ d. Nucleoid ✓

The correct answer is: Nucleoid

Question **25**

Correct

Mark 1 out of 1

Formation of antibodies is which type of protein function?

- ☐ a. Motion
- ☐ b. Structure
- ☒ c. Defense ✓
- ☐ d. Storage

The correct answer is: Defense

Question **26**

Incorrect

Mark 0 out of 1

During evolution, mitochondria became a part of early eukaryotic cell by:

- ☒ a. phagocytosis ✗
- ☐ b. Endosymbiosis
- ☐ c. Protocooperation
- ☐ d. Exosymbiosis

The correct answer is: Endosymbiosis

Question **27**

Correct

Mark 1 out of 1

Hybridoma technology involves fusion of –

- ☒ a. Myeloma and B cells ✓
- ☐ b. B cells and sarcoma cells
- ☐ c. Myeloma cells and T cells
- ☐ d. Melanin cells and B Cells

The correct answer is: Myeloma and B cells

Question **28**

Correct

Mark 1 out of 1

Most common constituents of organic compounds found in Biopolymers are-

- ☐ a. C, H, O
- ☐ b. S, H, O
- ☒ c. C, H, O, N, P ✓
- ☐ d. C, H, N, S

The correct answer is: C, H, O, N, P

Question **29**

Incorrect

Mark 0 out of 1

The classification of reducing and nonreducing sugars is possible for-

- ☐ a. Proteins
- ☐ b. Disachharides
- ☐ c. Long polysachharides
- ☒ d. Monosachharides ✗

The correct answer is: Disachharides

Question **30**

Correct

Mark 1 out of 1

Nanobiotechnology can revolutionize agriculture by means of-

- ☒ a. All of these ✓
- ☐ b. Increased yield with nano-fertilizers
- ☐ c. Increased protection using nano- pesticides
- ☐ d. Smart monitoring using sensors

The correct answer is: All of these

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