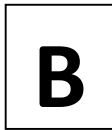


Name: _____ ID No: _____ Tutorial Section: _____



BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI-HYDERABAD CAMPUS

BIO F111 (GENERAL BIOLOGY)

FIRST SEMESTER (2022-23)

ANNOUNCED QUIZ-1 (CLOSED BOOK)

DATE: 13/12/2022

MARKS: 30

DURATION: 30 MINUTES

Instructions:

(1). Clearly encircle the most appropriate answer using a PEN.

(2). There are a total of 30 questions each carrying 1 marks (30X1=30marks).

(3). Please write your NAME, ID No. and TUTORIAL SECTION in bold letters.

1. Which of the following statement is incorrect for mitochondria?

- (A). They are found in almost all eukaryotic cells
- (B). Aerobic and anaerobic respiration takes place exclusively inside them
- (C). They produce ATP from the energy of food molecules
- (D). They have their own DNA

2. Most plant cells do not contain _____.

- (A). Cell Wall
- (B). Mitochondria
- (C). Lysosome
- (D). Vacuole

3. Organelles that act as cellular power stations are _____ and _____.

- (A). Ribosome and Golgi apparatus
- (B). Mitochondria and Chloroplast
- (C). Mitochondria and Ribosome
- (D). Mitochondria and Cytoskeleton

4. Which of the following cellular transport process does not require energy?

- (A). Facilitated diffusion
- (B). Active transport
- (C). Osmosis
- (D). Both A and C

5. A shortage of phosphorus in the soil would make it especially difficult for a plant to manufacture

- (A). DNA
- (B). Proteins
- (C). Cellulose
- (D). Fatty acids

6. Which step of cellular respiration can occur without oxygen?

- (A). ETC
- (B). Citric acid cycle
- (C). Glycolysis
- (D). All the options are incorrect

7. Fermentation in yeast cells relies on only _____ stage of cellular respiration.

- (A). ETC
- (B). Citric acid cycle
- (C). Glycolysis
- (D). All the options are correct

17. A carnivorous Venus flytrap closing its leaves rapidly to insect touch is an example of

- (A). Growth
- (B). Ability to respond
- (C). Reproduction
- (D). Development

18. Which of these is the accurate order to carry out formal process of inquiry, i.e. scientific method for carrying out hypothesis driven science?

- (A). Prediction – Experiment – Hypothesis – Question – Observation
- (B). Observation – Question – Hypothesis – Prediction – Experiment
- (C). Observation – Hypothesis – Question – Prediction
- (D). Experiment – Prediction – Question – Hypothesis – Observation

19. The combination of _____ and _____ molecules result in the formation of fats.

- (A). Glycerol and Glucose
- (B). Ethanol and Fatty acid
- (C). Glycerol and Fatty acid
- (D). Glycerol and Amino Acid

20. In DNA the base pairing involves

- (A). Sugar-phosphate bonds
- (B). Peptide bonds
- (C). Hydrogen bonds
- (D). Both A and B

21. Building polymers of carbohydrate and protein from their respective monomers, and breakdown of these polymers to their respective monomers occurs by _____ and _____ reactions respectively.

- (A). dehydration and hydrolysis
- (B). hydrolysis and dehydration
- (C). oxidation and reduction
- (D). hydrolysis and oxidation

22. Amino acids of different types in a protein are distinguished by their:

- (A). hydrogen atom
- (B). carbonyl group
- (C). side chain
- (D). amino group

23. The three-dimensional structure of a protein and its molecular function can be affected by

- (A). pH
- (B). Temperature
- (C). Change in amino acid sequence
- (D). All the above

24. Which of the following is true about enzymes?

- (A). Enzymes increase activation energy of the products
- (B). Activation energy required by the substrate is reduced upon binding of substrate with the enzyme
- (C). Entry of substrate into active site of enzyme causes the enzyme to change shape slightly
- (D). Both B and C are true

25. The following is a short stretch of the sequence on one of the strands of DNA: ATTGGCCCGA
The sequence on the other strand will be:

- (A). ATTGGCCCGA (B). TAATTAAACT (C). CGGAATTTAC (D). TAACCGGGCT

26. In an animal cell, attachment sites for bacteria, protozoa and viruses are found on:

- (A). Nuclear membrane (B). Golgi body (C). Lysosome (D). Plasma membrane

27. Identify the organelle that executes all the following functions - modification of molecules, manufacturing of polysaccharides and lipids, packaging molecules in sacs.

- (A). Golgi apparatus (B). Mitochondria (C). Peroxisomes (D). Inclusion bodies

28. Components of ribosomes in a eukaryotic cell are made in _____.

- (A). Golgi Apparatus (B). Smooth endoplasmic Reticulum
- (C). Lysosome (D). Nucleolus

29. _____ in the cells of flower petals may contain pigments that attract pollinating insects.

- (A). Chloroplast (B). Central vacuole
- (C). Golgi Apparatus (D). Nucleolus

30. Which of the following is true about cell's cytoskeleton?

- (A). It can be quickly dismantled in one part of the cell by removing protein subunits.
- (B). It may cause the whole cell or some of its parts to move.
- (C). It may re-form in a new location by reattaching the protein subunits.
- (D). All of the above