



Roll #

Name:

Q1. Choose the most suitable answers and fill up the relevant bubble with blue ink.

(1x30=30)

- i. Tumors are produced as a result of errors in:
a) Meiosis b) Mitosis c) Binary fission d) None of these
- ii. In which stage of the cell cycle most cells spend their lives?
a) Prophase b) Metaphase c) Interphase d) Telophase
- iii. To molecules at which enzymes act are called:
a) Catalyst b) Substrates c) Products d) Charges
- iv. Who first used the term Enzyme:
a) Zacharias Janssen b) Robert Brown c) Winhelm Kuhne d) Louis Pasteur
- v. The covalent bond connecting two phosphates is indicated by:
a) Ratio b) Proportion c) Colon d) Tilde
- vi. Whose fermenting powers are used for making cheese and yogurt?
a) Bacteria b) Virus c) Fungi d) Algae
- vii. The word meiosis derived from Greek, means:
a) To make smaller b) To duplicate c) To cut d) To make greater
- viii. Trypsin enzyme work in:
a) Stomach b) Large intestine c) Small intestine d) Heart
- ix. Stomata cover only _____ of the leaf Surface:
a) 1-2% b) 2-3% c) 3-4% d) 4-5%
- x. Which reaction occurs on the thylakoid membrane of chloroplast?
a) Dark reaction b) Light reaction c) Electron transport d) Glycolysis
- xi. During which phase of mitosis spindles are formed?
a) G₂ b) Interphase c) Prophase d) Metaphase
- xii. In which stage cell is preparing enzyme for chromosome duplication?
a) G-1 b) G-2 c) S d) M
- xiii. Metabolism is derived from Greek word meaning:
a) Division b) Change c) Deduction d) Matter
- xiv. Necessary for aerobic respiration:
a) Carbon dioxide b) Oxygen c) Water d) Hydrogen
- xv. Chlorophyll pigment absorbs maximum light in the wave length of:
a) Green and blue b) Green and red c) Only green d) Red and blue
- xvi. Cytokinesis in a plant cell is characterized by:
a) The equal division of homologous chromosomes b) A pinching off of the cell membrane to divide the cell c) The formation of a cell plate in the cytoplasm d) The movement of the chromosomes from the metaphase plate
- xvii. To what category of molecules do enzymes belong?
a) Carbohydrates b) Lipids c) Nucleic acids d) Proteins
- xviii. The optimum temperature for the maximum working speed of human Enzymes is:
a) 37°C b) 98°C c) 98.6°C d) 102°C
- xix. The energy currency of all cells is:
a) ADP b) AMP c) ATP d) AF
- xx. The division of nucleus is called:
a) Cytokinesis b) Tetrad c) Chiasmata d) Karyokinesis
- xxi. "Lock and key Model" of enzyme action was proposed by:
a) Emil Fischer b) Daniel Koshland c) Robert Brown d) To Louis Pasteur
- xxii. Which event distinguishes meiosis from mitosis?
a) Condensation of chromosomes b) Loss of the nuclear membrane c) For motion of metaphase plate d) Pairing of homologous chromosomes
- xxiii. Energy stored in the chemical bond is:
a) Potential energy b) Kinetic energy c) Elastic energy d) Both a and b
- xxiv. The kind of protein which catalysis a biochemical reaction is called:
a) Enzymes b) Hormones c) Co-enzymes d) None of these



Roll #

Name:

(Part-I)

Q2. Write short answer to any five (5) questions.

(2X5= 10)

- i. What is Rudolf Virchow Principle state cellular respiration?
- ii. Define meiosis. What are diploid and haploid cells?
- iii. What is metabolism?
- iv. What are enzymes? Who first used the term Enzymes?
- v. Describe the structure of ATP molecule.
- vi. Define oxidation and reduction?
- vii. Define lactic acid fermentation?
- viii. What are pigments?

Q3. Write short answers to any five (5) questions.

(2X5= 10)

- i. What are Accessory pigments? Give examples.
- ii. What is meant by Metastasis?
- iii. Define Blebs.
- iv. Define substrates and products?
- v. What are the types of metabolism?
- vi. What is meant by z-scheme?
- vii. What is the difference between somatic cells and Germ line cells?
- viii. What is photosynthesis? Write its equation?

Q4. Write short answers to any five (5) questions.

(2X5= 10)

- i. What are Anaerobes?
- ii. What is Bioenergetics?
- iii. Define cofactor and coenzyme.
- iv. What type of role is played by enzymes in Beverage industry?
- v. Define induced fit model and who discover it.
- vi. What is Activation energy and what is the function of this energy?
- vii. What do you know about Go phase?
- viii. Give the names of phases of mitosis?

Part-II

Q5. a) What is cell cycle? Describe phases of cell cycle.

(05)

b) What does temperature effects the rate of enzyme action? Also draw a graph.

(04)

Q6. a) Write a detailed note on Calvin cycle.

(05)

b) What is the significance of mitosis?

(04)

Q7. a) Describe the mechanism of respiration.

(05)

b) Write a note on necrosis.

(04)