ES-BT 101 (2025-26)
ASSIGNMENT II

(SUBMIT YOUR ASSIGNMENT BY JANUARY, 2026)

Answer all question:

Multiple Choice Type Questions

Sl. No.	Question	Answer	CO
1	Which of the following factors is necessary for a healthy person? a) Vaccination b) Balanced diet c) Personal hygiene d) All of the above		1
2	The term cell was given by a) Robert Hooke b) Tatum c) Schwann d) De Bary		1
3	Cell theory is not applicable to _____ a) Virus b) Microorganisms c) Fungi d) Algae		1
4	The feature of eukaryotic cells are a) Membrane bound organelles b) Single circular DNA c) Lack of nucleus d) All of the above		1
5	Linnaeus is credited with a) Binomial nomenclature b) Theory of biogenesis c) Discovery of microscope d) Discovery of blood circulation		1
6	In a normal human being number of chromosomes is a) 23 b) 46 c) 53 d) 26		1
7	The jelly like substance present inside the cell is known as: a) Cytoplasm b) Ectoplasm c) Nucleoplasm d) None of the above		1

8	Which of the following cell organelles is involved in the process of protein synthesis? a) Vesicles b) Ribosomes c) Synchrotrons d) Mitochondria		1
9	Photosynthesis occurs in a) Chloroplast b) Golgi body c) Endoplasmic reticulum d) Nucleus		1
10	Which of the following is a major domain of life? a) Fungi b) Protozoa c) Bacteria d) All of the above		1
11	Which of the following organisms can be found in extreme saline conditions? a) Eubacteria b) Archaebacteria c) Cyanobacteria d) Mycobacteria		1
12	Shark skin-inspired materials are used in swimsuits because they: a) Absorb water b) Reduce drag and increase swimming efficiency c) Increase body temperature d) Help swimmers float		1
13	A plant cell wall is mainly composed of a) Protein b) Cellulose c) Lipid d) Starch		2
14	Animals store glucose in the form of which macromolecule a) Amylose b) Glycogen c) Glycerol d) Cellulose		2
15	Which of the following is the simplest amino acid? a) Glycine b) Alanine c) Aspergine d) Tyrosine		2

16	Which of the following is Purine? a) A+G b) G+C c) T+A d) A+C		2
17	Which of the following is the most abundant biomolecule on the earth? a) Lipids b) Proteins c) Carbohydrates d) Nucleic acids		2
18	Fat is a a) Monoglyceride b) Diglyceride c) Triglyceride d) All the above		2
19	Enzyme cofactors are a) Protein b) Non-protein c) Carbohydrate d) Lipid		2
20	The general mechanism is that an enzyme acts by a) Reducing the energy of activation b) Increasing the energy of activation c) Decreasing the pH d) Increasing the pH		2
21	This is a correct statement with reference to enzymes a) Holoenzyme = Coenzyme + Co-factor b) Holoenzyme = Apoenzyme + Coenzyme c) Apoenzyme = Holoenzyme + Coenzyme d) Coenzyme = Apoenzyme + Holoenzyme		2
22	Which of the following statements about amino acids are true? a) Amino acid can be both polar and non - polar b) The amino acid units are joined by the peptide bond c) Twenty amino acids occur naturally d) All of the above		2
23	What is the average molecular weight of an amino acid residue in a protein? a) 120 b) 110 c) 130 d) 140		2

24	Which of the following is not the function of proteins? a) Helps in digesting food b) Carries genetic information c) Fights against the invading pathogens Helps in transporting oxygen in the blood		2
25	Haemoglobin has a) Primary structure b) Secondary structure c) Tertiary structure d) Quaternary structure		2
26	The set of reactions by which glucose is converted to pyruvate is termed as a) Glycobiology b) Glycomics c) Glycolysis d) All of the above		3
27	Choose the correct statement about DNA Replication. a) Polymerisation of nucleotides happens from 5' to 3' direction. b) At the time of DNA replication, DNA is in condensed form. c) DNA replication can start randomly from any site. d) None of the above		3
28	Which of the following is a stop codon? a) AUG b) UAG c) UAC d) UCA		3
29	The flow of information in all living organisms is as follows a) DNA, Protein, RNA b) RNA, Protein, DNA c) RNA, DNA, Protein d) DNA, RNA, Protein		2
30	The process of synthesis of RNA from DNA is called? a) Replication b) Transcription c) Translation d) Ligation		3
31	Base pairing in DNA is as follows a) Adenine – Guanine; Thymine – Cytosine b) Adenine – Uracil; Thymine – Cytosine c) Adenine – Thymine; Cytosine – Guanine d) Adenine – Uracil; Guanine – Cytosine		1

32	The main site of different types of cellular activities is b) Mitochondrion c) Nucleus d) Cytoplasm a) Plasma membrane		3
33	The process of DNA synthesis is called: a) Translation b) Transcription c) Replication d) Mutation		3
34	The enzyme that joins Okazaki fragments on the lagging strand is: a) RNA polymerase b) DNA ligase c) Helicase d) Primase		3
35	Antibodies are produced by: a) T-cells b) B-lymphocytes c) Macrophages d) Neutrophils		3
36	Which organ is the primary site for maturation of B-lymphocytes? a) Bone marrow b) Thymus gland c) Spleen d) Liver		3
37	Which cell type is mainly responsible for phagocytosis? a) B-cells b) Macrophages c) T-cells d) Basophils		3
38	Which of the following diseases is caused by a virus? a) Tuberculosis b) Typhoid c) Influenza d) Cholera		3
39	The disease “AIDS” is caused by: a) Bacteria b) Virus c) Fungus d) Protozoa		1

40	If a researcher inhibits RNA polymerase in a cell, what immediate effect would be observed? a) DNA replication stops b) No mRNA will be synthesized c) Protein synthesis increases d) Ribosomes are destroyed		3
41	Which of the following is an example of a bio-fabricated product? a) Plastic bottles b) Lab-grown meat c) Steel rods Glassware		4
42	The primary benefit of bioinformatics is: a) Enhancing photosynthesis b) Managing and analyzing large-scale biological data c) Producing antibiotics only d) Reducing carbon footprint		4
43	Bio-robotics integrates: a) Biology and chemistry b) Biology and engineering c) Physics and mathematics d) Chemistry and environmental science		4
44	Biotechnology application in industry includes: a) Production of biofuels b) Solar panel manufacturing c) Construction of bridges d) Telecommunication devices		4
45	Which type of biosensor is commonly used for detecting glucose levels in diabetic patients? a) Optical biosensor b) Electrochemical biosensor c) Thermal biosensor d) Piezoelectric biosensor		4
46	3D bio-printing is primarily used for: a) Fabricating prosthetic limbs b) Printing medical tissues and organs c) Manufacturing automobile parts d) Textile production		4
47	Which of the following is an example of biotechnology application in agriculture? a) CRISPR-based crop improvement b) X-ray imaging c) MRI scanning d) Wind energy		4

48	Which of the following is NOT an application of biotechnology in medicine? a) Vaccine development b) Gene therapy c) Prosthetic design d) Production of insulin		4
49	Biotechnology contributes to sustainable agriculture by: a) Reducing chemical fertilizers b) Increasing fossil fuel usage c) Producing synthetic metals d) Enhancing solar energy only		4
50	A major challenge for new generation bio- fabricated products is: a) Lack of basic scientific knowledge b) Ethical and regulatory concerns c) Inability to grow crops d) Limited human population		4

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