

Amity University Dubai

Amity Placement Test

BIOLOGY

Marks: 30

Time: 90 min

Name:

Date of Exam:

Signature of Invigilator:.....

Marks Obtained:

Signature of Evaluator:.....

General Instructions for students

1. Attempt all questions. Each question carry 1 mark.
2. Fill all the details with ink /ball point pen only.
3. Do not keep electronic Diary / mobile phone in examination room.
4. Strict disciplinary action will be initiated against any student found using unfair means.
5. When the allotted time gets over, student should stop further writing and handover the answer books to the invigilator.

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Q1. Which of the following is not a component of the cell theory?

- (a) All organisms are made of cells
- (b) All cells arise from pre-existing cells
- (c) Cells are the basic unit of life
- (d) All cells have nuclei

Q2. In prokaryotic cells, DNA is found in the:

- (a) Nucleus
- (b) Nucleoid region
- (c) Ribosomes
- (d) Vacuole

Q3. Which macromolecule is primarily responsible for speeding up chemical reactions in cells?

- (a) Lipids
- (b) Proteins
- (c) Carbohydrates
- (d) Nucleic acids

Q4. Which organelle is responsible for detoxifying harmful substances in liver cells?

- (a) Rough ER
- (b) Smooth ER
- (c) Lysosome
- (d) Golgi apparatus

Q5. Which part of the cell is responsible for modifying, sorting, and packaging proteins?

- (a) Nucleolus
- (b) Ribosome
- (c) Golgi apparatus
- (d) Mitochondrion

Q6. Which of the following organisms are autotrophs?

- (a) Fungi
- (b) Animals
- (c) Plants
- (d) All bacteria

Q7. What is the role of tRNA in protein synthesis?

- (a) Transfers genetic information from DNA
- (b) Synthesizes proteins directly
- (c) Brings amino acids to the ribosome
- (d) Forms ribosomal subunits

Q8. During which stage of the cell cycle does DNA replication occur?

- (a) G1 phase
- (b) S phase
- (c) G2 phase
- (d) M phase

Q9. What is the correct order of the taxonomic hierarchy (from broad to specific)?

- (a) Class → Kingdom → Order → Genus
- (b) Phylum → Class → Order → Family
- (c) Family → Domain → Species → Order
- (d) Genus → Family → Class → Kingdom

Q10. Which of the following best describes active transport?

- (a) Movement along concentration gradient without energy
- (b) Osmosis across membranes
- (c) Movement against concentration gradient using energy
- (d) Diffusion of gases

Q11. What is the main function of the large central vacuole in plant cells?

- (a) DNA storage
- (b) Energy production

- (c) Water and nutrient storage
- (d) Protein synthesis

Q12. Which of these organisms has a cell wall made of chitin?

- (a) Plants
- (b) Bacteria
- (c) Fungi
- (d) Algae

Q13. Which phase of meiosis increases genetic variation through independent assortment?

- (a) Prophase I
- (b) Metaphase I
- (c) Anaphase II
- (d) Telophase I

Q14. The complementary strand for a DNA sequence 5'-ATGCTTACG-3' is:

- (a) 5'-GCATAAGCT-3'
- (b) 3'-TACGAATGC-5'
- (c) 5'-TACGAATGC-3'
- (d) 3'-ATGCTTACG-5'

Q15. What type of RNA carries the genetic message from DNA to the ribosomes?

- (a) tRNA
- (b) rRNA
- (c) mRNA
- (d) siRNA

Q16. The main function of lymph nodes is to:

- (a) Transport oxygen
- (b) Filter blood
- (c) Store bile
- (d) Filter lymph and detect pathogens

Q17. Which of the following is a function of the skeletal system?

- (a) Hormone regulation
- (b) Transport of nutrients
- (c) Blood cell production
- (d) Detoxification

Q18. What is the term for maintaining a stable internal environment?

- (a) Respiration
- (b) Evolution
- (c) Homeostasis
- (d) Excretion

Q19. What is an allele?

- (a) A chromosome copy
- (b) A type of mutation
- (c) An alternative form of a gene
- (d) A protein regulator

Q20. Which process results in the formation of gametes?

- (a) Mitosis
- (b) Binary fission
- (c) Fertilization
- (d) Meiosis

Q21. Which blood cells are involved in immune response?

- (a) Platelets
- (b) Red blood cells
- (c) White blood cells
- (d) Plasma

Q22. What is the most abundant gas in Earth's atmosphere?

- (a) Oxygen
- (b) Nitrogen
- (c) Carbon dioxide
- (d) Argon

Q23. Which organ is primarily responsible for filtering and excreting waste from the blood?

- (a) Liver
- (b) Lungs
- (c) Kidney
- (d) Heart

Q24. In plants, which structure is responsible for gas exchange?

- (a) Xylem
- (b) Phloem
- (c) Stomata
- (d) Guard cells

Q25. Which of the following is an example of passive immunity?

- (a) Vaccination
- (b) Antibody transfer from mother to infant
- (c) Recovery from an infection
- (d) Bone marrow transplant

Q26. Which of the following best describes a virus?

- (a) A prokaryotic cell
- (b) A living cell with organelles

- (c) A non-cellular infectious agent
- (d) A type of bacterium

Q27. What is the function of hemoglobin?

- (a) Fight infections
- (b) Transport oxygen
- (c) Break down glucose
- (d) Transmit nerve impulses

Q28. Which organelle is responsible for breaking down cellular waste?

- (a) Nucleus
- (b) Golgi body
- (c) Lysosome
- (d) Peroxisome

Q29. Which hormone regulates glucose levels in the blood?

- (a) Estrogen
- (b) Thyroxine
- (c) Insulin
- (d) Adrenaline

Q30. Which of the following organisms is a decomposer?

- (a) Cow
- (b) Snake
- (c) Mushroom
- (d) Grasshopper

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