



EDUSAMBAM ASSESSMENT SERIES

Biology Comprehensive Practice Test 3

PRINTABLE PRACTICE WORKSHEET

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Candidate Name:

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Test Centre:

Subject	Biology	Topic	Biology Comprehensive Practice Test 3	Total Marks	100
Total Questions	45	Time Allowed	1 Hour (60 minutes)	Version	A

GENERAL INSTRUCTIONS

1. Read each question carefully before answering.
2. For Section A and Section B, mark one answer only.
3. For Sections C and E, write your answer clearly in the space provided.
4. For Section D, write the correct letter from Column B against each item in Column A.
5. Do not use correction fluid. Keep all answers clear and legible.
6. This worksheet is prepared from the EDUSAMBAM practice assessment supplied for this paper.

PAPER PATTERN

Section	Questions	Marks Each	Total
Section A — Multiple Choice	15	2	30
Section B — True / False	10	2	20
Section C — Fill in the Blank	10	2	20
Section D — Column Matching	5 pairs	2	10
Section E — Short Answer	5	4	20
Total	45	—	100

Section A — Multiple Choice

30 marks

1. Which organelle contains most of a eukaryotic cell's DNA?

Basic • 2 pts

- A.** Nucleus
C. Lysosome

- B.** Ribosome
D. Golgi apparatus

Answer: ☐A ☐B ☐C ☐D

2. Ribosomes are directly involved in:

Basic • 2 pts

- A.** Protein synthesis
C. Lipid storage only

- B.** DNA storage
D. Cell wall digestion

Answer: ☐A ☐B ☐C ☐D

3. The plasma membrane is mainly a:

Basic • 2 pts

- A.** Selective boundary containing a lipid bilayer and proteins
C. DNA layer

- B.** Rigid cellulose wall in all cells
D. Protein-free barrier

Answer: ☐A ☐B ☐C ☐D

4. Which molecule is a polymer made from amino acids?

Basic • 2 pts

- A.** Protein
C. DNA

- B.** Starch
D. Triglyceride

Answer: ☐A ☐B ☐C ☐D

5. Enzymes accelerate reactions primarily by:

Intermediate • 2 pts

- A.** Lowering activation energy
C. Being consumed as reactants

- B.** Increasing the reaction's overall energy change
D. Raising every reaction temperature

Answer: ☐A ☐B ☐C ☐D

6. A very high temperature can reduce enzyme activity because: A. Protein structure can be disrupted, changing the active site C. ATP becomes DNA Answer: ☐ A ☐ B ☐ C ☐ D	B. All substrates disappear D. Water becomes a carbohydrate	Intermediate • 2 pts
7. The iodine test is commonly used to detect: A. Starch C. Lipids only Answer: ☐ A ☐ B ☐ C ☐ D	B. Protein D. Vitamin C	Intermediate • 2 pts
8. A positive Benedict's test after heating can indicate: A. Reducing sugars C. Protein only Answer: ☐ A ☐ B ☐ C ☐ D	B. Starch only D. DNA only	Intermediate • 2 pts
9. The Biuret test is associated with: A. Peptide bonds in proteins C. Lipids only Answer: ☐ A ☐ B ☐ C ☐ D	B. Starch granules D. Mineral ions	Intermediate • 2 pts
10. The emulsion test is commonly used for: A. Lipids C. Protein Answer: ☐ A ☐ B ☐ C ☐ D	B. Starch D. Reducing sugars	Intermediate • 2 pts
11. If an enzyme's active site changes shape, the most direct consequence is likely: A. Reduced ability to bind or convert its substrate C. Creation of a new organelle Answer: ☐ A ☐ B ☐ C ☐ D	B. Immediate increase in all reactions D. Loss of all DNA	Intermediate • 2 pts
12. Which statement best describes hydrolysis? A. A bond is broken using water, often splitting a larger molecule C. A protein becomes DNA Answer: ☐ A ☐ B ☐ C ☐ D	B. Two monomers always join without water D. Energy is never involved	Advanced • 2 pts
13. Why are controls important in food tests? A. They help show that observed colour changes are associated with the test procedure and sample C. They eliminate the need for reagents Answer: ☐ A ☐ B ☐ C ☐ D	B. They make every sample positive D. They prove exact concentration	Advanced • 2 pts
14. A positive qualitative food test generally tells you that: A. The target substance or reactive group is detected under the test conditions C. The sample is healthy Answer: ☐ A ☐ B ☐ C ☐ D	B. The exact concentration is known D. Every related molecule is present	Advanced • 2 pts
15. Which statement best connects structure and function? A. Molecular structure influences interactions, so changing structure can alter biological function C. Only size determines function Answer: ☐ A ☐ B ☐ C ☐ D	B. Structure never affects function D. Function is independent of molecular shape	Advanced • 2 pts

Section B — True / False		20 marks
16. All proteins are enzymes. A. True ☐ B. False ☐		Basic • 2 pts
17. Enzymes are generally unchanged at the end of the reactions they catalyse. A. True ☐ B. False ☐		Basic • 2 pts
18. A negative iodine test proves that a food contains no carbohydrates of any type. A. True ☐ B. False ☐		Basic • 2 pts
19. The cell membrane helps maintain different conditions inside and outside the cell. A. True ☐ B. False ☐		Basic • 2 pts
20. DNA and RNA are nucleic acids. A. True ☐ B. False ☐		Intermediate • 2 pts

21. Lipids can contribute to membranes and energy storage.
A. True ☐ B. False ☐

22. A qualitative test always gives an exact concentration.
A. True ☐ B. False ☐

23. Substrate concentration can affect enzyme reaction rate under suitable conditions.
A. True ☐ B. False ☐

24. Extreme pH can alter the structure and activity of many enzymes.
A. True ☐ B. False ☐

25. Controls are unnecessary when comparing two food samples.
A. True ☐ B. False ☐

Section C — Fill in the Blank

20 marks

26. The monomers that form proteins are ____ acids.
Answer: _____

27. The enzyme region where a substrate binds is the ____ site.
Answer: _____

28. The main carbohydrate storage polymer in plants is _____.
Answer: _____

29. The iodine solution test is commonly used to detect _____.
Answer: _____

30. Benedict's reagent can indicate the presence of ____ sugars.
Answer: _____

31. The Biuret test is used to detect _____.
Answer: _____

32. Lipids can be detected using the ethanol ____ test.
Answer: _____

33. A reaction that breaks a molecule using water is called _____.
Answer: _____

34. The selectively permeable boundary around a cell is the plasma _____.
Answer: _____

35. The molecule that stores most hereditary information in cells is _____.
Answer: _____

Section D — Column Matching

10 marks

36-40. Match each term to its correct definition.

Column A	Answer	Column B
Carbohydrate	____	A. Membranes and energy storage
Lipid	____	B. Structure, transport, catalysis and signalling
Protein	____	C. Starch detection
Iodine test	____	D. Protein detection
Biuret test	____	E. Energy supply or structural roles

Section E — Short Answer

20 marks

41. Explain why enzyme activity depends on three-dimensional protein structure.

Advanced · 4 pts

42. A food gives a positive Benedict's test but a negative iodine test. What can reasonably be concluded?

Advanced · 4 pts

43. Why is a control important when carrying out a biochemical food test?

Advanced · 4 pts

44. Distinguish hydrolysis from condensation using biological molecules as examples.

Advanced · 4 pts

45. Explain how membrane structure supports selective transport.

Advanced · 4 pts

Candidate Signature: _____ **Invigilator Signature:** _____

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Marks Obtained: _____ / 100

Checked By: _____

Result / Grade: _____

Date Checked: _____

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Biology Comprehensive Practice Test 3 — Answer Key

Teacher reference: equivalent grammatically correct wording is acceptable for open-ended items when the meaning is preserved.

Section A — Multiple Choice

1. A

2. A

3. A

4. A

5. A

6. A

7. A

8. A
9. A

10. A

11. A

12. A

13. A

14. A

15. A

Section B — True / False

16. True

17. False

18. True

19. False

20. False
21. False

22. True

23. False

24. False

25. True

Section C — Fill in the Blank

26. amino

27. active

28. starch

29. starch

30. reducing
31. protein

32. emulsion

33. hydrolysis

34. membrane

35. dna

Section D — Column Matching

36. Carbohydrate — E

37. Lipid — A

38. Protein — B
39. Iodine test — C

40. Biuret test — D

Section E — Short Answer (Model Answers)

41. active; site; substrate; interactions; changes

42. identify; reducing; sugar; detected; under

43. comparison; expected; positive; negative; behaviour

44. hydrolysis; uses; water; break; bonds

45. connect; phospholipid; bilayer; membrane; proteins