



Attempt questions first; check the separate key afterward. Formative-only supplementary topic in CBSE 2026-27. Draw labelled diagrams and show numerical steps.

A. Very short answers - 1 mark each

1. Name the enzyme acting on starch in saliva.
2. Name the principal protein-digesting enzyme of the stomach.
3. Which organ produces bile?
4. Where is bile stored and concentrated?
5. Name the brush-border enzyme activating trypsinogen.
6. Does bile contain digestive enzymes?
7. Name the lymph vessel within an intestinal villus.
8. Name the chief site of nutrient absorption.

B. Short answers / practice - 2 marks each

9. Trace the human alimentary canal.
10. Explain the four tissue layers of the alimentary canal.
11. Describe the functions of tongue and teeth.
12. Distinguish ingestion, digestion, absorption, assimilation and egestion.
13. Explain peristalsis and its role in food movement.
14. Describe the protective functions of gastric mucus.
15. Why is pepsin secreted initially as an inactive precursor?
16. Explain the role of HCl in the stomach.
17. Describe the composition and roles of pancreatic juice.
18. Explain bile-mediated emulsification.
19. Trace digestion of carbohydrates to absorbable products.

20. Trace protein digestion from stomach to small intestine.

C. Application / reasoning - 3 marks each

21. Name the main absorbable products of protein digestion.
22. Describe fat digestion and micelle formation.
23. Explain chylomicron formation and lymphatic transport.
24. Compare passive, facilitated and active absorption.
25. Relate villus structure to absorption.
26. Explain the roles of secretin and cholecystokinin.
27. State the main function of the large intestine.
28. Find energy from 20 g carbohydrate at 4 kcal/g.
29. Find energy from 10 g fat at 9 kcal/g.
30. A meal has 50 g carbohydrate, 15 g protein and 10 g fat. Estimate energy using 4, 4, 9 kcal/g.
31. Distinguish malnutrition, indigestion, constipation and diarrhoea conceptually.

D. Extended practice - 5 marks each

32. Draw the digestive system and label accessory glands.
33. Compare carbohydrate, protein and fat digestion by site, enzyme and end products.
34. Explain absorption of sugars, amino acids, fats, water and electrolytes.
35. Discuss coordination of digestive secretions and the biological consequences of protein-energy malnutrition.

ANSWER KEY - Numerical / closed questions

- 1) Salivary amylase. 2) Pepsin. 3) Liver. 4) Gall bladder. 5) Enteropeptidase/enterokinase. 6) No. 7) Lacteal. 8) Small intestine. 21) Amino acids. 28) 80 kcal. 29) 90 kcal. 30) 350 kcal.