Question Bank for Unit II: Digestive System and Energetics
Human Anatomy and Physiology-II (Theory, BP201T)

Pharmacy Council of India

Semester II, B. Pharm Program

Introduction

This question bank is designed for Unit II: Digestive System and Energetics of the course Human Anatomy and Physiology-II (Theory, BP201T) as per the PCI Regulation for B. Pharm Semester II. It aligns with the course outcome (CO2): Explain the anatomy, physiology, and secretions of the digestive system, including digestion, absorption, and basic bioenergetics concepts like BMR and ATP formation. The questions are categorized into three types: Elaborate (10 marks each), Notes (5 marks each), and Short Answers (2 marks each), reflecting the examination structure of The Tamil Nadu Dr. M.G.R. Medical University (2018–2024). The questions cover all topics in Unit II, including anatomy and physiology of the digestive system, secretions of the digestive tract, digestion and absorption of carbohydrates, proteins, and fats, liver and pancreas (anatomy and functions), and bioenergetics (BMR, SDA, ATP formation). They are designed to support the AAA (Align, Assess, Achieve) guidelines, ensuring alignment with learning objectives, varied assessment methods, and achievement of pharmaceutical knowledge relevant to digestive processes and energy metabolism.

Question Bank

I. Elaborate on (10 Marks Each)

1. Explain about the anatomy and physiology of Digestive system. (Sep 2019)
2. Draw a neat labeled diagram of stomach. Describe in detail the mechanical and chemical digestion. (May 2024)
3. Draw a neat diagram and describe the organs of Digestive system. Explain their role in digestion of food. (Jan 2022)
4. Describe the anatomy of digestive tract and discuss their role in digestion of food with neat labeled diagram. (Dec 2023)

5. Explain the anatomy of digestive system with neat labeled diagram. (Mar 2023)
6. a) Draw a diagram and describe the Pancreas. b) Explain their role in digestion and absorption of nutrients. (Mar 2020)
7. Discuss the anatomy and functions of the liver with a neat labeled diagram, including its role in digestion and metabolism.

II. Write Notes on (5 Marks Each)

1. Anatomy and functions of liver. (Sep 2018)
2. Composition and functions of pancreatic juice. (Mar 2019)
3. Give the composition and role of saliva in digestion. (Mar 2019)
4. Explain the role of pepsin in protein digestion. (Mar 2019)
5. Anatomy of GI tract and discuss the function of stomach. (Mar 2019)
6. Discuss about the process of acid regulation in digestive system. (Sep 2019)
7. Discuss the process of digestion in the Small Intestine. (May 2022)
8. Describe the structure and functions of liver. (Mar 2020)
9. Different types of salivary glands, composition of saliva. (Mar 2020)
10. Enumerate the composition of saliva and its function. (Mar 2023)
11. Explain the mechanism of acid formation in stomach. (Mar 2023)
12. Discuss the structure, functions and disorders of liver with neat labeled diagram. (Aug 2023)
13. How the acid production takes place in the stomach? Add a note on regulation of acid production. (Aug 2023)
14. Outline the types of salivary gland; add a note on composition of saliva and its functions. (Dec 2023)
15. Explain the digestion and absorption of carbohydrates in the digestive system.
16. Discuss the role of bile in fat digestion and absorption.
17. Explain the concept of Basal Metabolic Rate (BMR) and its physiological significance.
18. Describe the formation and role of ATP in energy metabolism.

III. Short Answers on (2 Marks Each)

1. Define BMR. (Sep 2018)
2. Hepatitis. (Sep 2018)
3. Define saliva and its functions. (Sep 2018)
4. Composition of bile. (Mar 2019)
5. Functions of liver. (Mar 2019)
6. BMR. (Mar 2019)
7. Parts of Stomach. (Sep 2019)
8. Gall bladder. (Sep 2019)
9. Inflammatory Bowel Disease. (Sep 2019)
10. Give the composition of bile. (Mar 2020)
11. BMR. (Mar 2020)
12. Give the composition of bile. (Mar 2021)
13. Functions of Gall bladder. (Jan 2022)
14. Define Saliva and its functions. (Jan 2022)
15. Mention the physiological significance of BMR. (Jan 2022)
16. What is the role of pancreas in digestion of food. (May 2022)
17. What are the constituents of Saliva? (May 2022)
18. Explain the role of bile salts. (May 2022)
19. Give disorders of GIT. (Mar 2023)
20. Mention the types of salivary gland and write any two important functions of saliva. (Aug 2023)
21. Write a note on the role of hydrochloric acid in digestive system. (Dec 2023)
22. Define ingestion and defecation. (Jan 2022)
23. Peptic ulcer disease. (May 2024)
24. Composition and functions of saliva. (May 2024)
25. Define Specific Dynamic Action (SDA) and its role in metabolism.

Notes

- **Source**: Questions 1–6 (Elaborate), 1–14 (Notes), and 1–24 (Short Answers) are directly extracted or adapted from the provided examination papers (2018–2024). Additional questions (7 in Elaborate, 15–18 in Notes, 25 in Short Answers) were created to ensure comprehensive coverage of Unit II topics, such as digestion/absorption of carbohydrates, bile in fat digestion, and bioenergetics (SDA, ATP), which were underrepresented in the papers.
- **Alignment**: Questions cover all Unit II topics and align with CO2, emphasizing pharmaceutical knowledge (PO1) and critical thinking (PO2).
- **Assessment**: Questions span knowledge (e.g., define BMR), comprehension (e.g., explain acid formation), and application (e.g., discuss liver functions), supporting varied assessment methods.
- **Achieve**: Questions link to pharmacy applications (e.g., liver metabolism of drugs, nutrient absorption for drug formulation), enhancing relevance.
- **Exam Structure**: Follows the BP201T exam pattern: Elaborate (2 out of 3, 20 marks), Notes (7 out of 9, 35 marks), Short Answers (all 10, 20 marks).
- **Adaptability**: Questions can be used for in-class quizzes, assignments, or exams, and are adaptable for online platforms (e.g., MCQ platforms like Kahoot).
- **Exclusion**: Questions related to endocrine pancreas (Unit IV) or other units were excluded to focus strictly on Unit II (exocrine pancreas, digestive functions).