

Biology (BSC-01)
PYQ Analysis
B.Tech - Years 2023-2024

PART A (Repeated PYQs)

Genetics:

December-2023-Set-1: Q6(a) "Explain Mendel's law and Genetic code" (10)

December-2023-Set-2: Q6(a) "Explain in detail Mendel's law" (10)

January-2023: Q2(a) "Explain the Mendel's laws of inheritance." (10)

December-2024: Q4 "Describe the major findings of the Mendel experiments in genetics?" (15)

Biochemistry (Enzymes):

December-2023-Set-1: Q1(f) "Explain apoenzyme and coenzyme." (1.5)

December-2023-Set-2: Q1(g) "What is apoenzyme and coenzyme." (1.5)

Cell Biology:

December-2023-Set-1: Q6(b) "Compare eukaryotic and prokaryotic cell with figures." (5)

December-2023-Set-2: Q6(b) "Distinguish between prokaryotes and Eukaryotes" (5)

December-2024: Q2(a) "Differentiate between the prokaryotic and eukaryotic cell?" (10)

General Biology:

December-2023-Set-1: Q5(a) "Difference between Eye and a Camera" (5)

December-2023-Set-2: Q1(a) "Compare eye and camera" (1.5)

PART B (Similar PYQs)

Genetics (Genetic Code):

December-2023-Set-1: Q6(a) "Explain Mendel's law and Genetic code" (10)

December-2023-Set-2: Q2(a) "What is genetic code? Explain with examples." (10)

January-2023: Q5(a) "Elucidate the characteristics of genetic code." (5)

Deviation: Varying depth (characteristics vs. examples), combined with Mendel's laws in Set-1-2023.

Biochemistry (Enzymes):

December-2023-Set-1: Q7 "What are enzymes? Explain its various types and mechanism of actions" (15)

December-2023-Set-2: Q3(b) "Explain the theories for mechanism of actions of enzymes" (10)

January-2023: Q3(a) "Explain the mechanism of enzyme action." (5)

January-2023: Q3(b) "Discuss the classification of enzymes." (10)

December-2024: Q1(j) "What are the mechanisms of enzyme reaction?" (1.5)

December-2024: Q5(a) "Why enzymes are important molecule in a cell cycle?" (5)

Deviation: Focus shifts from mechanism/classification to importance with varying marks.

Metabolism (Glycolysis):

December-2023-Set-1: Q2(a) "Explain the pathway of Glycolysis in detail along with the enzymes and end product." (10)

December-2023-Set-2: Q7 "Explain TCA and glycolysis" (15)

January-2023: Q7(b) "Write brief notes on Glycolysis" (7.5)

December-2024: Q3(b) "Discuss the glycolysis cycle and its role in sugar metabolism." (10)

Deviation: Depth varies (brief vs. detailed), TCA inclusion in Set-2-2023.

Metabolism (Krebs Cycle):

December-2023-Set-1: Q3(a) "Explain the Kerb cycle in detail." (5)

December-2023-Set-2: Q7 "Explain TCA and glycolysis" (15)

December-2024: Q5(b) "Describe about the Kreb cycle along with its role in cell cycle." (10)

Deviation: Focus on role of Kreb cycle in cell cycle in December-2024 exam.

Microbiology (Sterilization):

December-2023-Set-1: Q4 "What are various methods of sterilizations? Explain Growth curve of bacteria" (15)

December-2023-Set-2: Q5(b) "Explain technique of sterilization." (10)

January-2023: Q1(i) "Sterilization" (1.5)

December-2024: Q6(a) "What do you understand about the concept of sterilisation? Explain." (10)

Deviation: Depth varies from definition to techniques/methods.

Cell Biology (Model Organisms):

December-2023-Set-1: Q5(b) "Explain model organisms in detail with examples." (10)

December-2023-Set-2: Q2(b) "Explain model organism with example." (5)

January-2023: Q1(b) "Model Organisms" (1.5)

December-2024: Q1(e) "Why E. coli is considered as the model organism?" (1.5)

Deviation: Focus shifts from general definition to specific example (E. coli) with varying marks.

PART C (New Questions in 2024)

- **Q1(a):** Describe Brownian movement process. (1.5)
- **Q1(b):** What is major observation of the Robert Brown? (1.5)
- **Q1(d):** What are three major kingdoms of the life? (1.5)
- **Q1(g):** What is gene mapping? (1.5)
- **Q1(i):** Why DNA is called as blue print of the life? (1.5)
- **Q3(a):** What is the importance of the microscope in biological experiments? (10)
- **Q7:** Why we engineers need to study the biotechnology? Discuss how a cell behaves like a cell factory. (15)



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