|  |  |  |
| --- | --- | --- |
| **University of Kerala** | | |
| **Discipline: Biochemistry** |  | **Time:1 Hour 30 Minutes (90 Mins.)** |
| **Course Code:UK1DSCBCH104** |  | **Total Marks:42** |
| **Course Title: Physical Aspects of Biochemistry** |  |  |
| **Type of Course: DSC** |  |  |
| **Semester:1** |  |  |
| **Academic Level:100-199** |  |  |
| **Total Credit:4, Theory: 3 Credits, Practical:1Credit** |  |  |

**Part A. 6 Marks**. Time: 5 Minutes

Objective Type. 1 Mark Each. Answer All Questions

(Cognitive Level: Remember/Understand)

|  |  |  |  |
| --- | --- | --- | --- |
| **Qn.**  **No.** | **Question** | **Cognitive**  **Level** | **Course**  **Outcome (CO)** |
| 1. | Mention the pH of blood. | Remember | CO 1 |
| 2. | Name the primary source of energy. | Remember | CO 2 |
| 3. | Write the clinical application of dialysis. | Understand | CO 3 |
| 4. | What is the role of SDS. | Understand | CO 3 |
| 5. | Write the value of Svedberg constant. | Understand | CO 3 |
| 6. | Name the light sources used in spectrophotometry? | Understand | CO 3 |

**Part B. 8 Marks**. Time: 24 Minutes

Short Answer. 2 Marks Each. Answer All Questions

(Cognitive Level : Understand/Apply)

|  |  |  |  |
| --- | --- | --- | --- |
| **Qn.**  **No.** | **Question** | **Cognitive**  **Level** | **Course**  **Outcome (CO)** |
| 7. | Briefly explain osmosis . | Understand | CO 1 |
| 8. | What are buffers? | Understand | CO 1 |
| 9. | Write the biological significance of carbohydrates. | Apply | CO 2 |
| 10. | Write the principle of chromatography. | Apply | CO 3 |

**Part C. 28 Marks**. Time: 60 Minutes

Long Answer.7 Marks Each. Answer all 4 questions, choosing among options within each question.

(Cognitive Level: Apply/Analyse/Evaluate/ Create)

|  |  |  |  |
| --- | --- | --- | --- |
| **Qn.**  **No.** | **Question** | **Cognitive**  **Level** | **Course**  **Outcome**  **(CO)** |
| 11. | A. Explain Henderson Hasselbalch equation.  OR  B.Explain buffers present in biological system. | Apply | CO 1  CO 1 |
| 12. | A. Explain the classification of protein.  OR  B. What are the covalent bonds present in biomolecules? Explain glycosidic bond. | Analyse | CO 2  CO 2 |
| 13. | A. Explain Agarose gel electrophoresis.  OR  B. Explain paper chromatography. | Evaluate | CO 3  CO 3 |
| 14. | A. Explain isomerism present in biomolecules.  OR  B. Explain principle, instrumentation and application of colorimetry. | Create | CO 2  CO 3 |