**Performa Hindu College of Pharmacy, Sonepat**

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|  |  |  | **Lesson Plan** |  |  |
|  |  |  |  |  |
| **Name of the Faculty** | **:** | **SHILPA JAIN** |  |  |
|  |  |  |  |  |  |
| **Discipline** |  | **:** |  **D. Pharmacy** |  |  |
|  |  |  |  |  |  |
| **Semester** |  | **:** | **1st Year** |  |  |
|  |  |  |  |  |
| **Subject** |  | **:** | **BIOCHEMISTRY** |  |
|  |  |  |
| **Lesson Plan Duration** | **:** | **25 weeks (from Aug , 2019 to April, 2020)** |
|  |  |
| **Work Load(lecture/practical) per week (in hours): Lecture-02,Practicals-9hr** |  |
|  |  |  |  |  |
| **Week** |  | **Theory** |  | **Practical** |
|  |  |  |  |  |
|  | **lecture day** | **Topic (including assignment/test)** | **Practical day** | **Topic** |
|  |  |  |  |  |  |
|  |  |  |  |  | Intro. Of carbohydrates |
| **1st(Aug** | 1st | Introduction of biochemistry | 1st (Batch A) |  |
| 2nd |  Cell as a basic unit |  | do |
|  **1st** | 2nd(Batch B) |  |
|  |  |  |  |  |
|  |  |  |  | do |
| **week)** |  |  |  |  |
| 3rd |  | Batch C |  |
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|  |  |  |  |  |
|  | 4th |  |  |  |
|  |  |  |  |  |
|  |  | Chemistry and classification of proteins |  | Identification test of carbohydrates |
|  | 1st |  | 1st (Batch A) |  |
|  |  |  |  |  |
| **2nd(Aug** |  | Polypeptides and amino acid classification | 2nd(Batch B) | do |
| **2nd** | 2nd |  |  |  |  |
| **week)** |  |  |  |  |  |
|  |  |  | Batch C | do |
|  | 3rd |  |  |  |
|  |  |  |  |  |  |
|  | 4th |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  | Diff. between aldose and ketose |
| **3rd (Aug 3rd**  | 1st | Physical and chemical properties of proteins | 1st (Batch A) |  |
|  |  |  |  |
| 2nd | Structure of proteins | 2nd(Batch B) | Do |
|  |  |  |  |  |  |
|  |  |  | Do |
| **week)** |  | Batch C |
| 3rd |  |  |  |  |
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|  |  |  |  |  |
|  | 4th |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  | Identification of starch |
| **4th(Aug.** | 1st | Qualitative test of proteins and deficiency disease of proteins | 1st (Batch A) |  |
|  |  |  |  |
| 2nd | Brief chemistry and role of carbohydrates  | 2nd(Batch B) | do |
| **4th** |  |  |  |  |  |
|  |  |  |  | do |
| **week)** |  |  |  |  |
| 3rd |  | Batch C |  |
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|  |  |  |  |  |  |
|  | 4th |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  | Identify given sample of carbohydrate |
| **5th(Sept** | 1st | Classification of carbohydrates | 1st (Batch A) |  |
|  |  |  |  |
| 2nd | Chemical reaction of carbohydrates | 2nd(Batch B) | do |
|  **1st** |  |  |  |  |  |
|  |  |  |  |  |
| **week)** |  |  |  |  |
| 3rd |  | Batch C | do |
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|  |  |  |  |  |
|  | 4th |  |  |  |
|  |  |  |  |  |
| **6th(Sept.2nd** | 1st | Qualitative test of carbohydrates | 1st (Batch A) |  |
|  |  |  | Identify given sample of carbohydrate |
| 2nd | Deficiency disease of carbohydrates metabolism | 2nd(Batch B) | do |
|  |  |  |  |  |  |
| 3rd |  | Batch C | do |
|  **week)** |
|  |  |  |  |  |
| 4th |  |  |  |
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| **7th (Sept.** | 1st | Chemistry of lipids and Classification of lipids |  | 1st (Batch A) | Identification of given sample of carbohydrate |
|  |  |  |  |
| 2nd | Role of lipids in biological membrane and Deficiency disease of lipid metabolism | 2nd(Batch B) | do |
| **3rd** |  |  |  |  |  |
|  |  |  |  |  |
| **week)** | 3rd |  |  | Batch C | do |
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|  | 4th |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  | Physical property of proteins |
|  | 1st | Introduction of vitamins and its classification | 1st (Batch A) |  |
|  |  |  |  |  |
| **8th(Sept.** |  |  Study fat soluble vitamins |  | do |
| **4th****week)** | 2nd |  | 2nd(Batch B) |  |
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|  | 3rd |  | Batch C | do |
|  |  |  |  |  |
|  | 4th |  |  |  |
| **9th(oct.** | 1st | Study water soluble vitamins (B1,B2,B3,B5,B6) | 1st (Batch A) | Colour reaction of proteins |
|  |  |  |  |  |
|  **1st** |  |  |  |  |
|  | 2nd | Study water soluble vitamins (B7,B9,B12,vit C ) | 2nd(Batch B) | do |
|  |  |  |  |  |
| **week)** |  |  |  |  |
| 3rd |  | Batch C | do |
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|  | 4th |  |  |  |
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| **10th(oct.** | 1st | Study Cofactors | 1st (Batch A) | Precipitation reaction of proteins |
|  |  |  |  |
| 2nd | Role of water in life process | 2nd(Batch B) | do |
| **2nd** |  |  |
|  |  |  |  |
| **week)** |  |  |
| 3rd |  | Batch C | do |
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|  | 4th |  |  |  |
| **11th(Oct.** | 1st | Study Cofactors | 1st (Batch A) |  |
|  |  |  |  | Identify given sample of protein |
| 2nd | Role of water in life process | 2nd(Batch B) | do |
|  **3rd** **week)** |  |  |
|  |  |  |  |
|  |  | Batch C | do |
|  | 3rd |  |  |
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|  | 4th |  |  |  |
| **12th(oct.** | 1st | Introduction of minerals and and its classification | 1st (Batch A) | Identify given sample of protein |
|  **4th** |  |  |  |  |
|  |  |  |  |
| 2nd | Study minerals (Ca, P, K, Cl ) in detail |  2nd(Batch B) | do |
|  **week)** |  |  |  |  |
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|  | 3rd |  | Batch C | do |
|  | 4th |  |  |  |
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| **13th (Nov.** | 1st | Study minerals ( Fe, Mg, S, I ) in detail | 1st (Batch A) | Physical properties of urine |
|  **1st** |  |  |  |  |
| 2nd | Study minerals (Cu, F, Zn, Mo ) in detail |  |  |
|  **week)** | 2nd(Batch B) | do |
|  |  |  |  |
|  |  |  | do |
|  | 3rd | Batch C |
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|  | 4th |  |  |  |
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| **14th(Nov.** | 1st | Brief concept of enzyme action | 1st (Batch A) | Normal inorganic constituents of urine |
|  **2nd**  |  |  |  |  |
| 2nd | Naming and classification of enzymes | 2nd(Batch B) | do |
| **week)** |  |  |
|  |  |  |  |
|  |  | Batch C | do |
|  | 3rd |  |  |
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|  | 4th |  |  |  |
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| **15th (Nov. 3rd week )** | 1st | Mechanism of enzyme action | 1st (Batch A) | Normal organic constituents of urine |
| 2nd | Factors affecting enzyme action and  Enzyme inhibition |  |  |
|  | 2nd(Batch B) | do |
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|  |  |  |  |
|  |  | Batch C | do |
| 3rd |  |  |  |
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|  | 4th |  |  |  |
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| **16th (Dec.****1st week )** | 1st | Diagnostic and Therapeutic applications of enzymes | 1st (Batch A) | Abnormal constituents of urine |
| 2nd | Introduction of metabolism and metabolism of carbohydrates | 2nd(Batch B) | do |
| 3rd |  | Batch C | do |
| 4th |  |  |  |
| **17th(Dec.****2nd week )** | 1st |  Study glycolysis  | 1st (Batch A) | Identify given sample of urine |
| 2nd | citric acid cycle | 2nd(Batch B) | do |
| 3rd |  | Batch C | do |
| 4th |  |  |  |
| **18th (Jan.****2nd week )** | 1st | Study gluconeogenesis, glycogenesis | 1st (Batch A) | Identify given sample of urine |
| 2nd | Study glycogenolysis and ETC | 2nd(Batch B) | do |
| 3rd |  | Batch C | do |
| 4th |  |  |  |
| **19th (Jan.****3rd week )** | 1st | Abnormalities due to metabolism of carbohydrates | 1st (Batch A) | Viva- voice |
| 2nd | Study urea cycle and inborn error of metabolism | 2nd(Batch B) | do |
| 3rd |  | Batch C | do |
| 4th |  |  |  |
| **20th (Jan.****4th week )** | 1st | Study metabolism of lipids  | 1st (Batch A) | Introduction of lipids |
| 2nd | β oxidation of fatty acids | 2nd(Batch B) | do |
| 3rd |  | Batch C | do |
| 4th |  |  |  |
| **21th (Feb.****1st week )** | 1st | Study fatty acid synthesis | 1st (Batch A) | Physical and chemical properties of fatty acids |
| 2nd | mitochondrial fatty acid synthesis | 2nd(Batch B) | do |
| 3rd |  | Batch C | do |
| 4th |  |  |  |
| **22th (Feb.****2nd week )** | 1st | Cholesterol synthesis | 1st (Batch A) | Physical and chemical test of cholestrol |
| 2nd | ketogenesis | 2nd(Batch B) | do |
| 3rd |  | Batch C | do |
| 4th |  |  |  |
| **23th (Feb.****3rd week )** | 1st | Blood, erythrocytes- abnormalities of erythrocytes | 1st (Batch A) | Identify given sample of lipid |
| 2nd | Lymphocytes and platelets, their role in health | 2nd(Batch B) | do |
| 3rd |  | Batch C | do |
| 4th |  |  |  |
| **24th (Mar.****1st week )** | 1st | Characteristics of normal and abnormal urine | 1st (Batch A) | Route of administration of drug |
| 2nd | Abnormal constituents of urine and their identification test | 2nd(Batch B) | do |
| 3rd |  | Batch C | do |
| 4th |  |  |  |
| **25th (Apr 1st week)** | 1st | Practical sessional  |  |  |
|  | 2nd | Revision for exam |  |  |
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