**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 |  | |  | | |  |
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|  | 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 |
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|  |  | |  | | | 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 |  |  |  | | |  |
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|  |  |  |  |  | | | Identify given sample of carbohydrate |
| **5th(Sept** | 1st | Classification of carbohydrates | | 1st (Batch A) | | |  |
|  |  | |  | | |  |
| 2nd | Chemical reaction of carbohydrates | | 2nd(Batch B) | | | do |
| **1st** |  |  |  |  | | |  |
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| **week)** |  |  |  |  | | |
| 3rd |  | | Batch C | | | do |
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|  | 4th |  | |  | | |  |
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| **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 |
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| 3rd |  | | Batch C | | | do |
| **week)** |
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| 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** |  |  |  |  | | |  |
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| **week)** | 3rd |  |  | Batch C | | | do |
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|  | 4th |  |  |  | | |  |
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|  |  |  | |  | | | Physical property of proteins |
|  | 1st | Introduction of vitamins and its classification | | 1st (Batch A) | | |  |
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| **8th(Sept.** |  | Study fat soluble vitamins | |  | | | do |
| **4th**  **week)** | 2nd |  | | 2nd(Batch B) | | |  |
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|  | 3rd |  | | Batch C | | | do |
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|  | 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 |
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| **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** |  | | |  |
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| **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)** |  | | |  |
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|  |  | | 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** |  |  | |  | | |  |
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| 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 |
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|  |  | |  | | | 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)** |  | | |  |
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|  |  | | 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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