**Performa Hindu College of Pharmacy, Sonepat**

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|  |  |  | **Lesson Plan** |  |  |
|  |  |  |  |  |
| **Name of the Faculty** |  **Dr Bharat Bhushan** |  |  |  |
|  |  |  |  |  |  |
| **Discipline** |  | **:** | **Pharmacy** |  |  |
|  |  |  |  |  |  |
| **Semester** |  | **:** | **1st Year** |  |  |
|  |  |  |  |  |
| **Subject** |  | **:** | **Pharmaceutical chemistry-I** |  |
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| **Lesson Plan Duration** | **:** | **25 weeks (from July, 2019 to March, 2020S)** |
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| **Work Load(lecture/practical) per week (in hours): Lecture-03, Practicals-09** |  |
|  |  |  |  |  |
| **Week** |  | **Theory** |  | **Practical** |
|  |  |  |  |  |
|  | **lecture day** | **Topic (including assignment/test)** | **Practical day** | **Topic** |
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| **1st (July.** | 1st | Study of acids, bases and buffers | 1st (Batch A) | To study the various apparatus used in laboratory |
| 2nd | Boric acid\*, Hydrochloric acid, strong ammonium hydroxide, |  |  |
| **3rd** | 2nd (Batch B) |  -do- |
|  |  |  |  |  |
|  |  |  |  |  -do- |
| **week)** |  |  |  |  |
| 3rd | Calcium hydroxide, Sodium hydroxide and official buffers. | Batch C |  |
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|  | 1st | Antioxidants “Hypophosphorous acid, Sulphur dioxide, Sodium bisulphate | 1st (Batch A) | Limit test for Chloride with given sample |
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| **2nd (July.** |  | Sodium metabisulphite, Sodium thiosulphate, Nitrogen and Sodium Nitrite. | 2nd(Batch B) | -do- |
| **4th** | 2nd |  |  |  |  |
| **week)** |  |  |  |  |  |
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|  | 3rd | Gastrointestinal agentsAcidifying agents Dilute hydrochloric acid. | Batch C | -do- |
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| **3rd(Aug.** | 1st | Antacids-Sodium bicarbonate, Aluminium hydroxide gel, Aluminium Phosphate,  | 1st (Batch A) | Limit test for Chloride with given unknown sample |
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| 2nd | Calcium carbonate, Magnesium carbonate, ,  | 2nd(Batch B) | -do- |
| **1st** |  |  |  |  |  |
|  |  Magnesium trisilicate, Magnesium oxide,  |  | -do- |
| **week)** |  |  |
| 3rd |  |  | Batch C |  |
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| **4th(Aug..** | 1st | Combinations of antacid preparations. | 1st (Batch A) | Limit test for Sulphate with given sample |
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| 2nd | Saline Cathartics-Sodium potassium tartrate and Magnesium sulphate. | 2nd(Batch B) | -do- |
| **2nd** |  |  |  |  |  |
|  |  |  |  | -do- |
| **week)** |  | Protectives-Talc, Zinc Oxide, Calamine |  | Batch C |
| 3rd |  |  |  |
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| **5th(Aug.** | 1st | Zinc stearate, Titanium dioxide, Silicone polymers. | 1st (Batch A) | Limit test for Sulphate with given unknown sample |
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| 2nd | Antimicrobials and Astringentsâ “Hydrogen peroxide\*, Potassium permanganate | 2nd(Batch B) | -do- |
| **3rd** |  |  |  |  |  |
|  |  |  |  | -do- |
| **week)** |  | Chlorinated lime, Iodine, Solutions of Iodine, Povidone-iodine |  | Batch C |
| 3rd |  |  |  |
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| **6th(Aug.** | 1st | Boric acid, Borax. Silver nitrate,  | 1st (Batch A) | Limit test for Sulphate with given unknown sample |
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| 2nd | Mercury, Yellow mercuric oxide,  | 2nd(Batch B) | -do- |
| **4th** |  |  |  |  |  |
| 3rd | Sulphur and its compounds“Sublimed sulphur  | Batch C | -do- |
| **week)** |
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| **7th (Sept.** | 1st | precipitated sulphur, selenium sulphide |  | 1st (Batch A) | Limit test for Iron with given sample |
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| 2nd | Astringents Alum and Zinc Sulphate | 2nd(Batch B) | -do- |
| **1st** |  |  |  |  |  |
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| **week)** | 3rd | Mild silver protein, Ammoniated mercury |  | Batch C | -do- |
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|  | 1st | Strontium chloride, Zinc chloride | 1st (Batch A) | Limit test for Iron with given unknown sample |
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| **8th Sept.** |  |  |  |  |
| **2nd** | 2nd | Inhalantsâ“Oxygen, Carbon dioxide, Nitrous oxide | 2nd(Batch B) | -do- |
| **week)** |  |  |  |  |
|  |  |  | -do- |
|  | 3rd | Respiratory stimulants“Ammonium Carbonate | Batch C |  |
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| **9th(Sept****3rd Week** | 1st | Expectorants and Emetics“Ammonium chloride | 1st (Batch A) |  |
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| 2nd | Potassium iodide, Antimony potassium tartrate. |  |  |
|  | 2nd(Batch B) |  |
|  | Antidotes-Sodium nitrate |  |  |
|  |  | Batch C |
| 3rd |  |  |  |
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| **10th Sept.** | 1st | Electrolytes used for replacement therapy | 1st (Batch A) | Limit test for Iron with given unknown sample |
| 2nd |  Sodium chloride and its preparations, Potassium chloride and its preparations |  |  |
| **4th** | 2nd(Batch B) | -do- |
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| **week)** |  |  |  |
| 3rd | Physiological acid-base balance and electrolytes | Batch C | -do- |
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| **11th(Oct.****1st** | 1st | Sodium acetate, Potassium acetate | 1st (Batch A) | Demonstration of limit test for Arsenic |
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| 2nd | Sodium bicarbonate injection, Sodium citrate, Potassium citrate | 2nd(Batch B) | -do- |
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|  |  |  | -do- |
| **week)** |  | Sodium lactate injection, Ammonium chloride and its injection | Batch C |
| 3rd |  |  |  |
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| **12th(Oct** | 1st | Combination of oral electrolyte powders and solutions | 1st (Batch A) | To determine the normality of Sodium carbonate |
| 2nd | Inorganic Official compounds |  |  |
| **2nd** | 2nd(Batch B) | -do- |
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| **week)** |  |  |
| 3rd | Iron, Iodine | Batch C | -do- |
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|  |  | **3rd &4thWeek of Oct. 1st Sessional exams** |  |  |
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| **13th(Nov** | 1st | Calcium, Ferrous Sulfate | 1st (Batch A) | To determine the normality of Sodium bi carbonate |
| 2nd | Calcium gluconate. |  |  |
| **1st** | 2nd(Batch B) | -do- |
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| **week)** |  |  |  |
| 3rd | Radio pharmaceuticals | Batch C | -do- |
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| **14th (Nov** **2nd (Week)** | 1st | Radio activity-Alpha, Beta and Gamma Radiations | 1st (Batch A) | Standardisation of Pot. permangnate |
| 2nd | Biological effects of radiations | 2nd(Batch B) | -do- |
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| 3rd | Measurement of radio activity | Batch C | -do- |
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|  | 1st |  | Batch A |  |
|  **15th (Nov. 3rd Week)** |  | Radio isotopes their uses |  | Assay of Ferrous Sulphate |
| 2nd |  | Batch B | -do- |
|  |  | Storage and precautions with special reference to the official preparations |  |  |
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| 3rd | G. M. Counter | Batch C | -do- |
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|  | 1st |  |  |  |
| **16th (Nov. 4th Week)** |  | Radio opaque Contrast media“Barium sulfate. | Batch A | Assay of Copper Sulphate |
| 2nd | Quality control of Drugs and Pharmaceuticals | Batch B | -do- |
| 3rd | Importance of quality control | Batch C | -do- |
| **17th (Dec. 1st Week)** | 1st | Significant errors, methods used for quality control | Batch A | Assay of Magnesium sulphate |
| 2nd | Sources of impurities in Pharmaceuticals | Batch B | -do- |
|  | 3rd | Sources of impurities in Pharmaceuticals | Batch C | -do- |
| **18th (Dec. 2nd Week)** | 1st | Limit test for Chloride | Batch A | Assay of Borax |
|  | 2nd | Limit test for Chloride | Batch B | -do- |
|  | 3rd | Limit test for Sulphate | Batch C | -do- |
|  |  | **3rd &4thWeek of Dec. 2nd Sessional exams and winter break upto 1st Week of Jan.** |  |  |
|  | 1st | Limit test for Sulphate | Batch A | Assay of Hydrogen peroxide |
| **19th (Jan. 2nd Week)** | 2nd | Limit test for Iron | Batch B | -do- |
|  | 3rd | Limit test for Iron | Batch C | -do- |
| **20th** (**Jan. 3rd Week)** | 1st | Limit test for Heavy metals | Batch A | Viva |
|  | 2nd | Limit test for Arsenic | Batch B | -do- |
|  | 3rd | Limit test for arsenic | Batch C | -do- |
|  | 1st | Identification of cat ions | Batch A | Identification of Calcium gluconate |
| **21th (Jan. 4th Week)** | 2nd | Identification of cat ions | Batch B | -do- |
|  | 3rd | Identification of an ions | Batch C | -do- |
| **22nd (Feb. 1st Week)** | 1st | Identification of an ions | Batch A | Identification of Sodium bi carbonate |
|  | 2nd | Dental Products“Sodium Fluride | Batch B | -do- |
|  | 3rd | Dental Products Stannous Flouride | Batch C | -do- |
| **23rd (Feb. 2nd Week**) | 1st | Calcium carbonate, Sodium metaphosphate, Dicalcium phosphate | Batch A | Viva |
|  | 2nd | Sessional rivision | Batch B | -do- |
|  | 3rd | Sessional rivision | Batch C | -do- |
| **24th Feb. 3rd Week)**  | 1st | Protectives and Adsorbents | Batch A | Identification of Hydrogenper oxide |
|  | 2nd | Bismuth subcarbonate and Kaolin | Batch B | -do- |
|  | 3rd | Protectives and Adsorbents | Batch C | -do- |
| **25th Feb. 4th Week** |  | Revision  |  |  |
| **26th (March 1st** **and 2nd Week)** | 1st | Revision and Class tests | Batch A | Viva |
|  | 2nd |  | Batch B | -do- |
|  | 3rd | **3rd &4thWeek of March. 3rd Sessional exams.**  | Batch C | -do- |
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