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| **Performa : Hindu College of Pharmacy** |
| **Lesson Plan** |
| **Name of the faculty**  | **Naveen** |
| **Discipline**  | **Pharmacy** |
| **Semester**  | **1st Year** |
| **Subject**  | **Pharmaceutics** |
| **Lesson plan Duration**  | **25 weeks (August 2019 to April 2020)** |
| **Work Load/week(In hour)** | **Lecture- 03; Practical- 09** |
| **Week** | **Theory** | **Practical** |
| **Lecture Day** | **Topic** | **Practical Day** | **Topic** |
| **1st (Aug. 2nd week)** | **1st**  | --------- | **1st  (Batch A)** | Preparation of Aromatic water |
| **2nd** | ---------- | **2nd (Batch B)** | ----do---- |
| **3rd**  | Introduction of different dosage forms. | **3rd (Batch C)** | ----do---- |
| **2nd (Aug. 3rd week)** | **1st**  | Their classification with examples-their relative applications | **1st  (Batch A)** | Preparation of Aromatic water |
| **2nd** | Description of different dosage forms | **2nd (Batch B)** | ----do---- |
| **3rd**  | Description of different dosage form | **3rd (Batch C)** | ----do---- |
| **3rd(Aug. 4th week)** | **1st**  | Tutorial/Test | **1st  (Batch A)** | Viva-voca |
| **2nd** | Familiarisation with new drug delivery systems | **2nd (Batch B)** | ----do---- |
| **3rd**  | Familiarisation with new drug delivery systems. | **3rd (Batch C)** | ----do---- |
| **4th(Aug. 5th week)** | **1st**  | Tutorial/Test | **1st  (Batch A)** | Preparation of Solutions |
| **2nd** | Introduction to Pharmacopoeias | **2nd (Batch B)** | ----do---- |
| **3rd**  | Indian Pharmacopoeia. | **3rd (Batch C)** | ----do---- |
| **5th(Sept. 1st week)** | **1st**  | Tutorial/Test | **1st  (Batch A)** | Preparation of Solutions |
| **2nd** | Metrology Systems of weights and measures. Calculations including conversion from one to another system | **2nd (Batch B)** | ----do---- |
| **3rd**  | Percentage calculations and adjustments of products. Use of alligation method in calculations | **3rd (Batch C)** | ----do---- |
| **6th(Sept. 2nd week)** | **1st**  | Isotonic solutions. | **1st  (Batch A)** | Viva-voca |
| **2nd** | Test of Alligation method and isotonic solutions | **2nd (Batch B)** | ----do---- |
| **3rd**  | Packing of Pharmaceuticals Desirable features of a containertypes of containers. Study of glass | **3rd (Batch C)** | ----do---- |
| **7th(Sept. 3rd week)** | **1st**  | Plastics as materials for containers | **1st  (Batch A)** | Preparation of Spirits |
| **2nd** | Rubber as material for closures-their merits and demerits | **2nd (Batch B)** | ----do---- |
| **3rd**  | Introduction to aerosol packaging | **3rd (Batch C)** | ----do---- |
| **8th(Sept. 4th week)** | **1st**  | Size reduction Objectives, and factors affecting size reduction | **1st  (Batch A)** | Viva-voca |
| **2nd** | Methods of sizereduction, study of Hammer mill | **2nd (Batch B)** | ----do---- |
| **3rd**  | Ball mill, Fluid Energy Mill and Disintegrator | **3rd (Batch C)** | ----do---- |
| **9th(Oct. 1st week)** | **1st**  | Unit test | **1st  (Batch A)** | Preparation of Tinctures |
| **2nd** | Size separation Size separation by sifting. Official Standard for powders | **2nd (Batch B)** | ----do---- |
| **3rd**  | Sedimentation methods of size separation | **3rd (Batch C)** | ----do---- |
| **10th(Oct. 2nd week)** | **1st**  | Construction and working of cyclone separator | **1st  (Batch A)** | Preparation of Tinctures |
| **2nd** | Unit test | **2nd (Batch B)** | ----do---- |
| **3rd**  | Mixing of semisolids with mills Study of Silverson Mixer, Homogeniser, Planetary Mixer, Agitated powder mixer | **3rd (Batch C)** | ----do---- |
| **11th(November 2nd week)** | **1st**  | Study of Silverson Mixer, Homogeniser, Planetary Mixer, Agitated powder mixer | **1st  (Batch A)** | Preparation of Tinctures |
| **2nd** | Clarification and Filtration-Theory of filtration, | **2nd (Batch B)** | ----do---- |
| **3rd**  | Filter aids and selection of filters. Study of the following filtration equipments Filter Press Sintered Filters | **3rd (Batch C)** | ----do---- |
| **12th(Nov. 3rd week)** | **1st**  | Filter Candles, Meta filter | **1st  (Batch A)** | Viva-voca |
| **2nd** | Study of percolation, continuous hot extraction, Maceration and their modification | **2nd (Batch B)** | ----do---- |
| **3rd**  | Applications in the preparation of tinctures and extracts | **3rd (Batch C)** | ----do---- |
| **13th(Nov. 4th week)** | **1st**  | Unit test | **1st  (Batch A)** | Preparation of Extracts |
| **2nd** | Introduction to Ayurvedic dosage forms. | **2nd (Batch B)** | ----do---- |
| **3rd**  | Heat processes: Evaporation definition factors affecting evaporation | **3rd (Batch C)** | ----do---- |
| 14th**(Nov. 5th week)** | **1st**  | Study of evaporating still and Evaporating Pan | **1st  (Batch A)** | Preparation of Creams |
| **2nd** | Unit test | **2nd (Batch B)** | ----do---- |
| **3rd**  | Distillation : Simple distillation | **3rd (Batch C)** | ----do---- |
| 15th**(Dec. 2nd week)** | **1st**  | Fractional distillation | **1st  (Batch A)** | Viva-voca |
| **2nd** | Steam distillation, Vacuum distillation | **2nd (Batch B)** | ----do---- |
| **3rd**  | Preparation of Purified Water I.P. and water for injection I.P. Construction and working of the still used for the same | **3rd (Batch C)** | ----do---- |
| 16th**(Dec. 3rd week)** | **1st**  | Study of vacuum still |  | Preparation of Cosmetic preparations |
| **2nd** | Unit test | **2nd (Batch B)** | ----do---- |
| **3rd**  | Introduction to drying processes Study of Tray Dryers: Fluidized Bed Dryer | **3rd (Batch C)** | ----do---- |
| 17th**(Jan. 2nd week)** | **1st**  | VacuumDryer and Freeze Dryer | **1st  (Batch A)** | Preparation of Cosmetic preparations |
| **2nd** | Unit Test | **2nd (Batch B)** | ----do---- |
| **3rd**  | Sterilization Concept of sterilization and its differences from disinfection-Thermal resistance of microorganisms | **3rd (Batch C)** | ----do---- |
| 18th**(Jan. 3rd week)** | **1st**  | Classification (Methods) , Moist heat sterilization, Dry heat sterilization | **1st  (Batch A)** | Viva-voca |
| **2nd** | Sterilization by radiation and filtration | **2nd (Batch B)** | ----do---- |
| **3rd**  | Gaseous sterilization | **3rd (Batch C)** | ----do---- |
| 19th**(Jan. 4th week)** | **1st**  | Aseptic techniques. Application of sterilization processes in hospitals particularly with reference to surgical dressings and intravenous fluids | **1st  (Batch A)** | Capsules |
| **2nd** | Precautions for safe and effective handling of sterilization equipment | **2nd (Batch B)** | ----do---- |
| **3rd**  | Unit test | **3rd (Batch C)** | ----do---- |
| 20th**(Feb. 2nd week)** | **1st**  | Definition; Different types of compressed tablets |  | Tablets |
| **2nd** | Different types of compressed tablets and their properties | **2nd (Batch B)** | ----do---- |
| **3rd**  | Processes involved in the production of tablets, Tablets excipients | **3rd (Batch C)** | ----do---- |
| 21st**(Feb. 3rd week)** | **1st**  | Processes involved in the production of tablets, Tablets excipients | **1st  (Batch A)** | Viva-voca |
| **2nd** | Defects in tablets | **2nd (Batch B)** | ----do---- |
| **3rd**  | Evaluation of Tablets; Physical Standards including Disintegration and Dissolution | **3rd (Batch C)** | ----do---- |
| 22nd**(Feb. 4th week)** | **1st**  | Evaluation of Tablets; Physical Standards including Disintegration and Dissolution | **1st  (Batch A)** | Ophthalmic preparations |
| **2nd** | Sugar coating and Enteric coating | **2nd (Batch B)** | ----do---- |
| **3rd**  | Microencapsulation | **3rd (Batch C)** | ----do---- |
| 23rd**(Feb. 5th week)** | **1st**  | Processing of Capsules, Hard and soft gelatin capsules, different sizes capsules | **1st  (Batch A)** | Viva-voca |
| **2nd** | filling of capsules, handling and storage of capsules | **2nd (Batch B)** | ----do---- |
| **3rd**  | Special applications of capsules. |  | ----do---- |
| 24th**(Mar. 2nd week)** | **1st**  | Unit test | **1st  (Batch A)** | Preparations involving aseptic techniques |
| **2nd** | Immunity, types of immunity and factors responsible for immunity | **2nd (Batch B)** | ----do---- |
| **3rd**  | Study of immunological products, classifications | **3rd (Batch C)** | ----do---- |
| 25th **(Mar. 3rd week)** | **1st**  | Vaccines, toxoids | **1st  (Batch A)** | Viva-voca |
| **2nd** | Serum- Rabies, antibacterial serum | **2nd (Batch B)** | ----do---- |
| **3rd**  | Immune blood derivatives | **3rd (Batch C)** | ----do---- |
| After onwards revised the queries regarding the syllabus. |