

Center for Traditional Knowledge and Informatics
The University of Transdisciplinary Health Sciences and Technology (TDU)
Bangalore

COURSE TITLE: CONCEPTS OF DRUG DESIGN IN AYURVEDA

Focus Area/Subject Area: Bhaishajya kalpna (*Pharmaceutics of Ayurveda*) and Compound Plant Drug Design

Credits: 2

Eligibility: Any Under Graduation (UG) Degree

Details of the Instructors:

1. Dr. Subrahmanya Kumar K, Associate Professor, TDU
2. Dr. Sanket Sharma, Assistant Professor, TDU
3. Dr. Arun Bhanu, Senior Research Associate, TDU

Course Objectives:

1. To understand the principles of *Bhaishajya Kalpana- Ayurvedic pharmaceutics*
2. To understand various concepts of different dosage forms
3. To learn the concepts of *Pathya-Apathya* (wholesome food in *Ayurveda*) and its application in daily life
4. To be skilled with simple **House-Hold Plant Drug Preparations**

Learning Outcome:

By the end of this course, the students are expected to learn the *Ayurvedic principles* of drug design. They will be skilled with basic preparations of *Ayurvedic formulations*.

SYLLABUS

Unit 1

Introduction to *Bhaishajya Kalpana* (preparation of herbal drugs) and *Rasashastra* (preparation of metallic/mineral drugs). Paribhasha (technical terms) used in the context of Ayurvedic pharmaceutics. Importance of Compound formulations over *Ekamoolika Prayoga* (single drug therapy).

Unit 2

Knowledge about *Pancha Vidha Kashaya Kalpana* (basic pharmaceutical techniques). *Swarasa* (fresh juice), *Kalka* (paste), *Kashaya* (decoction), *Phanta* (hot infusion), *Hima* (cold infusion)-

procedure of preparation, general dosage and 1-2 examples.

Demonstration of *Ardraka swarasa*, *Tulasi Kalka*, *Guduchi Kashaya*, *Panchakola phanta*, *DhanyakaHima*.

Unit 3

Knowledge about important compound formulations. *Taila/ghrta paka* (medicated oils and *ghees*), *Avaleha* (confectioneries), *Asava-Arishtas* (fermented preparations), *Vati-Gutika* (pills, tablets), *Bhasmas* (calcined metals/minerals) and *Rasaushadhis* (metallic preparations).

Unit 4

Introduction to toxic drugs of *Ayurveda* and principle of their purification. Purification procedures of *Vatsanabha* (*Aconitum ferox* Wall.), *Vishatinduka* (*Strychnos nux-vomica* L.), *Parada* (mercury) and *Gandhaka* (sulphur) will be briefed.

Unit 5

Concept of *Ahara kalpana* (nutraceutics) will be explained. Procedure of preparation of *Odana* (different rice preparations), *Yusha* (soups) will be briefed. Demonstration of preparation of *Mudga Yusha* (green gram soup)

References/ Learning Resources:

1. *Bhaishajya Kalpana Vijnanam* by K Ramachandra Reddy
2. *Bhaishajya Kalpana Vigyan* by Siddhi Nandan Mishra
3. *Rasa Shastra* by Damodar Joshi
4. *Rasa Ratna Samuchchaya* by Damodar Joshi
5. *Textbook of Rasashasra* Dr. K Ramachandra Reddy
6. *Ayurvedic formulary of India- Part I and II*
7. Sunny SM et al., *Fundamental Principle of Bhaishajya Kalpana*. J Ayu Med Sci 2019; Apr-Jun 4(2):480-7