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Detailed Syllabus of

DIPLOMA IN AYURVEDIC PHARMACY (DAP)

**COURSE TITLE: DAP
DURATION : 2 YEARS
MODE : YEARLY**

FIRST SEMESTER

<i>COURSE TITLE</i>	<i>Paper Code</i>	<i>MARKS</i>
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		<i>THEORY</i>		<i>PRACTICAL</i>		<i>TOTAL</i>
		<i>INTERNAL</i>	<i>EXTERNAL</i>	<i>INTERNAL</i>	<i>EXTERNAL</i>	
Ayurved Siddhant Evam Itihas	DAP/Y110	40	60			100
Sharir Rachana	DAP/Y120	40	60	40	60	200
Dravyaguna vigyan-1	DAP/Y130	40	60	40	60	200
R.S. & B.K. - 1	DAP/Y140	40	60	40	60	200
Prathmik Upachar Evam Rugna Paricharya	DAP/Y150	40	60			100

SECOND SEMESTER

<i>COURSE TITLE</i>	<i>Paper Code</i>	<i>MARKS</i>				<i>TOTAL</i>
		<i>THEORY</i>		<i>PRACTICAL</i>		
		<i>INTERNAL</i>	<i>EXTERNAL</i>	<i>INTERNAL</i>	<i>EXTERNAL</i>	
Dravyaguna vigyan-2	DAP/Y210	40	60	40	60	200
R.S. & B.K. – 2	DAP/Y220	40	60	40	60	200
Ayurved Parichay including roga nidan Evam Chikitsa	DAP/Y230	40	60			100
Ayurvedic Pharmaceutics including Hospital and Clinical Pharmacy	DAP/Y240	40	60	40	60	200
Kriya Shaarir	DAP/Y250	40	60			100
Selected Topics in Pharmacy	DAP/Y260	40	60			100

FIRST YEAR

DAP/Y110: AYURVED SIDDHANT EVAM ITIHAAS

(Basic Principles and History of Ayurveda)

AIMS AND OBJECTIVES

The diploma students are coming fresh from 10th schooling. Therefore, they are required to be given basic understanding about what are Ayurveda and the fundamental and basic principles on which it stands. The students should know the history of Ayurveda and its development. The syllabus of this paper covers the above aspects.

- ò Definition of Ayurved.
- ò Ashtanga Ayurved – The eight specialized branches of Ayurveda, concept and definition.
- ò Ayurvediya Padarth Vigyan and its importance. Characteristics and classification of Padarth.
- ò Dravyaguna Vigyaniam, characteristics, number and classification of dravyas. The characteristics, qualities (gunnas) and origin of Panchamahabhutas and their mutual micro-merging (Paraspara anupravesha).
- ò Applied studies of dravyas from Ayurvedic perspective.
- ò Characteristics of Dik, Kala, Atma and Mana.
- ò Guna Vigyaniam : characteristics and types of Gunas as gurvadi guna, adhyatmika guna, vaisheshika guna, saamanya guna.
- ò Karma vigyaniam : characteristics and types of Karmas.
- ò Saamanya, Vishesha, Samvaya Vigyaniam – characteristics and types.
- ò Pramaana vigyaniam : characteristics, importance and number of Pramaana. The Pramaanas accepted by Ayurveda–Pratyaksha. Anumaana, Aptopdesha and Yukti Pramaanas.
- ò Effect and causative factor (Karya, Karana Bhava) : Description of Karya–Karana Bhava and various Vaadas. Features of cause (Kaarana) and types. Description of samavayi, asamavayi and nimitta karana in Ayurved. Satkaryavad, Asatkarya vada, Parmanu vada, Pilupaka, Pitharapaka etc.
- ò The advent of Ayurveda (Ayurvedavatarana) : The Atreya (Charaka Samhita) and the Dhanvantari (Sushruta Samhita) traditions of Ayurveda.
- ò Laghutrayi and Brihatrayi Parichaya.
- ò Development of Ayurvediya Rasashastra & Bhaishajya Kalpana.
- ò Propagation of Ayurveda in foreign countries.

DAP/Y120: SHARIR RACHANA

1. Definition of Shaariram, its derivation, meaning, synonym and Interpretation.
2. Shadang Sharira: Six regions of Body, organs of abdomen, their names and description.
3. Asthi sharira: Number and types of bones according to Sushrut and Modern Science.
4. Sandhi sharira: Number and types of joints with examples according to Sushrut.
5. Koshtha & Ashaya sharira: Define Koshtha and enumerate the koshthangs and ashayas in the body.
6. Peshi sharira: Definition of Peshi and their importance in the body.
7. Shira, Dhamani & Srotas sharira: srotas, sira, dhamani are similar structures what is the difference between them.
8. Definition of srotas, its derivation and number, names and importance.
9. Structure of eye, ear, brain, heart, pancreas, gall-bladder, spleen.
10. Garbha sharira – foetal anatomy-shukra & artava's qualities qualifying them as pure & competent for conception.
11. Beeja, Beejabhaga, Beeja bhagavayava.
12. Morphological and physiological changes in the embryo during nine months in the womb.
13. Indriya vigyan sharira: Sensory organs and their locations and nerves concerned with each.
14. Twak sharira: layers of skin, their names according to Sushrut and modern science.
15. Organs participating in the digestion process in the Alimentary canal.
16. The anatomical description of organs of urinary system.
17. Kala sharira: Definition and names of kala according to Sushruta.
18. Spinal cord, cranial nerves.
19. Describe in detail the vertebrae of vertebral column.
20. 12 pranas, 10 pranayatana, 3 pradhaanmarmani, 15 kosthagani.
21. Description of Hridayam according to Sushruta and its importance and functions in health.
22. Description of Yakrita, its importance and functions according to modern science.

DAP/Y130 : DRAVYAGUNA VIGYAN-I

Theory

1. Definition of Dravyaguna Vigyan and its importance.
2. Definition of Dravya and its importance.
3. Definition of Rasa, types and Panchbhautic composition of Rasa.
4. Definition, types and importance of Gunas, Vipaka, Veerya, Prabhav.
5. Introduction to Karmas (actions)
Deepan, Paachan, Graahi, stambhan, Bhedan, Rechan, Anuloman, Sramsana, Samshodhana, Rasayana, Vajikarana, Vyavai, Madakari, Vikasi.
Introduction to Mishrak Varga
Triphala, Madhurtriphala, Sugandhatriphala, Swalptriphala, Trijatake, Chaturjata, Trikatu, Trimada, Panchkola, Shadushan, Panchawalkala, Chathurshana, Trikantaka, Panchapallav, Laghu Panchamool, Brihad Panchmoola, Vallipanchmoola, Trinpanchmoola, Ashtavarga.
6. Classification of Drugs according to Ayurvedic principles.
7. Study of following drugs including Classification, Latin name. Family, Vernacular name, Synonyms, Botanical description, Varieties. Habitat, Chemical composition, Properties, Doshakarm, Actions. Uses, Parts used : Dosage, Formulations, Substitute and Adulteration.

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|-----------------|-----------------|
| 1. Aragvadha | 2. Ardraka |
| 3. Apaamarga | 4. Arjuna |
| 5. Ashwagandha | 6. Arka |
| 7. Aamalaki | 8. Ashok |
| 9. Bala | 10. Bilva |
| 11. Bhringraj | 12. Dhatura |
| 13. Ela | 14. Gokshur |
| 15. Guduchi | 16. Guggulu |
| 17. Chandan | 18. Chitrak |
| 19. Haritakee | 20. Haridra |
| 21. Jyotishmati | 22. Jamboo |
| 23. Jataamansi | 24. Kutaja |
| 25. Khadira | 26. Bhumyamalki |
| 27. Nirgundi | 28. Nimba |
| 29. Marich | 30. Madanphala |
| 31. Pareesha | 32. Punarnava |
| 33. Pippali | 34. Rohitak |
| 35. Rasona | 36. Shirisha |
| 37. Shatavari | 38. Karanja |
| 39. Kumari | 40. Shalmali |
| 41. Sudershan | 42. Tulsi |
| 43. Tvak | 44. Udumber |
| 45. Vansh | 46. Vacha |
| 47. Vibhitaki | 48. Lodhra |
| 49. Vidang | 50. Yashtimadhu |
| 51. Katuka | 52. Vasa |
| 53. Sargandha | 54. Sunthi |

Practical

1. Preparation of Herbarium Sheets of 25 drugs.
2. Method of Identification of Drugs.
3. Description and identification of at least 30 important drugs mentioned in the theory.

DAP/Y 140 : RASA SHASTRA AND BHAISHJYA KALPANA-I

AIMS & OBJECTIVES

Students taking up diploma course in Ayurvedic Pharmacy must have basic knowledge of Rasa Shastra and Bhaishjya Kalpana an ancient science of alchemy. They must know the classical methods and principles involved in the manufacturing of different Ayurvedic formulations and should also get the practical training of preparing these drugs. They must also know the basic concepts of manufacturing, storage, preservation and dispensing of Ayurvedic drugs.

The syllabus of diploma course includes these aspects of teaching and training.

SECTION – I RASA SHASTRA

1. Definition of Rasa Shastra, importance in Ayurveda and brief history of Rasa Shastra, its relevance in vedic era, Ayurvedic literature and in Modern science.
2. Define (Pribhashas) Shodhana, Sanskar, Marana, Satvapatan, Nirvap, Avap, Dhanvantaribhag, Rudrabhag, kajjali, Patanpisht, Dhanyabhrak, Bubhukshitparad, Hinguloth Parad.
3. Parada – Its synonyms, origin, its impurities, gatis, Samanya – Vishesh Shodhana, Shudh parad lakshana paradiya Kalpnana – Kajjali, Parpati, Pottali, Kuppipakva rasayana and Kharliya Rasayana.
4. Brief descriptions of Yantra, puta and Musha, Yantra – Dolayantra. Vidyadhar yantra, Taptakhalva yantra,
5. Musha – Samanya, Vajra, Vajradravani, Yog, Gar, Var, Varnya, Ropya. Bid, Gostani, Vrintaak, Gol, Malla, Pakva, Maha, Manduk, Musha.
6. Classification of drugs in Rasa Shastra.
7. Maharasas – their synonyms, identification, types impurities shodhana, Marana, therapeutic doses and compound formulations, side effects and its antidote.
8. Aushadh Yogas:
 1. Panchamrit Parpati
 2. Shweta Parpati
 3. .Abragarbha pottali
 4. Hemagarbha pottali
 5. Rasa Sindur
 6. Mallasindur
 7. Makardhwaj
 8. Suvarnabang
 9. Saptamrita loha
 - 10 .Kamadudha rasaTheir composition, properties and uses.

SECTION - II: BHAISHJYA KALPANA

1. Definition of Bhaishaja – Bhaishjya kalapna and its brief history in vedas Ayurvedic samhitas and in samgrah period.
2. Paribhashas – Deepana, Paachana, Rasayana, Vajikarna, Stambhana, Stransana, Virechak, Vamana.
3. Maana Paribhasha according to Sharangdhar samhita.
4. Panchavidha kashaya kalpna, their method of preparation and their uses.
5. Preparation methods of Avaleha Kalpana, Churna, Vati, Guggula Kalpana.
6. Aushadh Yoga:
 - 1.Dashamool Kwath
 - 2 Pathyadi Kwath
 5. Vasavaleha
 7. .Sitopaladi Churna
 9. .Dashanasamskar Churna
 11. Triphala Guggulu
 13. Yograj Guggulu
 - 2 .Phalatrikadi Kwath
 4. Rasnasaptak Kwath
 - 6 .Chyavanaprashavaleha
 - 8 .Talisaadi Churna
 - 10 .Lavanbhaskar Churna
 - 12 .Abha Guggulu
 - 14 .Bala Chaturbhadra Churna

Their composition, properties and uses.

Practical

Preparation of at least 20 yogas (formulations) from Rasa Shastra and Bhaishjya Kalpana, including purification processes.

DAP/Y 150 : PRATHAMIK UPACHAR EVAM RUGNA PARICHARYA

Time: 3 Hours Theory

Theory: 100 Marks

Swasthasyalakshnam, Swasthya swarupam, swasthsya rakshanartham. Upachar Dincharya, Ratricharya, Ritucharya, Rituwanusaren, Ahara swarupam, Nivas sthan vichar, Ahara vidhi vishesayatanani, paraspara viruddha dravya gunam Peyadravya vishesh, Anupan vichar, Niwas sthan, udyoga sthan, krida sthan, siksha sthan, Paniyajalasthan. Aramgna, Jalapan griha, Manovinod sthaladinam niyojana, Aaudogika sadvrita samanye sadurita. Satmya satmya vichar, Shuchitvam, Vaidya guna, Chikitsalaya Bhesajya nirman Garadisu cha. Shuchitvavivek, asuchan, Bhutanma, Kitadinamacy pravesha. Tatjanya vikriti vigyanam, tannivarkopaya prati Rodhakapaya. Sankramak Roga Gyanam, Tanpodwanshakarnam, Teshma viwarnopaya. Vayu, Tala, Kala, Deshashacha, Tesham Durtih Tanniwarnopaya. Vegan dharniyadharniyam Vivek, Kitpatangadinam, Jiwanaitham, Masak. Makshika, Pipalikadi, Sansargatah, Roghvishesha, Tesham manavdeho raktagam chatra gam vaishamyam. Sankramak Nirodhak Bhavaha Sankramak roga prasarasheha, prasangat Gatra sansparsati, Nihswarat, Sah Bhojanat, Ekasayyashat. Gandhamalyadi, sam parkaccho psarga Rogah

Teshaam vishistam vigyanam tanni Rodhak & Niwarnabhu tascha Bhavah

SECOND YEAR

DAPI/Y 210 : DRAVYAGUNA VIGYAN – II

1. Brief History of the Science of Drvayaguna Shastra.
2. Concept of Rasa, Guna, Veerya, Vipak and Prabhava.
3. Collection Storage and Preservation of Drugs.
4. Various impurities of Drugs, methods of Purification of Drugs.
5. Ayurvedic concept of pharmacological actions of drugs like, Rasayan, Vajikarana, Medhya, Vyavayi, Vikasi, Pramathi, Madkari, Anulomana, Chhedna.
6. Characteristic functions of Samanyapratyarabdha and Vichitra pratyarabdha.
7. Knowledge, properties, effect and uses of following drugs of Animal origin : Kasturi, Gorochan, Prawal, Mukta, Shankh, Shambook, Varatika, Shukti, Mrig shringa.
8. Mishrak Varga dravyas
Chaturbeeja, Kantakpanchmoola, Panchkshiri vriksha, Panchpallava, Shadanga paneeya, Madhyampanchmoola. Upavisha
9. **Study of following drugs including classification, Latin name, Family, Vernacular name, Synonyms, Botanical description, Varities, Habitat, Chemical composition, Properties, Doshakarm, Actions and Uses, Part used, Dosage, Formulation, Substitutes and Adulterants.**

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|-----------------------|--------------------|
| 1. Agnimanth | 2. Aristak |
| 3. Ativisha | 4. Aparajita |
| 5. Amragandhi–haridra | 6. Asthishrimkhala |
| 7. Banfsa | 8. Bhallatak |
| 9. Brahmi | 10. Bhanga |
| 11. Arka | 12. Chakramarda |
| 13. Changeri | 14. Champak |
| 15. Dantee | 16. Draksha |
| 17. Doorva | 18. Dhatura |
| 19. Erand | 20. Gambhari |
| 21. Gunja | 22. Hingu |
| 23. Hrinsa | 24. Irimeda |
| 25. Kanchnar | 26. Kirattikta |
| 27. Kapikachchu | 28. Karveera |
| 29. Langali | 30. Mandookparni |
| 31. Methika | 32. Mamajjak |
| 33. Mustaka | 34. Patha |
| 35. Sleshmatak | 36. Saptaparna |
| 37. Vansha | 38. Trikantak |

39. Varuna
41. Bakul
43. Manjistha

40. Aralu
42. Gojiwaha
44. Sariva

Practical :

1. Preparation of Herbarium sheets of 50 drugs.
2. Methods of Identification of drugs.
3. Description and identification of at least 30 important drugs mentioned in the theory.

DAP/Y220: RASA SHASTRA AND BHAISHJYA KALPANA–II

Section – I Rasa Shastra 50 Marks

1. Principles of Shodhana, Marana and Jarana of Metals & Minerals.
2. Introduction, identification, types, impurities, shodhana, marana, therapeutic dose, adverse effects and antidotes of Uparasas, Sadharan Rasa, Dhatu and Ratna.
3. Introduction, shodhana, therapeutic dose, antidotes, toxicity of visha-upavisha varga.
4. Preparation of several Ayurvedic formulations like Bhasma, Sindooras, Netrabindu, Varti & Rasa preparations.
5. Aushadha Yoga
 1. Anandbhairav rasa
 2. Arogyavardhini rasa
 3. Garbhupal rasa
 4. Gandhak rasayana
 5. Tribhuvankirtirasa
 6. Laxmivilas rasa
 7. Navajivan rasa
 8. Shwaskuthar rasa
 9. Ichchhabhedhi rasa
 10. Chandraprabhavati

Section – II Bhaishajya Kalpana 50 Marks

1. Preparatory methods of Sneha Kalpana and Sandhan Kalpana.
2. Definition and application of Bhojana, Bhavana, Samskara, Mardana.
3. Preparatory methods of satva, Ghan Kalpana, Kshar Nirmana, Malhar Kalpana.
4. Preparation of several Ayurvedic formulations : Asavas, Arishtha, Taila, Ghrita, etc.
5. Aushadha Yogas:
 1. Panchatikta Ghrita
 2. Jatyadi Ghrita
 3. Triphala Ghrita
 4. Pind tail
 5. Satapaki Balitail
 6. Panchagun tail
 7. Drakshasava
 8. Kutajarishta
 9. Bhringraj tail
 10. Shadabindu tail
 11. Vishgarbha tail
 12. Shakha vati
 13. Khadiradi vati
 14. Lavangadi vati

Their compositions, properties and uses.

Practical:

Preparation of at least 30 yoga (Formulations) of different kalpanas.

DAP/Y230: AYURVED PARICHAY INCLUDING ROGA NIDAN EVAM CHIKITSA

AIMS AND OBJECTIVES

The main aim of the section on Ayurveda Parichaya is to introduce the subject of Ayurveda as a whole so that the students become familiar with the various important terminologies and subjects of Ayurveda.

Students taking up Diploma course in Ayurved Pharmacy must have basic knowledge of Roga Nidan and basic concepts of onset of disease. These students must have some knowledge of the effect of drugs in human body in specific physiological or pathological conditions that is during normal or disturbed Doshas, Dhatus, Srotasa and its related conditions.

- Definition of Ayurveda as science of life.
- Brief introduction of Ashtang Ayurveda, Ayurveda Utpatti and Vikas.
- Important literary works, especially texts – Brihatrayi & Laghutrayi.
- Panchakarma, Kriyakalpa, Agnikarma, Kshara Karma etc. Special therapeutic procedures – brief description.
- Aushadha, Ahara, Aushadha sevana kala, Anupana, Anupana & Sahapana, Pathya- Apathya.
- Clinical importance of Chikitsa Chatuspada, Tridosha, Dhātu, Mala, Siddhanta.
- Definition and importance of Roga Vignān and Vikruti Vignān.
- Signs and symptoms of the increase and decrease of Doshas, Dhātu and Malas.
- Kriyakala.
- The importance of srotasa in the production of diseases.
- The determination of the disorders of srotasa.
- The causes and signs and symptoms of the vitiation of srotasa.
- The causes of the diseases of the different srotasa.
- Definition, General discussion and types of Vyadhi (disease).
- Astha mahagada (major disease) and astha nindita (condemned).
- General description and importance of Nidana - panchaka.
- Trividha Rogi pariksha vidhi (Darshana etc. three types of Methodology of investigating a patient).
- Signs, Symptoms and diseases of ojoyapata, ojokshaya and ojoyuti.
- Vyadhikshamatva (Immunity).
- General description of Janapadodhvasaka vyadhi (Epidemics) and Aupsargika Roga and Sansargaja Roga (Infectious and communicable diseases).

DAP/Y240: AYURVEDIC PHARMACEUTICS INCLUDING HOSPITAL AND CLINICAL PHARMACY

1. Introduction of Different dosage forms.
2. Introduction to Pharmacopoeias with special reference to the Ayurvedic Pharmacopoeia of India.
3. Metrology – Systems of Weight and measures.
4. Packaging of Pharmaceuticals.
5. Sterilization – Concept of Sterilization and its types.
6. Brief introduction to processing of tablets, capsules, syrups, etc.
7. Prescriptions – Reading and understanding of prescriptions, Latin terms commonly used Modern methods of prescribing, adoption of metric system. Calculations involved in dispensing. Incompatibilities in Prescriptions.
Posology – Dose and dosage of drugs.

8. Brief introduction to semi–solid form like ointment etc.
9. Brief introduction to sterile Dosage form with special reference to precautions in their handling and storage.
10. Hospital pharmacy.
11. Drug distribution system in Hospital.

Practical:

1. Dispensing Pharmacy in OPD/IPD for two days in a week.
2. To prescribe and distribute drugs for at least 15 different diseases.
3. To identify and note the organoleptic characters and uses of at least 50 yogas seen in the OPD/IPD.

Books Recommended:

1. Remington's Pharmaceutical sciences.
2. Bentley's Text – book of pharmaceuticals – Rawlins.
3. Coper and Gunn's Dispensing for pharmaceutical students Carter.
4. Dispensing of Medication – Martin.
5. Pharmaceutical Arithmetic and Lating–Schroff and Srivastava.

DAP/Y250: KRIYA SHARIRA

1. Dosh, dhatu, mala mulam shariram.
2. Five types of vata, their names, locations and functions in health.
3. Five types of pitta, their names, locations and functions in health.
4. Five types of kapha their names, locations and functions in health.
5. Dehprakriti, types of dosha prakritis and characteristics of vata, pitta and kapha dominant person.
6. Rashi purusha and its components according to ayurveda.
7. Names of seven Dhatus, upadhatu and their nutrition from digested essence of the food.
8. Description of Agni and complete process of the digestion of Food. (Ahara paka kriya and avastha paka Kriya).
9. The nutrition of sevedhatus as explained by kshirdadhinyaya, kedarikulya nyayand khalekapota nyaya (Theories).
10. Definition, production types qualities and importance of Ojas and bala.
11. Description of Vyadhi Kshmatva.
12. Characteristics of presence of Atma in the body.
13. Concept of mind, its number, functions and role in health.
14. The description of blood according to Ayurved and modern science.
15. The process of recognition–Gnanotpatti–according to charak.
16. Endocrine glands, their name, location and functions in health.
17. Composition of blood functions of blood elements. Blood group and coagulation of blood. Brief information regarding disorders of blood.

DAP/Y260: SELECTED TOPICS IN PHARMACY

1. Pharmaceutical jurisprudence & toxicology.
2. Drugs & cosmetics Act and rules.
3. Quality assurance & GMP.
4. Good dispensing practices.
5. Drug's store establishment and management of Pharmacy stores.