

**Himachal Pradesh  
Public Service Commission**

**No.04-02/2024-PSC (R-III)**

**Dated: 19.06.2024**

Syllabus for Paper-II i.e. Objective Type Subject Aptitude Test (SAT) for the recruitment to posts of Ayurvedic Pharmacy Officer, Class-III (on contract basis) in the AYUSH Vibhag. The objective type SAT shall be of 02 hours duration having 100 Marks.

**1. AYURVED SIDDHANT EVAM ITIHAS:-**

Basic principles and history of Ayurveda: Definition of Ayurved, Ashtanga Ayurved–The eight specialized branches of Ayurveda, concept and definition, Ayurvediya Padarth Vigyan and its importance. Characteristics and classification of Padarth, Dravyaguna Vigyan, characteristics, number and classification of dravyas. The characteristics, qualities (gunnas) and origin of Panchamahabhutas and their mutual micro-merging (Paraspara anupraves), Applied studies of dravyas from Ayurvedic perspective, Characteristics of Dik, Kala, Atmaand Mana, Guna Vigyan: characteristics and types of Gunas as gurvadiguna, adhyatmika guna, vaisheshika guna, saamanya guna, Karma vigyan: characteristics and types of Karmas, Saamanya, Vishesha, Samvaya Vigyan – characteristics and types, Pramaana vigyan : characteristics, importance and number of Pramaana. The Pramaanas accepted by Ayurveda–Pratyaksha. Anumaana, Aptopdesha and Yukti Pramaanas, 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 nimittakarana in Ayurved. Satkaryavad, Asatkarya vada, Parmanu vada, Pilupaka, Pitharapaka etc. The advent of Ayurveda (Ayurveda vatarana): The Atreya (Charaka Samhita) and the Dhanvantari (Sushruta Samhita) traditions of Ayurveda, Laghutrayi and Brihatrayi Parichaya, Development of Ayurvediya Rasashastra & Bhaishajya Kalpana, Propagation of Ayurveda in foreign countries. Ten points for examination i.e. Kaarana, karana, karya, karyayoni, karyaphala, Anubandha, Desha, kala, Prakriti and Upaya and their utility and application in Pharmacy.

**2. SHARIR RACHANA:-**

Definition of Shaariram, its derivation, meaning, synonym and Interpretation, Shadang Sharira: Six regions of Body, organs of abdomen, their names and description, Asthi sharira: Number and types of bones according to Sushrut and Modern Science, Sandhi sharira: Number and types of joints with examples according to Sushrut, Koshtha & Ashaya sharira: Define Koshtha and enumerate the koshthangs and ashayas in the body, Peshi sharira: Definition of Peshi and their importance in the body, Shira, Dhamani & Srotas sharira: srotas, sira, dhamani are similar structures what is the difference between them, Definition of srotas, its derivation and number, names and importance, Structure of eye, ear, brain, heart, pancreas, gall-bladder, spleen, Garbha sharira – foetal anatomy-shukra & artava's qualities qualifying them as pure & competent for conception, Beeja, Beejabhaga, Beeja bhagavayava, Morphological and physiological changes in the embryo during nine months in the womb, Indriya vigyan sharira: Sensory organs and their locations and nerves concerned with each, Twak sharira: layers of skin, their names according to

Sushrut and modern science, Organs participating in the digestion process in the Alimentary canal, The anatomical description of organs of urinary system, Kala sharira: Definition and names of kala according to Sushruta, Spinal cord, cranial nerves, Describe in detail the vertebrae of vertebral column, 12 pranasa, 10 pranayatana, 3 pradhaanmarmani, 15 koshtagni, Description of Hridayam according to Sushruta and its importance and functions in health, Description of Yakrita, its importance and functions according to modern science. Introductory knowledge of Anatomy, Scope of Anatomy, Terminology of Anatomy, Elementary cell and tissues of the Body-Epithelial Tissues, Muscular Tissues, Nervous Tissue, Skeletal System, Skeletal muscles of the body, Nine regions of the abdomen and organs situated in these regions & basic anatomy of the organs e.g. liver, kidney, lungs, heart, pancreas, stomach, intestines, brain, nose, ear, eye, tongue.

### **3. DRAVYAGUNA VIGYAN:-**

Definition of Dravyaguna Vigyan and its importance, Definition of Dravya and its importance, Definition of Rasa, types and Panchbhautic composition of Rasa, Definition, types and importance of Gunas, Vipaka, Veerya, Prabhava, 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, Swalpatriphala, Trijatake, Chaturjata, Trikatu, Trimada, Panchkola, Shadushan, Panchawalkala, Chathurshana, Trikantaka, Panchapallava, Laghu Panchamool, Brihad Panchmoola, Vallipanchmoola, Trinpanchmoola, Ashtavarga, Classification of Drugs according to Ayurvedic principles, 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: Aragvadhya, Ardraka, Apaamarga, Arjuna, Ashwagandha, Arka, Aamalaki, Ashok, Balaa, Bilva, Bhringraj, Dhatura, Ela, Gokshur, Guduchi, Guggulu, Chandan, Chitrak, Haritakee, Haridra, Jotishmati, Jamboo, Jataamansi, Kutaja, Khadira, Bhumyamalki, Nirgundi, Nimba, Marich, madanphala, Pareesha, Punarnava, Pipplai, Rohitak, Rasona, Shirisha, Shatavari, Karanja, Kumari, Shalmali, Sudershan, Tulsi, Tvak, Udumber, Vansh, Vacha, Vibhitaki, Lodhra, Vidang, Yashtimadhi, Katuka, Vasa, Sarpagandha, Sunthi, Brief History of the Science of Dravyaguna Shastra, Concept of Rasa, Guna, Veerya, Vipak and Prabhava, Collection Storage and Preservation of Drugs, Various impurities of Drugs, methods of Purification of Drugs, Ayurvedic concept of pharmacological actions of drugs like, Rasayan, Vajikarana, Medhya, Vyavayi, Vikasi, Pramathi, Madkari, Anulomana, Chhedna, Characteristic functions of Samanyapratyarabdha and Vichitra pratyarabdha, Knowledge, properties, effect and uses of following drugs of Animal origin : Kasturi, Gorochan, Prawal, Mukta, Shankh, Shambhook, Varatika, Shukti, Mrig shringa, Mishrak Varga dravyas, Chaturbeeja, Kantakpanchmoola, Panchkshiri vriksha, Panchpallava, Shadanga paneeya, Madhyampanchmoola. Upavisha, Study of following drugs including classification, Latin name, Family, Vernacular name, Synonyms, Botanical description, Varieties, Habitat, Chemical composition, Properties, Doshakarm, Actions and Uses, Part used, Dosage, Formulation, Substitutes and Adulterants: Agnimanth, Aristak, Ativisha, Aparajita, Amragandhi-haridra, Asthishrimkhala, Banfsa, Bhallatak, Brahmi, Bhangha, Arka, Chakramarda; Changeri, Champak, Dantee, Draksha, Doorva, Dhatura, Erand, Gambhari, Gunja, Hingu, Hrinsa, Irimeda, Kanchnar, Kirattikta, Kapikachchu, Karveera, Langali, Mandookparni, Methika, Mamajjak, Mustaka, Patha, Sleshmatak, Saptaparna, Vansha,

Trikantak, Varuna, Aralu, Bakul, Gojiwha, Manjistha, Sariva. Knowledge about adulterants and substitutes as per classical texts and contemporary literature. Controversial drugs, their identification and methods to resolve controversy. General morphology of plants with special reference to flowers and fruits, Principles of classification of plants with special reference to the plants of the common families of medicinal plants used in Ayurveda. Definition of the crude, organized and unorganized drugs, Classification of the crude drugs, Methods of systematic studies of the crude drugs, Cultivation, collection and storage of crude drugs. Introduction of pharmacognosy, Introduction to following groups of plant constituents: Carbohydrates, glycosides, tannins, lipids, volatile oils, terpenes, resins combinations, steroids, alkaloids, flavonoids, anthraquinones, coumarins, saponins gums & mucilage. Role of organoleptic and microscopic characters, ash values and extractive values in standardization of crude drugs. Definition, scope and development of pharmacological thought (historical development), ADME: Drug absorption, bioavailability, bioequivalence, route of drug administration, Plasma protein binding, half life of drug.

#### **4. RASASHASTRAANDBHAISHJYAKALPANA:-**

Definition of Rasa Shastra, importance in Ayurveda and brief history of Rasa Shastra, its relevance in vedic era, Ayurvedic literature and in Modern science, Rasachikitsa, Define (Pribhashas) Shodhana, Sanskar, Marana, Satvapatan, Nirvap, Avap, Dhanvantaribhag, Rudrabhag, kajjali, Patanpisht, Dhanyabhrak, Bubhukshitparad, Hinguloth Parad, Parada–Its synonyms, origin, its impurities, gatis, Samanya–Vishesh Shodhana, Shudh parad lakshana paradiya Kalpnana–Kajjali, Parpati, Pottali, Kuppipakva rasayana and Kharliya Rasayana, Brief descriptions of Yantra, putaand Musha, Yantra–Dolayantra. Vidyadharyantra, Taptakhalvayantra, Musha–Samanya, Vajra, Vajradravani, Yog, Gar, Var, Varnya, Ropya. Bid, Gostani, Vrintaak, Gol, Malla, Pakva, Maha, Manduk, Musha, Classification of drugs in Rasa Shastra, Maharasas–their synonyms, identification, types impurities shodhana, Marana, therapeutic doses and compound formulations, side effects and its antidote, Aushadh Yogas: Panchamrit Parpati, Shweta Parpati, Abragarbha pottali, Hemagarbha pottali, Rasa Sindur, Mallasindur, Makardhwaj, Suvarnabang, Saptamrita loha, Kamadudha rasa. Their composition, properties and uses, Introduction of periodic table and atomic configuration, Occurrence, properties, reactions and important compounds of iron, calcium, aluminium, copper, gold, sodium and potassium General introduction of different methods for quantitation of heavy metals in Ayurvedic preparation.

**BHAISHJYAKALPANA:** Definition of Bhaishaja–Bhaishjya kalapna and its brief history in Vedas Ayurvedic samhitas and in samgrah period, Paribhashas–Deepana, Paachana, Rasayana, Vajikarna, Stambhana, Stransana, Virechak, Vamana, Maana Paribhasha according to Sharangdhar samhita, Panchavidha kashaya kalpna, their method of preparation and their uses, Preparation methods of Avaleha Kalpana, Churna, Vati, Guggula Kalpana, Aushadh Yoga: Dashamool Kwath, Phalatrikadi Kwath, Pathyadi Kwath, Rasnasaptak Kwath, Vasavaleha, Chyavanaprashavaleha, Sitopaladi Churna, Talisaadi Churna, Dashanasamskar Churna, Lavanbhaskar Churna, Triphala Guggulu, Abha Guggulu, Yograj Guggulu, Bala Chaturbhadra Churna Their composition, properties and uses, Principles of Shodhana, Maranaand Jarana of Metals & Minerals, Introduction, identification, types, impurities, shodhana, marana, therapeuticdose, adverse effects and antidotes of Uparasas, Sadharan Rasa, Dhatuand Ratna,

Introduction, shodhana, the rapeuticdose, antidotes, toxicity of visha-upavisha varga, Preparation of several Ayurvedic formulations like Bhasma, Sindooras, Netrabindu, Varti & Rasa preparations, Aushadha Yoga: Anandbhairav rasa, Arogyavardhini rasa, Garbhupal rasa, Gandhak rasayana, Tribhuvankirtirasa, Laxmivilas rasa, Navajivan rasa, Shwaskuthar rasa, Ichchhabhedi rasa, Chandraprabhavati, Bhaishajya Kalpana: Preparatory methods of Sneha Kalpana and Sandhan Kalpana, Definition and application of Bhojana, Bhavana, Samskara, Mardana, Preparatory methods of satva, Ghan Kalpana, Kshar Nirmana, Malhar Kalpana, Preparation of several Ayurvedic formulations: Asavas, Arishtha, Taila, Ghrita etc. AushadhaYogas: Panchatikta Ghrita, Jatyadi Ghrita, Triphala Ghrita, Pind tail, Satapaki Balitail, Panchagun tail, Drakshasava, Kutajarishta, Bhringraj tail, Shadabindu tail, Vishgarbha tail, Shakha vati, Khadiradi vati, Lavangadi vati, Their compositions, properties and uses. Knowledge about Shelf life (Saviryata Avadhi) for Ayurvedic formulations and related regulations. Knowledge about formulations related to Eyes & ENT. Pathya Kalpana – preparation of Manda, Peya, Vilepi, Yavagu, Krishara, Takra, Mathit etc. Basic knowledge of modern dosage forms like Creams, powders, moisturizers, Suppositories and Preservatives, Packing materials, Tablet and tablet coating, Capsules: Hard gelatin, Soft gelatin, filling technique etc. Knowledge about basic instruments used in pharmacy for manufacture of Ayurvedic formulations like disintegrator, pulverisers, End runner, edge runner, Mass mixer, Tablet punching machine, coating pan, Furnace etc. Brief about Drugs & Cosmetics Act 1940 and Rules 1945. Quality control parameters for various Ayurvedic formulations like Churna, Vati-Tablets, Avaleha, Sandhana Kalpana, Sneha Kalpana etc. Basic knowledge about chromatography and spectroscopy techniques used in drug analysis.

5. **PRATHMIK UPACHAR EVAM RUGNA PARICHARYA:-**

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 sadvrta samanye sadurita, Satmya satmya vichar, Shuchitvam, Vaidyaguna, Chikitsalaya Bhesajya nirman Garadisu cha. Shuchitvavivek, asuchan, Bhutanma, Kitadinamacy pravesha, Tatjanya vikriti vighyanam, tannivarkopaya prati Rodhakapaya. Sankramak Roga, Gyanam, Tanpodwanshakarnam, Teshma viwarnopaya. Vayu, Tala, Kala, Deshashacha, Tesham Durtih Tanniwarnopaya, Vegan dharniyadharniyam Vivek, Kitpatangadinam, Jiwanaitiham, Masak, Makshika, Pipalikadi, Sansargatah, Roghvishesha, Tesham manavdeho raktagatam chatra gatam vaishamyam. Sankramak Nirodhak Bhavaha, Sankramak roga prasarasheha, prasangat Gatra sansparsati, Nihswarat, Sah, Bhojanat, Ekasayyashat. Gandhamalyadi, sam parkaccho psarga Rogah, Teshaam vishistam vighyanam tanni Rodhak & Niwarnabhu tascha Bhavah.

## **6. AYURVED PARICHAY INCLUDING ROGA NIDAN EVAM CHIKITSA:-**

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, Dhatu, Mala, Siddhanta, Definition and importance of Roga Vignana and Vikruti Vignana, Signs and symptoms of the increase and decrease of Doshas, Dhatu 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, ojoyashaya and ojoyuti, Vyadhikshamatva (Immunity), General description of Janapadodhvasaka vyadhi (Epidemics) and Aupsargika Roga and Sansargaja Roga (Infectious and communicable diseases).

## **7. AYURVEDIC PHARMACEUTICS INCLUDING HOSPITAL AND CLINICAL PHARMACY:-**

Introduction to different dosage forms, introduction to pharmacopoeias with special reference to the Ayurvedic Pharmacopoeia of India, Metrology- Systems of weight and measures, packaging of pharmaceuticals, sterilization-concept of sterilization and its types brief introduction to processing of tablets, capsules, syrups etc. prescription- reading and understanding of prescription, Latin terms commonly used modern methods of prescribing, adoption of metric system, calculations involved in dispensing, incompatibilities in prescription, posology-dose and dosage of drugs, brief introduction to semi-solid form like ointment etc. brief introduction of sterile dosage form with special reference to precautions in their **handling and storage, hospital pharmacy, drug distribution system in hospital.** General and Dispensing Pharmacy: Orientation and Historical Background of the Profession Orientation, introduction and scope of pharmacy profession, official pharmacopoeia (API, AFI), important historical events which led to the development of this profession from middle ages to the current era. Pharmacist's responsibility, proper use of medication, patient counselling, drug utilization review, medication profiles, non-prescription drug usage, health education, new and expanded dimensions, health care delivery systems, Patient compliance-Non-compliance, factors associated with non-compliance, improving compliance, Procurement and distribution of drugs in an Institution (Hospital Pharmacy): Hospital - Definition of hospital pharmacy, organization, facilities provided- pharmacist's responsibility - technical responsibilities (procurement, storage, dispensing, control, stock and inventory control, administrative and academic responsibilities.

## **8. KRIYA SHAARIR:-**

Dosh, dhatu, mala mulam shariram, Five types of vata, their names, locations and functions in health, Five types of pitta, their names, locations and functions in health, Five types of kapha their names, locations and functions in health, Dehprakriti, types of dosha prakritis and

characteristics of vata, pitta and kapha dominant person, Rashi purusha and its components according to ayurveda, Names of seven Dhatus, upadhatu and their nutrition from digested essence of the food, Description of Agni and complete process of the digestion of Food. (Ahara paka kriya and avastha paka Kriya), The nutrition of seven dhatus as explained by kshirdadhinyaya, kedarikulya nyaya and khalekapota nyaya (Theories), Definition, production types qualities and importance of Ojas and bala, Description of Vyadhi Kshmatva, Characteristics of presence of Atma in the body, Concept of mind, its number, functions and role in health, The description of blood according to Ayurved and modern science, The process of recognition–Gnanotpatti–according to charak, Endocrine glands, their name, location and functions in health, Composition of blood functions of blood elements, Blood group and coagulation of blood, Brief information regarding disorders of blood.

**Sd/-**

Section Officer (R-III)

H. P. Public Service Commission