

Kalyan Singh Super Specialty Cancer Institute

SYLLABUS

CBT - 2025

(Multiple Post Recruitment)

(Examination will be conducted in ENGLISH language only)

Computer Based Examination

(Advt. No. KSSSCI/ER-06/1-9/2024-25)

NOTE:

1. Syllabus is only Indicative
2. The questions can assess any aspect of knowledge, aptitude, attitude, subject and practical skills, which is expected from a trained person to work efficiently at the advertised post.

Syllabus

General Instructions

1. The Computer Based Test (CBT)-2025 will be of 02 hours duration & will be of 100 marks.
2. It will contain 100 multiple choice questions (MCQs)
3. **Examination Scheme:**

Part A	General Aptitude (Common for all the Posts)	General English	10 Questions
		General Knowledge	10 Questions
		Reasoning	10 Questions
		Mathematical Aptitude	10 Questions
Part B	Core Subject	Subject related to the post and level of the qualifications required	60 Questions

4. There will be 1/3 negative marking

Part- A

Indicative Syllabus: General Aptitude

(Common for all the Posts)

- 1. General English:** Candidate's ability to understand correct English, his basic comprehension and writing ability would be tested. Questions in this section will be designed to test the candidates understanding and knowledge of English language and will be based on spot the error, fill in the blanks, synonyms, antonyms, spelling/detecting mis-spelt words, idioms and phrases. One word substitution, improvement of sentences, active/passive voice of verbs, conversion into direct/indirect narration, shuffling of sentence parts, shuffling of sentences in a passage, comprehension passage and any other English Language questions at the Level of Matriculation /Higher Secondary.
- 2. General Knowledge:** Questions in this component will be aimed at testing the candidate's general awareness of the environment around him and its application to society. Questions will also be designed to test knowledge of current events and of such matters of everyday observations and experience in the scientific aspect as may be expected of any educated person. The test will also include questions relating to India and its neighboring countries especially pertaining history, culture geography, economic scene general policy & scientific research.
- 3. Reasoning:** It would include questions of both verbal and nonverbal type. This component may include questions on analogies, similarities and differences, spatial orientation, problem solving, Analysis, judgement, decision making, discrimination, observation, relationship concepts, arithmetical reasoning and figural classification, arithmetic number series, non-verbal series, coding and decoding, statement conclusion, etc the topics are, symbolic/number analogy, figural analogy semantic classification, symbolic/Number Classification, Figural Classification, semantic series, number series, Figural series, problem solving, word building, coding & decoding, Numerical operations, symbolic operations Trends, space orientation, space Visualization, Venn diagrams, Drawing inferences, Punched hole/pattern-folding & unfolding. Figural pattern- Folding and completion, indexing. Address matching, Date & city matching, Classification of center codes/roll numbers, small & capital letters/numbers coding, decoding and classification, Embedded Figures, Critical thing, Emotional Intelligence, Social Intelligence, Other sub topics, if any.

4. Mathematics Aptitude: The questions will be designed to test the ability of appropriate use of numbers and number sense of the candidate. The scope of the test will be computation of whole numbers, decimals, fractions and relationship between numbers percentage, Ratio & Proportion, Square roots, Averages, Interest, Profit & Loss, Discount, Partnership, Elementary Surds, Graphs of Linear Equation, Triangle and its various kinds of centers, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of a circle common tangents to two or more circles, Triangle, Quadrilaterals, Regular polygons, Circle, Right Prism, Right circular cone, Right circular cylinder, Sphere, Hemispheres, Rectangular Parallel piped, Regular right pyramid with triangular or square base, Trigonometric ratios, Degree and radian Measures, Standard Identities, Complementary Angles, Heights and Distances, Histogram, Frequency, polygon, Bar diagram & pie chart.

Pharmacist Grade-2

Part- A: General Aptitude - 40 Questions

Part-B: Core Subject - 60 Questions

Core Subject

A. Basics:

1. Introduction of different dosage forms.
2. Metrology-System of weights and measures.
3. Packaging of pharmaceuticals-Desirable features of a container and types of containers.
4. Size separation
5. Mixing and Homogenization
6. Clarification and Filtration
7. Extraction and Galenicals
8. Heat process
9. Distillation
10. Introduction to drying process
11. Sterilization
12. Aseptic techniques
13. Processing of Tablets
14. Processing of Capsules
15. Study of immunological products like sera, vaccines, toxoids & their preparations.

B. Pharmacognosy

1. Definition, history and scope of Pharmacognosy including indigenous system of medicine.
2. Various systems of classification of drugs and natural origin.
3. Adulteration and drug evaluation; significance of pharmacopoeia standards.
4. Brief outline of occurrence, distribution, outline of isolation, identification tests, therapeutic effects and pharmaceutical application of alkaloids, terpenoids, glycosides, volatile oils, tannins and resins.

5. Occurrence, distribution, organoleptic evaluation, chemical constituents including tests wherever applicable and therapeutic efficacy of following categories of drugs.

- Laxatives- Aloes, Rhubarb, Castor oil, Ispaghula, Senna.
- Cardiotonics- Digitalis, Arjuna.
- Carminatives & G.I. regulators- Umbelliferous fruits, Coriander, Fennel, Ajowan, Cardamom, Ginger, Blackpepper, Asafoetida, Nutmeg, Cinnamon, Clove.
- Astringents- Catechu.
- Drugs acting on nervous system- Hyoscyamus, Belladonna, Aconite, Ashwagandha, Ephedra, Opium, Cannabis, Nux-vomica.
- Antihypertensive- Rauwolfia.
- Antitussives- Vasaka, Tolu balsam, Tulsi.
- Antirheumatics- Guggal, Colchicum.
- Antitumour Vinca.
- Antileprotics- Chaulmoogra oil.
- Antidiabetics Pterocarpus, Gymnema sylvestre.
- Diuretics- Gokhru, Punarnava.
- Antidysenterics-Ipecacuanha.
- Antiseptics and disinfectants Benzoin, Myrrh, Neem, Curcuma.
- Antimalarials- Cinchona.
- Oxytocic- Ergot.
- Vitamins- Shark liver oil and Amla.
- Enzymes- Papaya, Diastase, Yeast.

Perfumes and flavoring agents- peppermint oil, Lemon oil, Orange oil, lemon grass oil, sandalwood. **Pharmaceutical aids-**Honey, Arachis oil, starch, kaolin, pectin, olive oil. Lanolin, Beeswax, Acacia, Tragacanth, sodium Alginate, Agar, Guar gum, Gelatin.

Miscellaneous- Liquorice, Garlic, picrorhiza, Dirscorea, Linseed, shatavari, shankhpushpi, pyrethrum, Tobacco. Collection and preparation of crude drugs for the market as exemplified by Ergot, opium, Rauwalfia, Digitalis, senna. Study of source, preparation and identification of fibers used in sutures and surgical dressings cotton, silk, wool and regenerated fibers. Gross anatomical studies aI-senna, Datura, cinnamon, cinchona, fennal, clove, Ginger, Nuxvomica & ipecacuanha.

C. Biochemistry and Clinical Pathology

1. Introduction to biochemistry. Brief chemistry and role of proteins, polypeptides and amino acids, classification, Qualitative tests, Biological value, Deficiency diseases.
2. Carbohydrates
3. Lipids
4. Vitamins
5. Therapeutics

D. Human Anatomy and Physiology

1. Definition of various terms used in Anatomy. Structure of cell, function of its components with special reference to mitochondria and microsomes.
2. Elementary tissues.
3. Skeletal System
4. Cardiovascular System
5. Respiratory system
6. Urinary System
7. Muscular System
8. Central Nervous System
9. Sensory Organs
10. Digestive System
11. Endocrine System
12. Reproductive system

E. Health Education and Community Pharmacy

1. Concept of Health
2. Nutrition and health
3. First aid
4. Environment and health;
5. Fundamental principles of microbiology
6. Communicable diseases
7. Intestinal infection
8. Arthropod borne infections
9. Surface infection-Rabies, Trachoma, Tetanus, Leprosy.
10. Sexually transmitted diseases
11. Non-communicable diseases
12. Epidemiology

F. Pharmaceutics (Dispensing Pharmacy)

1. Prescriptions
2. Posology
3. Dispensed Medications
4. Powders
5. Liquid oral Dosage forms:
 - a. Monophasic
 - b. Biphasic Liquid Dosage Forms
6. Semi-Solid Dosage Forms:
 - a. Ointments
 - b. Pastes.
 - c. Bellies
 - d. Dental and cosmetic preparations
7. Sterile Dosage forms:

- a. Parenteral dosage forms
- b. Ophthalmic products

G. Pharmaceutical Chemistry

1. Introduction to the nomenclature of organic chemical systems with particular reference to hetero-cyclic system containing up to 3 rings.
2. The chemistry of following pharmaceutical organic compounds covering their nomenclature, chemical structure, uses and the important physical and chemical properties (chemical structure of only those compounds marked with asterisk . The storage conditions and the different type of pharmaceutical formulations of these drugs and their popular brand names.
3. Antiseptics and Disinfectants
4. Sulphonamides
5. Antileprotic Drugs
6. Anti-tubercular Drugs
7. Antibiotics
8. Anti-Protozoal, Anti-Helminth.
9. Antifungal agents
10. Antimalarial Drugs
11. Tranquilizers-
12. Hypnotics-
13. Antidepressant Drugs
14. Analeptics
15. Autonomic Nervous System
16. Adrenergic Drugs
17. Diuretic Drugs
18. Cardiovascular Drugs
19. Hypoglycemic Agents
20. Local Anesthetics

21. Analgesics and Anti-pyretics
22. Non-steroidal anti-inflammatory agents
23. Thyroxine and Antithyroids
24. Diagnostic Agents
25. Anticonvulsants, cardiac glycosides, Antiarrhythmic, Antihypertensive & Vitamins.
26. Steroidal Drugs
27. Anti-Neoplastic Drugs

H. Pharmacology & Toxicology

1. Introduction to Pharmacology, Scope of Pharmacology
2. Routes of administration of drugs
3. General anesthetics
4. Anti-inflammatory drugs
5. Sedatives and Hypnotics, psychopharmacological agents, anticonvulsants, analeptics. Centrally acting muscle relaxants and anti-parkinsonism agents. Local anesthetics.
6. Drugs acting on autonomic nervous system. Neuron blockers and ganglion blockers. Neuromuscular blockers, used in myasthenia gravis.
7. Drugs acting on eye
8. Drugs acting on respiratory system
9. Autacoids
10. Cardio vascular drugs Cardiotonics, Antiarrhythmic agents, Anti-anginal agents, Antihypertensive agents, peripheral Vasodilators and drugs used in atherosclerosis. Drugs acting on the blood and blood forming organs. Haematinics, coagulants and anticoagulants, Homeostatic, Blood substitutes and plasma expanders.
11. Drugs affecting renal function Diuretics and anti-diuretics.
12. Hormones and hormone antagonists
13. Hypoglycemic agents, Anti--thyroid drugs, sex hormones and oral

contraceptives, corticosteroids.

14. Drugs acting on digestive system carminatives, digest ants, Bitters, Antacids and drugs used in peptic ulcer, purgatives and laxatives, Anti-diarrheals, Emetics, Anti-emetics, Antispasmodics. Prescription (Parts), Parts of Prescription.

I. Pharmaceutical Jurisprudence

1. Origin and nature of pharmaceutical legislation in India
2. Principles and significance of professional Ethics.
3. Pharmacy Act, 1948-
4. The Drugs and Cosmetics Act, 1940
5. Narcotic Drugs and psychotropic substances Act, 1985
6. Medicinal and Toilet preparations (excise Duties) Act, 1955 (as amended to date). Medical Termination of Pregnancy Act, 1971.

J. Drug Store and Business Management

1. Introduction-Trade, Industry and commerce, Functions and subdivision of commerce, Introduction to Elements for Economics and Management. Forms of Business Organizations. Channels of Distribution.
2. Drug House Management
3. Codification, handling of drug stores and other hospital supplies. Inventory Control objects and importance, modern techniques like ABC, VED analysis, the lead time, inventory carrying cost, safety stock, minimum and maximum stock levels, economic order quantity, scrap and surplus disposal.
4. Sales promotion, Market Research, Salesmanship, qualities of a salesman, Advertising and Window Display.
5. Recruitment, training, evaluation and compensation of the pharmacist.
6. Banking and Finance-Service and functions of bank, Finance planning and sources of finance.

K. Hospital and Clinical Pharmacy

1. Hospital-
2. Hospital Pharmacy

3. Drug Distribution system in Hospitals
4. Manufacturing: Economical considerations, estimation of demand.
5. Sterile manufacture
6. Non-sterile manufacture
7. Hospital Formulary system and their organization, functioning, composition.
8. Drug Information service and Drug Information Bulletin.
9. Surgical dressing like cotton, gauze, bandages and adhesive tapes including their pharmacopoeial tests for quality. Other hospital supply eg. I.V. sets, B.G. sets, Ryals tubes, Catheters, Syringes etc.
10. Application of computers in maintenance of records, inventory control, medication monitoring, drug information and data storage and retrieval in hospital retail pharmacy establishment.
11. Clinical Pharmacy:
 - a. Introduction to Clinical pharmacy practice- Definition, scope. Modern dispensing aspects- Pharmacists and patient counseling and advice for the use of common drugs, medication history.
 - b. Common daily terminology used in the practice of Medicine. Disease, manifestation and patho-physiology including salient symptoms to understand the disease like Tuberculosis, Hepatitis, Rheumatoid Arthritis, Cardio-vascular diseases, Epilepsy, Diabetes, Peptic Ulcer, Hypertension.
 - c. Physiological parameters with their significance.
 - d. Drug interactions
 - e. Adverse Drug Reaction
 - f. Drugs in Clinical Toxicity-
 - g. Drug dependences, drug abuse, addictive drugs and their treatment, complications. Bio-availability of drugs, including factors affecting it.