

Syllabi for the Written Examination against Advt. No. 06/2015

Paper-I (COMMON PAPER FOR ALL POST CODES)

General English:

(1) Noun & Pronoun; (2) Verb; (3) Infinitive & Gerund; (4) Tense; (5) Mood & Voice; (6) Adverb & Conjunctive; (7) Adjective & Degree (Positive, Comparative & Superlative); (8) Preposition; (9) Synonyms, (10) Antonyms; (11) Phrases & Idioms (12) Spelling Mistake detection; (13) Interrogative Sentence; (14) Spotting of Error in a Sentence.

General Awareness:

(1) Indian History, (2) Indian Geography, (3) Indian Economy (4) Public Administration in India [including Constitution & Democratic Federal Division of Governance]; (5) Agriculture & Allied Activities in West Bengal; (6) Science & Technology; and (7) Current Affairs.

Quantitative Aptitude (Arithmetic & Mensuration):

(1) Simple Interest Calculation; (2) Compound Interest Calculation; (3) Percentage; (4) Profit & Loss; (5) Ratio & Proportions; (6) Unitary Method; (7) Time & Distance; (8) Time & Work; (9) Simplification; (10) Square & Square Roots; (11) Highest Common Factor (HCF); (12) Lowest Common Multiple (LCM); (13) Average and Problem of Age; (14) Decimal Fractions; (15) Elementary Mensuration.

Test of Reasoning:

(1) Analogy; (2) Classification; (3) Series; (4) Missing Characters; (5) Blood Relations; (6) Number Sequence; (7) Raking Sequence ; (8) Time Sequence; (9) Coding-Decoding; (10) Problems based on Alphabets; (11) Venn Diagrams; (12) Cubes & Dice; (13) Analytical Reasoning; (14) Numerical Aptitudes; (15) Direction Test.

Knowledge in Computer Application:

(1) Test of basic knowledge in "MS Word" (2) Test of basic knowledge in "MS Excel" (3) Test of basic knowledge in "Net-Surfing" (4) Test of basic knowledge in "Power Point Presentation" (5) Test of basic knowledge in Uploading & downloading in and from Web Page.

Paper II

Postcode	Name of subject (Paper II)	Postcode	Name of subject (Paper II)	Postcode	Name of subject (Paper II)
061501	Law	061506	Financial Management with special stress on Management Accounting and General Banking Awareness	061511	Fundamentals of Accountancy & General Banking Awareness-I
061502	Human Resource Management	061507	Fundamentals of Accountancy & General Banking Awareness-II	061512	Fundamentals of Accountancy & General Banking Awareness-II
061503	Computer Science with emphasis on Networking	061508	Fundamentals of Accountancy & General Banking Awareness-II	061513	Computer Science with emphasis on Networking
061504	Pharmacy	061509	Marketing Management	061514	Fundamentals of Accountancy & General Banking Awareness-I
061505	Fundamentals of Accountancy & General Banking Awareness-I	061510	Handloom and Textile Technology	061515	Fundamentals of Accountancy & General Banking Awareness-II
061516	Computer Science with emphasis on Networking	061517	Computer Science with emphasis on Networking		

LAW

Part-I : Knowledge in Bank-Related Basic Civil Laws :

1. The Banking Regulation Act, 1949 (As Applicable to Co-operative Societies) and The Deposit Insurance and Credit Guarantee Corporation Act, 1961
2. The West Bengal Co-operative Societies Act, 2006, The West Bengal Co-operative Societies Rules, 2011 and The Multi-State Co-operative Societies Act, 2002 and MultiState Co-operative Societies Rules, 2002
3. The Reserve Bank of India Act, 1934 and The National Bank for Agriculture and Rural Development (NABARD) Act, 1981
4. The Companies Act, 1956 & interface with Co-operative Law & Principles
5. The Bengal Public Demand Recovery Act, 1913
6. The Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002, The SARFAESI Rules, 2002 and role of Debt Recovery Tribunals
7. The Indian Contract Act, 1872, The Indian Trusts Act, 1882, The Transfer of Property Act, 1882, The Partnership Act, 1932 and The Negotiable Instruments Act, 1881 and Negotiable Instrument [Amendment & Misc. Provisions] Act, 2002. [with special emphasis on Valid Contract, Invalid Contract, Void Contract, Breach of Contract and its legal consequences, Violation of Contracts, Agreements, Mortgage provisions etc.]
8. The Prevention of Money Laundering Act, 2002 and The Information Technology Act, 2000
9. The Suits Valuation Act, 1887 and The West Bengal Court Fees Act, 1970
10. The Arbitration and Conciliation Act, 1996 & its application in the Banking Sector
11. The Employees' Provident Funds and Miscellaneous Provisions Act, 1952, The Payment of Bonus Act, 1965 and The Payment of Gratuity Act, 1972
12. Taxation Laws including The Income Tax Act, 1961 and Rules framed thereunder and The West Bengal Value-added Tax Act, 2003 [VAT] and its Statutory Obligations & Legal Consequences on the Co-operative Banks and its members and customers

Part-II : Knowledge of Procedural Laws & their Application

1. Judicial Practices in Civil Suits with basic knowledge of The Code of Civil Procedure, 1908 [read with relevant Provisions of The Limitation Act, 1963]
2. The India Evidence Act, 1872, The Bankers' Book Evidence Act, 1891 and The Code of Criminal Procedure, 1973
3. Basic Ingredients of Preparation of:- [a] Mortgage Documents /Bonds; [b] Loan Agreements; [c] Indemnity Bonds; [d]Deed of Assignment; [e]Power of Attorney; [f] Preparation of Legal Notices for recovery of outstanding Loans and Advances; [g] Procedure for initiation of Civil Suits for recovery of Bank's Dues & attachment of Mortgaged Properties and other collateral Securities; and selection of appropriate legal forum.
4. Application of The Prevention of Corruption Act, 1988

Computer Science with emphasis on Networking

1. C Programming Basics,
- 2 MS Office,
3. Windows OS and Programming,
4. DBMS, Data Communication and Networking,
5. Network Security,
6. Web Technologies,
7. Basic Programming concepts,
8. Basics of Hardware (Microprocessor, Timer, ALU etc.),
9. Software Engineering,
10. Operating System,
11. Computer Organization

PHARMACY

1. PHARMACEUTICS-I

1. Introduction of different dosage forms. Their classification with examples- their relative applications. Familiarisation with new drug delivery systems.

2. Introduction to Pharmacopoeias with special reference to the Indian Pharmacopoeia.

3. Metrology—Systems of weights and measures. Calculations including conversion from one to another system. Percentage calculations and adjustments of products. Use of alligation method in calculations, Isotonic solutions.

4. Packing of Pharmaceuticals—Desirable features of a container—types of containers. Study of glass and plastics as materials for containers and rubber as material for closures-their merits and demerits. Introduction to aerosol packaging.

5. Size reduction Objectives, and factors affecting size reduction, methods of size reduction—Study of Hammer mill, Ball mill, Fluid Energy Mill and Disintegrator.

6. Size separation—Size separation by sifting. Official Standard for powders. Sedimentation methods of size separation. Construction and working of cyclone separator.

7. Mixing and Homogenisation—Liquid mixing and powder mixing, Mixing of semisolids, Study of Silverson Mixer—Homogeniser, Planetary Mixer; Agitated powder mixer; Triple Roller Mill; Propeller Mixer, Colloid Mill and Hand Homogeniser. Double cone mixer.

8. Clarification and Filtration-Theory of filtration, Filter media; Filter aids and selection of filters. Study of the following filtration equipments—Filter Press, Sintered Filters, Filter Candles, Metafilter

9. Extraction and Galenicals—

(a) Study of percolation and maceration and their modification, continuous hot extraction—Applications in the preparation of tinctures and extracts.

(b) Introduction to Ayurvedic dosage forms.

10. Heat processes Evaporation—Definition Factors affecting evaporation-Study of evaporating still and Evaporating Pan.

11. Distillation—Simple distillation and Fractional distillation; Steam distillation and vacuum distillation. Study of vacuum still, preparation of Purified Water I.P. and water for injection I.P. Construction and working of the still used for the same.

12. Introduction to drying processes—Study of Tray Dryers: Fluidized Bed Dryer, Vacuum Dryer and Freeze Dryer.

13. Sterilization—Concept of sterilization and its differences from disinfection-Thermal resistance of microorganisms. Detailed study of the following sterilization process.

(i) Sterilization with moist heat,

(ii) Dry heat sterilization,

(iii) Sterilization by radiation,

(iv) Sterilization by filtration and

(v) Gaseous sterilization.

Aseptic techniques. Application of sterilization processes in hospitals particularly with reference to surgical dressings and intravenous fluids. Precautions for safe and effective handling of sterilization equipment.

14. Processing of Tablets-Definition; Different types of compressed tablets and their properties. Processes involved in the production of tablets; Tablets excipients; Defects in tablets. Evaluation of Tablets; Physical Standards including Disintegration and Dissolution. Tablet coating—sugar coating; film coating, enteric coating and microencapsulation (Tablet coating may be dealt in an elementary manner.)

15. Processing of Capsules—Hard and soft gelatin capsules; different sizes capsules; filling of capsules; handling and storage of capsules, Special applications of capsules.

16. Study of immunological products like sera vaccines, toxoids & their preparations.

2. PHARMACEUTICS II

1. Dispensing Pharmacy:

(i) Prescriptions-Reading and understanding of prescription; Latin terms commonly used (Detailed study is not necessary), Modern methods of prescribing, adoption of metric system. Calculations involved in dispensing.

(ii) Incompatibilities in Prescriptions-Study of various types of incompatibilities-physical, chemical and therapeutic.

(iii) Posology—Dose and Dosage of drugs, Factors influencing dose, Calculations of doses on the basis of age, sex and surface area. Veterinary doses.

2. Dispensed Medications: Methods of preparation with theoretical and practical aspects, use of appropriate containers and closures. Special labelling requirements and storage conditions should be high-lighted).

(i) Powders-Types of powders-Advantages and disadvantages of powders, Granules, Cachets and Tablet triturates. Preparation of different types of powders encountered in prescriptions. Weighing methods, possible errors in weighing, minimum weighable amounts and weighing of material below the minimum weighable amount, geometric dilution and proper usage and care of dispensing balance.

(ii) Liquid Oral Dosage Forms:

(a). Monophasic—Theoretical aspects including commonly used vehicles, essential adjuvant like stabilizers, colourants and flavours, with examples.

Review of the following monophasic liquids with details of formulation and practical methods.

Liquids for internal administration	Liquids for external administration or used on mucus membranes.
Mixtures and concentrates	Gargles
Syrups	Mouth washes Throat-paints Douches
Elixirs	Ear Drops Nasal drops & Sprays Liniments Lotions.

(b) Biphasic Liquid Dosage Forms:

(i) Suspension (elementary study)----Suspensions containing diffusible solids and liquids and their preparations. Study of the adjuvants used like thickening agents, wetting agents, their necessity and quantity to be incorporated. Suspensions of precipitate forming liquids like, tinctures, their preparations and stability. Suspensions produced by chemical reaction. An introduction to flocculated, non-flocculated suspension system.

(ii) Emulsions-Types of emulsions, identification of emulsion system, formulation of emulsions, selection of emulsifying agents. Instabilities in emulsions. Preservation of emulsions.

(iii) Semi-Solid Dosage Forms:

(a) Ointmentsâ€“Types of ointments, classification and selection of dermatological vehicles. Preparation and stability of ointments by the following processes:

(i) Trituration (ii) Fusion (iii) Chemical reaction (iv) Emulsification.

(b) Pastes--- Difference between ointments and pastes, bases of pastes. Preparation of pastes and their preservation.

(c) Jellies-An introduction to the different types of jellies and their preparation.

(d) An elementary study of poultice.

(e) Suppositories and pessaries-Their relative merits and demerits, types of suppositories, suppository bases, classification, properties, Preparation and packing of suppositories. Use of suppositories for drug absorption.

(iv) Dental and Cosmetic Preparations:

Introduction to Dentrifices, Facial cosmetics, Deodorants, Antiperspirants, Shampoos, Hair dressing and Hair removers.

(v) Sterile Dosage Forms:

(a) Parenteral dosage formsâ€“Definitions, General requirements for parenteral dosage forms. Types of parenteral formulations, vehicles, adjuvants, processing, personnel, facilities and Quality control. Preparation of Intravenous fluids and admixtures-Total parenteral nutrition, Dialysis fluids.

(b) Sterility testing, Particulate matter monitoring-Faulty seal packaging.

(c) Ophthalmic Products-Study of essential characteristics of different ophthalmic preparations. Formulation additives, special precautions in handling and storage of ophthalmic products.

3. PHARMACEUTICAL CHEMISTRY -I

1.General discussion on the following inorganic compounds including important physical and chemical properties, medicinal and Pharmaceutical uses, storage conditions and chemical incompatibility.

(A) Acids, bases and buffers Boric acid*, Hydrochloric acid, strong ammonium hydroxide, Calcium hydroxide, Sodium hydroxide and official buffers.

(B) Antioxidantsâ€“Hypophosphorous acid, Sulphur dioxide, Sodium bisulphite, Sodium metabisulphite, Sodium thiosulphate, Nitrogen and Sodium Nitrite.

(C) Gastrointestinal agents--

(i) Acidifying agents Dilute hydrochloric acid.(ii) Antacids-Sodium bicarbonate, Aluminium hydroxide gel, Aluminium Phosphate, Calcium carbonate, Magnesium carbonate, Magnesium trisilicate, Magnesium oxide, Combinations of antacid preparations.(iii) Protectives and Adsorbents-Bismuth subcarbonate and Kaolin.(iv) Saline Cathartics-Sodium potassium tartrate and Magnesium sulphate.

(D) Topical Agents-

(i) Protectives-Talc, Zinc Oxide, Calamine, Zinc stearate, Titanium dioxide, Silicone polymers.(ii) Antimicrobials and Astringentsâ€“Hydrogen peroxide*, Potassium permanganate, Chlorinated lime, Iodine, Solutions of Iodine, Povidone-iodine, Boric acid, Borax. Silver nitrate, Mild silver protein, Mercury, Yellow mercuric oxide, Ammoniated mercury.(iii) Sulphur and its compoundsâ€“Sublimed sulphur precipitated sulphur, selenium sulphide.(iv) Astringents:- Alum and Zinc Sulphate.

(E) Dental Productsâ€“Sodium Fluoride, Stannous Fluoride, Calcium carbonate, Sodium metaphosphate, Dicalcium phosphate, Strontium chloride, Zinc chloride.

(F) Inhalantsâ€“Oxygen, Carbon dioxide, Nitrous oxide.

(G) Respiratory stimulantsâ€“Ammonium Carbonate.

(H) Expectorants and Emeticsâ€“Ammonium chloride , *Potassium iodide, Antimony potassium tartrate.

(I) Antidotes-Sodium nitrate.

2. Major Intra and Extracellular electrolytes-

(A) Electrolytes used for replacement therapy-Sodium chloride and its preparations, Potassium chloride and its preparations.

(B) Physiological acid-base balance and electrolytes used-Sodium acetate, Potassium acetate, Sodium bicarbonate injection, Sodium citrate, Potassium citrate, Sodium lactate injection, Ammonium chloride and its injection.

(C) Combination of oral electrolyte powders and solutions.

3. Inorganic Official compounds of Iron, Iodine, and, Calcium Ferrous Sulfate and Calcium gluconate.

4. Radio pharmaceuticals and Contrast media-Radio activity-Alpha, Beta and Gamma Radiations, Biological effects of radiations, Measurement of radio activity, G. M. Counter Radio isotopes their uses, storage and precautions with special reference to the official preparations.

Radio opaque Contrast mediaâ€“Barium sulfate.

5. Quality control of Drugs and Pharmaceuticals-Importance of quality control, significant errors, methods used for quality control, sources of impurities in Pharmaceuticals, Limit tests for Arsenic, chloride, sulphate, Iron and Heavy metals.

6. Identification tests for cations and anions as per Indian Pharmacopoeia.

4. PHARMACEUTICAL CHEMISTRY II,

1. Introduction to the nomenclature of organic chemical systems with particular reference to heterocyclic 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 stability and storage conditions and the different type of Pharmaceutical formulations of these drugs and their popular brand names.

Antiseptics and Disinfectants-Proflavine, * Benzalkoniumchloride, Cetrime, Chlorocresol*, Chloroxylyene, Formaldehyde solution, Hexachlorophene, Liquified phenol, Nitrofurantoin.

Sulfonamides-Sulfadiazine, Sulfaguanidine*, Phthalysulfathiazole, Succinylsulfathiazole, Sulfadimethoxine, Sulfamethoxypridazine, Sulfamethoxazole, co-trimoxazole, Sulfacetamide*.

Antileprotic Drugs-Clofazimine, Thiambutosine, Dapsone*, Solapsone.

Anti-tubercular Drugs-Isoniazid*, PAS*, Streptomycin, Rifampicin, Ethambutol*, Thiacetazone, Ethionamide, Cycloserine, Pyrazinamide*.

Antiamoebic and Anthelmintic Drugs- Emetine, Metronidazole*, Halogenated hydroxyquinolines, diloxanidefuroate, Paramomycin Piperazine*, Mebendazole, D.E.C*.,.

Antibiotics-Benzyl Penicillin*, Phenoxy methyl Penicillin*, Benzathine Penicillin Ampicillin*, Cloxacillin, Carbenicillin, Gentamicin, Neomycin , Erythromycin , Tetracycline, Cephalexin, Cephaloridine , Cephalothin, Griseofulvin , Chloramphenicol.

Antifungal agents-Undecylenic acid, Tolnaftate, Nystatin, Amphotericin, Hamycin.

Antimalarial Drugs-Chloroquine*, Amodiaquine, Primaquine, Proguanil, Pyrimethamine*, Quinine, Trimethoprim.

Tranquilizers-Chlorpromazine*, Prochlorperazine, TrifluoPerazine, Thiothixene, Haloperidol*, Triperidol, Oxypertine, Chlordiazepoxide, Diazepam*, Lorazepam, Meprobamate.

Hypnoticsâ€™Phenobarbitone*, Butobarbitone, Cyclobarbitone, Nitrazepam, Glutethimide*, Methypylone, Paraldehyde, Triclofos sodium.

General Anaesthetics-Halothane*, Cyclopropane*, Diethyl ether*, Methohexital sodium, Thiopental sodium, Trichloroethylen.

Antidepressant Drugsâ€™Amitriptyline, Nortriptyline, Imipramine * , Phenelzine, Tranylcypromine.

Analeptics-Theophylline, Caffeine*,Coramine*, Dextroamphetamine.

Adrenergic Drugs-Adrenaline*, Noradrenaline, Isoprenaline*, Phenylephrine Salbutamol, Terbutaline, Ephedrine * , Pseudoephedrine.

Adrenergic Antagoist-Tolazoline, Propranolol*, Practolol.

Cholinergic Drugs-Neostigmine*,Pyridostigmine, Pralidoxime, Pilocarpine, Physostigmine*.

Cholinergic Antagonists-Atropine*, Hysocine, Homatropine, Propantheline*, Benztropine, Tropicamide, Biperiden.*

Diuretic Drugs-Furosemide*,Chlorothiazide, Hydrochlorothaizide*, Benzthiazide, Urea*,Mannitol *, Ethacrynic Acid.

Cardiovascular Drugs-Ethyl nitrite*, Glyceryl trinitrate, Alpha methyl dopa, Guanethidine, Clofibrate, Quinidine.

Hypoglycemic Agents-Insulin, Chlorpropamide*, Tolbutamide, Glibenclamide, Phenformin *, Metformin.

Coagulants and Anti-Coagulants-Heparin, Thrombin, Menadione*, Bishydroxycoumarin, Warfarin Sodium.

Local Anaesthetics-Lignocaine*, Procaine*, Benzocaine.

Histamine and Anti-histaminic Agents-Histamine, Diphenhydramine*, Promethazine, Cyproheptadine, Mepyramine, Pheniramine, Chlorpheniramine*.

Analgesics and Anti-pyretics-Morphin, Pethidine*, Codeine, Methadone, Aspirin*, Paracetamol*, Analgin, Dextropropoxyphene, Pentazocine.

Non-steroidal anti-inflammatory Agents-Indomethacin*, phenylbutazone*, Oxyphenbutazone, Ibuprofen, Thyroxine and Antithyroids-Thyroxine*, Methimazole, Methylthiouracil, Propylthiouracil.

Diagnostic Agents-Iopanoic Acid, Propyliodone, Sulfobromophthalein. Sodium indigotindisulfonate, Indigo Carmine, Evans blue, Congo Red, Fluorescein Sodium .

*Anticonvulsants, cardiac glycosides, Antiarrhythmic antihypertensives & vitamins.

Steroidal Drugs-Betamethazone, Cortisone, Hydrocortisone, prednisolone, Progesterone, Testosterone, Oestradiol, Nandrolone.

Anti- Neoplastic Drugs-Actinomycins, Azathioprine, Busulphan, Chlorambucil, Cisplatin cyclophosphamide, Daunorubicin hydrochloride, Fluorouracil, Mercaptopurine, Methotrexate, Mytomycin.

5. PHARMACOGNOSY:

1. Definition, history and scope of Pharmacognosy including indigenous system of medicine.

2. Various systems of classification of drugs of natural origin.

3. Adulteration and drug evaluation; significance of Pharmacopoeial standards.

4. Brief outline of occurrence, distribution, outline of isolation, identification tests, therapeutic effects and pharmaceutical applications 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.

(a) Laxatives: Aloes, Rhubarb, Castor oil, Ispaghula, Senna.

(b) Cardiotonics-Digitalis, Arjuna.

(c) Carminatives & G.I. regulators-Umbelliferous fruits, Coriander, Fennel, Ajowan, Cardamom Ginger, Black pepper, Asafoetida, Nutmeg, Cinnamon, Clove.

(d) Astringents-Catechu.

(e) Drugs acting on nervous system-Hyoscyamus, Belladonna, Aconite, Ashwagandha, Ephedra, Opium, Cannabis, Nux vomica.

(f) Antihypertensives-Rauwolfia.

(g) Antitussives-Vasaka, Tolu balsam, Tulsi.

(h) Antirheumatics-Guggul, Colchicum.

(i) Antitumour-Vinca.

(j) Antileprotics-Chaulmoogra Oil.

(k) Antidiabetics -Pterocarpus, Gymnema, Sylvestro.

- (l) Diuretics—Gokhru, Punarnava.
- (m) Antidysentrics-Ipecacuanha
- (n) Antiseptics and disinfectants Benzoin, Myrrh, Nim, curcuma.
- (o) Antimalarials—Cinchona.
- (p) Oxytocics-Ergot.
- (q) Vitamines-Shark liver Oil and Amla.
- (r) Enzymes-Papaya, Diastase, Yeast.
- (s) Perfumes and flavouring agents-Peppermint Oil, Lemon Oil, Orange Oil, Lemon grass Oil, Sandalwood.
- (t) Pharmaceutical aids-Honey, Arachis Oil, Starch, Kaolin, Pectin, Olive oil, Lanolin, Beeswax, Acacia, Tragacanth, Sodium alginate, Agar, Guar gum, Gelatin.
- (u) Miscellaneous-Liquorice, Garlic, Picrorhiza, Dioscorea, Linseed, Shatavari, Shankhapusphi, Pyrethrum, Tobacco.

6. Collection and preparation of crude drug for the market as exemplified by Ergot, opium, Rauwolfia, Digitalis, Senna.

7. Study of source, preparation and identification of fibres used in sutures and surgical dressings—cotton, silk, wool and regenerated fibre.

8. Gross anatomical studies of Senna, Datura, Cinnamon, Cinchona, Fennel, Clove, Ginger, Nux vomica & Ipecacuanha.

6. BIOCHEMISTRY AND CLINICAL PATHOLOGY

1. Introduction to biochemistry.

2. Brief chemistry and role of proteins, polypeptides and amino acids, classification, Qualitative tests, Biological value, Deficiency diseases.

3. Brief chemistry and role of Carbohydrates, Classification, qualitative tests, Diseases related to carbohydrate metabolism.

4. Brief chemistry and role of Lipids, Classification, qualitative tests. Diseases related to lipids metabolism.

5. Brief chemistry and role of Vitamins and Coenzymes.

6. Role of minerals and water in life processes.

7. Enzymes : Brief concept of enzymic action. Factors affecting it. Therapeutic and pharmaceutical importance.

8. Brief concept of normal and abnormal metabolism of proteins, carbohydrates and lipids.

9. Introduction to pathology of blood and urine.

- (a) Lymphocytes and Platelets, their role in health and disease.
- (b) Erythrocytes Abnormal cells and their significance.
- (c) Abnormal constituents of urine and their significance in diseases.

7. HUMAN ANATOMY AND PHYSIOLOGY

1. Scope of Anatomy and Physiology.

Definition of various terms used in Anatomy

2. Structure of cell, function of its components with special reference to mitochondria and microsomes.
3. Elementary tissues of the body. i.e epithelial tissue, muscular tissue, connective tissue and nervous tissue.
4. Structure and function of skeleton. Classification of joints and their function, Joint disorder.
5. Composition of blood, functions of blood elements. Blood group and coagulation of blood. Brief information regarding disorders of blood.
6. Name and functions of lymph glands.
7. Structure and functions of various parts of the heart. Arterial and venous systems with special reference to the names and positions of main arteries and veins. Blood pressure and its recording. Brief information about cardiovascular disorders.
8. Various parts of respiratory system and their functions. Physiology of respiration.
9. Various parts of urinary system and their functions, structure and functions of kidney. Physiology of Urine formation. Pathophysiology of renal diseases and oedema.
10. Structure of skeletal muscle. Physiology of muscle contraction, Names, position, attachments and functions of various skeletal muscles. Physiology of neuromuscular junction.
11. Various parts of central nervous system, brain and its parts, functions and reflex action. Anatomy and Physiology of autonomic nervous system.
12. Elementary knowledge of structure and functions of the organs of taste, smell, ear, eye and skin. Physiology of pain.
13. Digestive system; names of the various parts of digestive system and their functions. Structure and functions of liver, physiology of digestion and absorption.
14. Endocrine glands and Hormones. Locations of the glands, their hormones and functions. Pituitary, thyroid, Adrenal and Pancreas.
15. Reproductive system -Physiology and Anatomy of Reproductive system.

8. HEALTH EDUCATION AND COMMUNITY PHARMACY

1. Concept of health –Definition of physical health, mental health, social health, spiritual health determinants of health, indicators of health, concept of disease, natural history of diseases, the disease agents, concept of prevention of diseases.
2. Nutrition and health –Classification of foods requirements, disease induced due to deficiency of proteins, Vitamins and minerals-treatment and prevention.
3. Demography and family planning –Demography cycle, fertility, family planning, contraceptive methods, behavioural methods, natural family planning method, chemical method, mechanical methods, hormonal contraceptives, population problem of India.
4. First aid –Emergency treatment in shock, snake-bite, burns poisoning, heart disease, fractures and resuscitation methods. Elements of minor surgery and dressings.

5. Environment and health-Sources of water supply, water pollution, purification of water, health and air, noise light-solid waste disposal and control-medical entomology, arthropod borne diseases and their control, rodents, animals and diseases.
6. Fundamental principles of microbiology classification of microbes, isolation, staining techniques of organisms of common diseases.
7. Communicable diseases –Causative agents, modes of transmission and prevention.
 - (a) Respiratory infections–Chicken pox, measles. Influenza, diphtheria, whooping cough and tuberculosis.
 - (b) Intestinal infections: Poliomyelitis. Hepatitis. Cholera. Typhoid, Food poisoning, Hookworm infection.
 - (c) Arthropod borne infections-plague, Malaria, Filariasis.
 - (d) Surface infections-Rabies, Trachoma, Tetanus, Leprosy.
 - (e) Sexually transmitted diseases ---Syphilis. Gonorrhoea. AIDS.
8. Non-communicable diseases-Causative agents, prevention, care and control; Cancer, Diabetes, Blindness, Cardiovascular diseases.
9. Epidemiology– Its scope, methods, uses, dynamics of disease transmission, immunity and immunization: Immunological products and their dose schedule. Principles of disease control and prevention, hospital acquired infection, prevention and control. Disinfection, types of disinfection, disinfection procedures, for faeces, urine, sputum, room linen, dead-bodies, instruments.

9. PHARMACOLOGY & TOXICOLOGY

1. Introduction to Pharmacology, scope of Pharmacology.
2. Routes of administration of drugs, their advantages and disadvantages.
3. Various processes of absorption of drugs and the factors affecting them, Metabolism, distribution and excretion of drugs.
4. General mechanism of drugs action and the factors which modify drug action.
5. Pharmacological classification of drugs. The discussion of drugs should emphasise the following aspect:
 - (i)Drugs acting on the Central Nervous System:
 - (a) General anaesthetics, adjunction to anaesthesia, intravenous anaesthetics.
 - (b) Analgesic antipyretics and non-steroidal anti-inflammatory drugs, Narcotic analgesics, Antirheumatic and antigout remedies, Sedatives and Hypnotics, Psychopharmacological agents, anti convulsants, analeptics.
 - (c) Centrally acting muscle relaxants and anti parkinsonism agents
 - (ii) Local anaesthetics.
 - (iii) Drug acting on autonomic nervous system.
 - (a) Cholinergic drug, Anticholinergic drugs, anti cholinesterase drugs.
 - (b) Adrenergic drugs and adrenergic receptor blockers.

- (c) Neurones blockers and ganglion blockers.
- (d) Neuromuscular blockers, drugs used in myasthenia gravis.
- (iv) Drugs acting on eye, mydriatics, drugs used in glaucoma.
- (v) Drugs acting on respiratory system-Respiratory stimulants, Bronchodilators, Nasal decongestants, Expectorants and Antitussive agents.
- (vi)Antacids, Physiological role of histamine and serotonin, Histamine and Antihistamines, Prostaglandins.
- (vii) Cardio Vascular drugs, Cardiotonics, Antiarrhythmic agents, Antianginal agents, Antihypertensive agents, Peripheral Vasodilators and drugs used in atherosclerosis.
- (viii) Drugs acting on the blood and blood forming organs. Haematinics, Coagulants and anti Coagulants, Haemostatics, Blood substitutes and plasma expanders.
- (ix) Drugs affecting renal function-Diuretics and antidiuretics.
- (x) Hormones and hormone antagonists-hypoglycemic agents, Antithyroid drugs, sex hormones and oral contraceptives, corticosteroids.
- (xi) Drugs acting on digestive system-Carminatives, digestants Bitters, Antacids and drugs used in Peptic ulcer, purgatives, and laxatives, Antidiarrhoeals, Emetics, Antiemetics, Anti-spasmodics.

Chemotherapy of microbial disease ;Urinary antiseptics, Sulphonamides, Penicillins, Streptomycin, Tetracyclines and other antibiotics, Antitubercular agents, Antifungal agents, antiviral drugs, antileprotic drugs.

6. Chemotherapy of protozoal diseases Anthelmintic drugs.

7. Chemotherapy of cancer.

8. Disinfectants and antiseptics.

A detailed study of the action of drugs on each organ is not necessary.

10. PHARMACEUTICAL JURISPRUDENCE

1. Origin and nature of Pharmaceutical legislation in India, its scope and objectives. Evolution of the "Concept of Pharmacy" as an integral part of the Health Care System.

2. Principles and significance of Professional Ethics. Critical study of the code of Pharmaceutical Ethics drafted by Pharmacy Council of India.

3. Pharmacy Act, 1948-The General study of the Pharmacy Act with special reference to Education Regulations, working of State and Central Councils, constitution of these councils and functions, Registration procedures under the Act.

4. The Drugs and Cosmetics Act, 1940"General study of the Drugs and Cosmetics Act and the Rules thereunder. Definitions and salient features related to retail and wholesale distribution of drugs. The powers of Inspectors, the sampling procedures and the procedure and formalities in obtaining licences under the rule. Facilities to be provided for running a Pharmacy effectively. General study of the Schedules with special reference of schedules C, C1, F, G, J, H, P and X and salient features of labelling and storage condition of drugs.

5. The Drug and Magic Remedies (Objectionable Advertisement) Act, 1945-General study of the Act Objectives, special reference to be laid on Advertisements. Magic remedies and objectionable and permitted advertisements-disease which cannot be claimed to be cured.

6. Narcotic Drugs and Psychotropic Substances Act, 1985-A brief study of the act with special reference to its objectives, offences and punishment.

7. Brief introduction to the study of the following acts.

1. Latest Drugs (Price Control) Order in force.

2. Poisons Act 1919 (as amended to date)

3. Medicinal and Toilet Preparations (Excise Duties) Act, 1995 (as amended to date)

4. Medical Termination of Pregnancy Act, 1971 (as amended to date)

11. DRUG STORE AND BUSINESS MANAGEMENT

Part-I Commerce

1. Introduction-Trade, Industry and Commerce, Functions and subdivision of Commerce, Introduction of Elements of Economics and Management.

2. Forms of Business Organisations.

3. Channels of Distribution.

4. Drug House Management-Selection of Site, Space Lay-out and legal requirements.

Importance and objectives of Purchasing, selection of suppliers, credit information, tenders, contracts and price determination and legal requirements thereto.

Codification, handling of drug stores and other hospital supplies.

5. 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.

6. Sales Promotion, Market Research, Salesmanship, qualities of a salesman, Advertising and Window Display.

7. Recruitment, training, evaluation and compensation of the pharmacist.

8. Banking and Finance Service and functions of the bank, Finance Planning and sources of finance.

Part-II Accountancy

1. Introduction to the accounting concepts and conventions, Double entry Book keeping, Different kinds of accounts.

2. Cash Book.

3. General Leger and Trial Balance.

4. Profit and Loss Account and Balance Sheet.

5. Simple technique of analysing financial statements.

6. Introduction to Budgetting.

12. HOSPITAL AND CLINICAL PHARMACY

Part-I :Hospital Pharmacy:

1. Hospitals Definition, Function, Classifications based on various criteria, organisation, Management and Health delivery system in India.

2. Hospital Pharmacy:

- (a) Definition
- (b) Functions and objectives of Hospital Pharmaceutical services.
- (c) Location, Layout, Flow chart of material and men.
- (d) Personnel and facilities requirements including equipments based on individual and basic needs.
- (e) Requirements and abilities required for Hospital pharmacists.

3. Drug Distribution system in Hospitals:

- (a) Out-patient services
- (b) In-patient services-(a) types of services (b) detailed discussion of unit Dose system, Floor ward stock system, Satellite pharmacy services, Central sterile services, Bed Side Pharmacy.

4. Manufacturing:

- (a) Economical considerations, estimation of demand.
- (b) Sterile manufacture-large and small volume parenterals, facilities, requirements, layout production planning, man-power requirements.
- (c) Non-sterile manufacture-Liquid orals, externals-bulk concentrates.
- (d) Procurement of stores and testing of raw materials.

5. Nomenclature and uses of surgical instruments and Hospital Equipments and health accessories.

6. P.T.C (Pharmacy Therapeutic Committee), Hospital Formulary System and their organisation, functioning, composition.

7. Drug Information service and Drug Information Bulletin.

8. Surgical dressing like cotton, gauze, bandages and adhesive tapes including their pharmacopoeial tests for quality. Other hospital supply e.g I.V sets B.G sets, Ryals tubes, Catheters, Syringes etc.

9. Application of computer in maintenance of records, inventory control, medication monitoring, drug information and data storage and retrieval in hospital and retail pharmacy establishments.

Part-II : Clinical Pharmacy.

1. Introduction to Clinical Pharmacy Practice-Definition, scope.

2. Modern dispensing aspects-Pharmacists and Patient counselling and advice for the use of common drugs, medication history.

3. Common daily terminology used in the Practice of Medicine.

4. Disease, manifestation and pathophysiology including salient symptoms to understand the disease like Tuberculosis, Hepatitis, Rheumatoid Arthritis, Cardiovascular diseases, Epilepsy, Diabetes, Peptic Ulcer, Hypertension.

5. Physiological parameters with their significance .

6. Drug Interactions:

- (a) Definition and introduction.
- (b) Mechanism of Drug Interaction.
- (c) Drug-drug interaction with reference to analgesics, diuretics, cardiovascular drugs, Gastro-intestinal agents, Vitamins and Hypoglycemic agents.
- (d) Drug-food interaction.

7. Adverse Drug Reactions.:

- (a) Definition and Significance.
- (b) Drug-induced diseases and Teratogenicity.

8. Drugs in Clinical Toxicity-Introduction, general treatment of poisoning, systematic antidotes. Treatment of insecticide poisoning, heavy metal poison, Narcotic drugs, Barbiturate, Organophosphours poisons.

9. Drug dependences, Drug abuse, addictive drugs and their treatment, complications.

10. Bioavailability of drugs, including factors affecting it.

Fundamentals of Accountancy & General Banking Awareness-I (Elementary Idea)

FUNDAMENTALS OF ACCOUNTING & BOOK KEEPING

Question may be of any form/type to test the basic knowledge and understanding of the candidate of the following matters of financial accounting.

- 1) Principles of Book-keeping and Accountancy – its significance; rules of debit and credit; bases of accounting, concept of cost and revenue.
- 2) Accounting Concepts & Conventions.
- 3) Accounting Terminologies- understanding meanings of them.
- 4) Types of Book Keeping and rules thereof.
- 5) Names and Uses of various types of Vouchers, Challans, Invoices, and other records preserved in Financial Accounting.

Maintenance of different books of accounts

- 1) Books of Prime Entry and books of Final Entry; journal and Ledger.
- 2) Preparation of Cash Book- kinds of Cash Book, writing of Double Column Cash Book.
- 3) Assets & Liabilities; expenses and losses; profits and gains.
- 4) Valuation of Closing Stock.
- 5) Capital Expenditure and Revenue Expenditure, Capital Receipts and Revenue Receipts; Credit Sale/Credit Purchase, Sundry Creditors/Debtors Account/Bills Receivable/Bills Payable.
- 6) Preparation & maintenance of General Ledger.
- 7) Preparation of Day Books.
- 8) Preparation of Bank Reconciliation Statements (BRS).

Miscellaneous Accounting Practices & Procedures

- 1) Definitions for Bad Debts / Non-Performing Assets (NPA) and provisions for the same.
- 2) Methods of Depreciation Calculation in respect of different categories of assets.
- 3) Types of Reserves.
- 4) Testing the knowledge & ideas of handling TDS and Filing of Tax Returns.
- 5) Net Profit Fixation & Dividend Payments.

Accounting Standards adopted in India, especially in Banking Sector

- 1) Definition, application and utilities of the Accounting Standards.
- 2) GAAP.
- 3) Notable differences in Hand-written Formats & Computerised Formats in keeping Books of Accounts; Preparation of various Accounting Statements.
- 4) Reporting of various financial statements (converged IFRS by the ICAI).
- 5) Accounting for Non - profit making organizations/Cooperative Societies/Banks.

Preparation of Important Financial Statements

- 1) Types of errors and their rectification.
- 2) Preparation of Trial Balance; identification of items included in/excluded from Trial Balance.
- 3) Preparation of Trading, Profit and Loss & Profit & Loss Appropriation Account.
- 4) Preparation of Balance Sheet; marshalling of Balance Sheet.
- 5) Preparation of Post-Balance Sheet Statements, if required.

Analysis of Balance Sheet and calculation of important Ratios

Definition and calculation of:

- 1) Net Profit Ratio / Gross Profit Ratio;
- 2) Return on Equity;
- 3) Return per Share;
- 4) Return on Investment;
- 5) Debt Equity Ratio;
- 6) Current Ratio;
- 7) Quick Ratio;
- 8) Debt to total fund Ratio;
- 9) Capital Turnover Ratio;

- 10) Net Working Capital Turnover Ratio;
- 11) Fixed assets Turnover Ratio;
- 12) Stock Turnover Ratio;
- 13) Debt Service Coverage Ratio;
- 14) Capital Adequacy Ratio.

Audit

- 1) Definition of Audit and difference from Investigation and Enquiry.
- 2) Types of Audit and importance of each.
- 3) Difference between External and Internal Audit.
- 4) Preparation and Types of Audit Reports.
- 5) Reply of Audit Queries/Auditor's Comments/Follow up actions on Audit Reports.
- 6) Performance Audit of Consumers and Trading Cooperatives.
- 7) Treatment of Normal/Abnormal Loss/Insurance Coverage.

GENERAL BANKING AWARENESS

- 1) Government schemes and programmes for alleviation of poverty.
- 2) Basic Concepts of Modern-day Banking.
- 3) Services and products offered by Banks in India.
- 4) Role of Reserve Bank of India and NABARD in credit delivery mechanism.
- 5) Basic knowledge of important Banking laws especially the Banking Regulation Act, 1949 (As Applicable to Co-operative Societies).
- 6) Loans advanced by Banks including rural banks and recovery mechanism through various Acts & Rules.
- 7) Structure of District Administration & Public Administration.
- 8) Role of Panchayat Institutions and its interface with cooperative structure.
- 9) History of Cooperative Movement in India and West Bengal.
- 10) Role of cooperative societies in rural development.

Fundamentals of Accountancy & General Banking Awareness-II (Advanced Level)

FUNDAMENTALS OF ACCOUNTING & BOOK KEEPING

Question may be of any form/type to test the basic knowledge and understanding of the candidate of the following matters of financial accounting.

- 6) Principles of Book-keeping and Accountancy – its significance; rules of debit and credit; bases of accounting, concept of cost and revenue.
- 7) Accounting Concepts & Conventions.
- 8) Accounting Terminologies- understanding meanings of them.
- 9) Types of Book Keeping and rules thereof.
- 10) Names and Uses of various types of Vouchers, Challans, Invoices, and other records preserved in Financial Accounting.

Maintenance of different books of accounts

- 9) Books of Prime Entry and books of Final Entry; journal and Ledger.
- 10) Preparation of Cash Book- kinds of Cash Book, writing of Double Column Cash Book.
- 11) Assets & Liabilities; expenses and losses; profits and gains.
- 12) Valuation of Closing Stock.
- 13) Capital Expenditure and Revenue Expenditure, Capital Receipts and Revenue Receipts; Credit Sale/Credit Purchase, Sundry Creditors/Debtors Account/Bills Receivable/Bills Payable.
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- 15) Preparation of Day Books.
- 16) Preparation of Bank Reconciliation Statements (BRS).

Miscellaneous Accounting Practices & Procedures

- 6) Definitions for Bad Debts / Non-Performing Assets (NPA) and provisions for the same.
- 7) Methods of Depreciation Calculation in respect of different categories of assets.
- 8) Types of Reserves.
- 9) Testing the knowledge & ideas of handling TDS and Filing of Tax Returns.
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Preparation of Important Financial Statements

- 6) Types of errors and their rectification.
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- 8) Preparation of Trading, Profit and Loss & Profit & Loss Appropriation Account.
- 9) Preparation of Balance Sheet; marshalling of Balance Sheet.
- 10) Preparation of Post-Balance Sheet Statements, if required.

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- 16) Return on Equity;
- 17) Return per Share;
- 18) Return on Investment;
- 19) Debt Equity Ratio;
- 20) Current Ratio;
- 21) Quick Ratio;
- 22) Debt to total fund Ratio;

- 23) Capital Turnover Ratio;
- 24) Net Working Capital Turnover Ratio;
- 25) Fixed assets Turnover Ratio;
- 26) Stock Turnover Ratio;
- 27) Debt Service Coverage Ratio;
- 28) Capital Adequacy Ratio.

Audit

- 8) Definition of Audit and difference from Investigation and Enquiry.
- 9) Types of Audit and importance of each.
- 10) Difference between External and Internal Audit.
- 11) Preparation and Types of Audit Reports.
- 12) Reply of Audit Queries/Auditor's Comments/Follow up actions on Audit Reports.
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GENERAL BANKING AWARENESS

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- 18) Role of Panchayat Institutions and its interface with cooperative structure.
- 19) History of Cooperative Movement in India and West Bengal.
- 20) Role of cooperative societies in rural development.

Financial Management with special stress on Management Accounting and General Banking Awareness

General Banking Awareness

- [1] Government schemes and programmes for alleviation of poverty
- [2] Basic Concepts of Modern-day Banking
- [3] Services and products offered by Banks in India
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- [8] Role of Panchayat Institutions and its interface with cooperative structure
- [9] History of Cooperative Movement in India and West Bengal
- [10] Role of cooperative societies in rural development

Financial Management with special stress on Management Accounting

1. Balance Sheet: Assets, Liabilities, Owner's Equity, Relationship between Assets, Liability and Owner's Equity, Functions of Balance Sheet, Income Statement and its functions.
2. Main Financial Ratios – Calculations and utility : Profitability Ratios, Efficiency Ratios, Liquidity Ratios, Stability Ratios, Investor Ratios, Quick Ratios, Working Capital Ratios, Earnings per Share, Price-Earnings Ratio.
3. A) Different Measures of Central Tendency: A.M., G.M., H.M., Median & Mode, b) Measures of Dispersion: Range, Quartile Deviation, Absolute Deviation, Standard Deviation, Measures of Relative Dispersion.

MARKETING MANAGEMENT

- Marketing Management- Meaning and importance
- Functions of Marketing
- Difference between Selling and Marketing
- Marketing concept
 1. Exchange Concept
 2. Production Concept
 3. Product Concept
 4. Selling Concept
- Marketing Mix
- Segmentation
 1. Requirement of Market Segmentation
 2. Benefits of Segmentation
 3. Aggregation and Segmentation
 4. Basic Segmenting Market
- Targeting
 1. Evaluation of Market Segments
 2. Selecting of Market Segments
- Positioning
- Marketing Environments
 1. Consumer Needs and Motivation
 2. Consumer Perception
 3. Group Dynamics
 4. Social surrounding and its impact on Marketing
 5. Consumer Behaviour- Importance and Application in Marketing
- Advertising
 1. How advertising budget is decided?
 2. Different Advertising Media
- Personal Selling and its objectives
- Sales Promotion- important tools of Sales Promotion
- Relationship Marketing
 1. Meaning of Relationship Marketing
 2. Relationship Marketing Vs. Marketing relationship
 3. Characteristics of Relationship Marketing
 4. Importance and principles of Relationship Marketing
- Basic Concepts of Modern-day Banking
- Role of Reserve Bank of India and NABARD in credit delivery mechanism

Syllabus Textile and Handloom Technology

FIBRE SCIENCE AND TECHNOLOGY:

Definition, Basic requirement of textile fibre, Various classifications of textile fibres, their origin and chemical nature, properties, manufacturing, staple fibre, filament, uses etc.

YARN MANUFACTURE:

Definition of yarn, Mixing, Blending and Opening, Blow Room, Carding, Draw frame, Combing, Speed frame, Ring frame, Modern Ring Frame, Doubling, Reeling, Bundling and Baling

FABRIC MANUFACTURE:

Warp Winding and Weft Winding, Warping and Sizing, Loom - Primary Motions, Loom - Secondary and Auxiliary Motions, Drawing-in, Denting & Calculations, Dobby & Jacquard mechanisms, Multiple box and Terry motions, Automatic weaving, Projectile, Rapier weaving, Jet and Multiphase weaving, etc.

TEXTILE WET PROCESSING:

Grey inspection, stitching, mending, cropping, singeing, desizing, scouring, bleaching, mercerization, dyeing, printing, finishing, textile processing chemicals and auxiliaries, different colour fastness properties, wet processing machines- jigger, winch, padding mangle, stented, Jet dyeing machine, etc.

TEXTILE TESTING:

Moisture relations in textiles, Moisture content, Moisture regain and standard regain, fibre testing -length Fibre fineness, Micronaire, Fibre maturity, Fibre strength, analysis of Trash content, Yarn count, Twist, yarn strength, Yarn evenness, Uster Evenness Tester and Uster classmate, Beesley Balance, thickness tester, crimp tester, Warp & weft cover factor - Fabric cover, crease recovery tester, Fabric handle, serviceability, abrasion and drape, Fabric Pilling Tensile Strength, tearing and bursting strength, Fabric Air Permeability and Fabric Air Resistance, statistical quality control, etc.

FABRIC,STRUCTURE:

Principles of design, draft and peg plan plain weave warp rib, weft rib, mat weaves, twill weaves, satin weave, sateen weave, herringbone twills, broken twills, transposed or re-arranged twills, elongated twills, combination of twill weaves, Knitted fabric Structure - face loop, back loop, needle loop, sinker loop, stitch length, texture, plain, 1 x 1 rib, 1 x 1 interlock structure, etc.

HANDLOOM TECHNOLOGY:

Various Parts of a handloom and their function, Type of handloom - Throw Shuttle handloom, Fly shuttle handloom - Pit loom & Frame loom, Motion of handloom- Definitions of primary, Secondary & Auxiliary Motion, Different type of shed formations - Centre Close shed, Bottom Closed shed, Top close shed, Open-shed and Semi - open Shed, Shedding mechanism of a handloom using treadles and Heald Reversing motions- Roller system, Pulley system and jack and lam- rod system, Picking mechanism of a handloom, Type of shuttles - Throw shuttle, Fly shuttle and Roller shuttle- Design and Suitability, Beating - Closed and crossed shed beating, Different type of reed- Bamboo reed, pith bound steel reed and all metal steel reed, Let of Motion Handlooms- Ratchet and Pawl, rope and weight, rope - lever and weight, Take up motion in handlooms - Poker rod and ratchet & pawl, etc.

HUMAN RESOURCE MANAGEMENT

1. Introduction to Human Resource Management:

- I. Introduction
- II. Concept
- III. Scope
- IV. History
- V. History
- VI. Functions
- VII. Role of HR Executives

2. HRM in India:

- I. Introduction
- II. Changing Role of Human Resource in India
- III. Globalization
- IV. Impact on HR

3. Human Resource Planning:

- I. Process of HRP
- II. Need for HRP
- III. Successful HRP

4. Recruitment and Selection:

- I. Concept of Recruitment
- II. Factors affecting recruitment
- III. Sources of recruitment
- IV. Selection
- V. Selection process
- VI. Selection Test, Interviews, Evaluation, Induction

5. Training and Management Development:

- I. Meaning of Training
- II. Area of Training
- III. Concept of Management Development
- IV. Differences between Training and Development

6. Human Resource Development :

- I. Human Resource Development- Meaning
- II. Evolution of the concept of HRD
- III. The relationship between Human Resource Management and Human Resource Development
- IV. Human Resource Function
- V. Roles and Competencies of an HRD professional

7. Employee Career Planning and Growth:

- I. Concept of Employee Growth
- II. Managing career Planning
- III. Succession Planning

8. Performance Appraisal:

- I. Concept and Need for performance appraisal
- II. Reviews
- III. Overview of Performance Appraisal

9. Compensation Management:

- I. Wage and Salary Administration
- II. Managing wages
- III. Concept of Rewards and Incentives

10. Industrial Relationship and Industrial Disputes:

- I. Industrial Relations
- II. Industrial Disputes
- III. Industrial Disputes: Preventive Machinery
- IV. Industrial Disputes: Settlement Machinery
- V. IR Scenario : Current Issues and Future Challenges

11. Trade Union and Collective Bargaining:

- I. . Growth of Trade Union Movement in India
- II. The Trade Union Act, 1926 and Legal Framework
- III. Problems of Trade Unions in India
- IV. Current Trades in Trade Union
- V. Concept, Types and Process of Collective Bargaining
- VI. Collective Bargaining in India

12. Employees Grievances and Discipline:

- I. Concept of Social Security
- II. Discipline
- III. Approaches to Discipline
- IV. Misconduct and Disciplinary Action
- V. Essentials of a good disciplinary system

13. Social Security:

- I. Concept of Social Security
- II. Social Security Legislations in India

14. Human Resource Information System:

- I. Introduction
- II. Concept
- III. Components
- IV. Types
- V. Benefits
- VI. Impact

15. Emerging trends in HRM:

- I. Concept of Competency Mapping
- II. Concept of Business Process Outsourcing
- III. Right sizing of Workforce
- IV. Flexi time
- V. Talent Management
- VI. Employee Engagement