

22223

3 Hours / 80 Marks



20111

Seat No.

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- Instructions –*
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Marks
30

1. Attempt any SIX of the following:

- a) Write short note on history of pharmacy profession related to pharmacy education and pharmacy practice in India.
- b) Explain the principle, construction and working of cyclone separator with neat labeled diagram.
- c) Enumerate the various tests for quality control of tablets. Describe the disintegration or friability test.
- d) Define capsule. Describe the process of involved in manufacturing of hard gelatin capsule.
- e) Write short note on:
 - i) Elixirs
 - ii) Suspensions.
- f) Write the formulation parameters for parental in detail.
- g) What are toxoids? Discuss the general method for preparation toxoids.

2. Attempt any TEN of the following:

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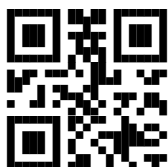
- a) Write advantages and disadvantages of plastics as a packaging material.
- b) Give classification of powders as per I.P.
- c) Write down the advantage and disadvantage of tablets.
- d) Differentiate between lotions and liniments.
- e) Enlist the various bases used for formulation of ointments.
- f) Classify the method of preparation of effervescent granules.
- g) Write any six characteristics of ophthalmic formulation.
- h) Define the term calibration and validation in brief.
- i) Define cGMP and explain its importance.
- j) Define drug delivery system. Classify various drug delivery systems.
- k) What are the future applications of NDDS ?

**3. Attempt the following:**

- a) Who is known as father of pharmacy profession in India ?
 - b) Pharmacopoeia contains of
 - i) Monograph of drug and substance
 - ii) Standard test
 - iii) Description formulae
 - iv) All of the above
 - c) The first edition of pharmacopoeia was published in ____.
 - d) Name materials used to prepare pharmaceutical containers
 - e) ____ glass is glass of highest pharmaceutical grade.
 - f) Saccharin is used as a ____ ____ agent.
 - g) Name two antimicrobial preservatives.
 - h) To increase viscosity of liquid which of following agents are used.
 - i) PVP
 - ii) Sodium Carboxy Methyl Cellulose
 - iii) Methyl Cellulose
 - iv) All of above
 - i) Define sieve number.
 - j) Which type of mixture are easily formed
 - i) Positive
 - ii) Neutral
 - iii) Negative
 - iv) Ampholytic
 - k) Write the name of one equation which describes theory of filtration.
 - l) Define maceration.
 - m) Which of the following is not used as diluent?
 - i) Lactose
 - ii) Microcrystalline cellulose
 - iii) Calcium Carbonate
 - iv) Poly Vinyl Pyrolidon
 - n) Which type of coating is done to disintegrate tablet in intestine ____.
 - o) HLB value of SLS is
 - i) 10
 - ii) 12
 - iii) 40
 - iv) None of above
 - p) Define suppository is not vegetable oil ?
 - q) Write at least two differences between pastes and ointments.
 - r) Name two vehicles used in the formulation of ear drops.
 - s) Nasal drops should be isotonic with ____% sodium chloride.
 - t) Name vaccine used for prevention of tuberculosis.
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20112

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Marks**1. Attempt any SIX of the following:****30**

- a) Name any 2 of the following:

i) Hematinics	ii) Antacids
iii) Dental Products	iv) Cathartics
v) Antiseptics / Disinfectants	
- b) Define - "Volumetric analysis". List the apparatus needed in volumetric analysis. mention the types of volumetric analysis.
- c) Define the term "epilepsy". Classify Anti-epileptic agents with suitable examples.
- d) Draw chemical structure of Dapsone. Give it chemical name, uses, formulations and storage conditions.
- e) Explain reaction and principle involved in Limit Test of Arsenic and draw neat and labelled sketch of Gutzeit's apparatus.
- f) What are adrenergic drugs? Classify with examples. Draw the structure of Norepinephrine.
- g) Define and classify anti-neoplastic agents. Draw structure of 5 Fluorouracil.

2. Attempt any TEN of the following:**30**

- a) Discuss any three different sources of impurities in pharmaceuticals.
- b) Classify Antimalarials. Draw structure of chloroquine phosphate.
- c) Give storage-stability, uses and brand name of drug Penicillin G.
- d) What are para sympathomimetic agents? Draw structure of drug Acetylcholine. Give its storage and stability conditions.
- e) Define and classify sedatives and Hypnotics with examples. Draw the structure of Phenobarbitone.
- f) Give the structure, chemical name and uses of Frusemide.
- g) Define diabetes mellitus. Draw structure of metformin and give its popular brand names.
- h) What are narcotic analgesics? Give its classification with examples.
- i) Give uses for

i) Chlorpromazine	ii) Chloramphenicol
iii) Propranolol	
- j) Classify Antihypertensive agents with suitable examples.
- k) Draw structure for:

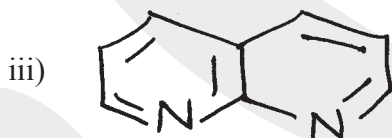
i) β -Lactum antibiotic	ii) Sulfa Drug
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P.T.O.



3. Attempt the following:

- a) Define antibiotics.
- b) Write any 2 uses of Azithromycin.
- c) Draw structure of acetyl group and chloro group.
- d) Draw structure of Pyridine and give its method of numbering.
- e) Chemical formula for bleaching powder is _____.
 - i) $\text{Ca}(\text{clo})_2$
 - ii) $\text{Ca}(\text{c1o})_4$
 - iii) CaCo_3
 - iv) Ca_2Co_3
- f) Prazosin drug is used for _____.
 - i) Hypertension
 - ii) Brain tumor
 - iii) Diarrhoea
 - iv) Cancer
- g) Name any 2 indicators used in Acid-base titration.
- h) The synonym of Calcium Carbonate is _____.
- i) The precipitating agent used in Limit Test for chloride is _____.
- j) Define "Redox Titration".
- k) Draw structure of Atropine sulfate.
- l) Doxycycline belongs to the structural class of Antibiotics.
 - i) Penicillins
 - ii) Macrolides
 - iii) Tetracyclines
 - iv) None of these
- m) IUPAC name of Paracetamol is _____.
 - i) N - (2, 2- diethyl hydroxy) acetamide
 - ii) N - (4 - hydroxy phenyl) anilide
 - iii) 4 - hydroxy - Acetanilide
 - iv) None of the above.
- n) Full form of NSAID is _____.
- o) Structure of Indole ring is _____



- p) State whether true or false for Antacids are meant for constipation and hypoacidity.
- q) Define "non-aqueous titration".
- r) Gravimetric Analysis is a Semi-quantitative method. True or False.
- s) Give 2 uses of Atenolol.
- t) Name any 2 Anti-depressant drugs.

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20113

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Marks

1. Attempt any SIX of the following:

30

- a) Why crude drugs are classified? Enlist different methods of classification of crude drugs and discuss morphological method with their merits and demerits.
- b) State the meaning of adulteration. Explain different methods of adulteration with examples.
- c) Define laxative with examples and give biological source, chemical constituents and therapeutic uses of aloe.
- d) What are the pharmaceutical aids? Give biological source and chemical constituents of
 - i) Bees wax
 - ii) Tragacanth
- e) Enlist different traditional systems of medicine and explain any one.
- f) Define and give therapeutic applications of
 - i) Probiotics
 - ii) Antioxidants
- g) Mention commercial preparations and cosmetic uses of
 - i) Olive oil
 - ii) Sandalwood oil

2. Attempt any TEN of the following:

30

- a) Differentiate between organized and unorganized drugs.
- b) Enumerates various limitations in manufacturing of herbal formulations.
- c) Discuss the role of medicinal and aromatic plants in national economy.
- d) Define surgical dressings. State the ideal requirements of surgical dressings.
- e) State the uses of following drugs.
 - i) Vinca
 - ii) Gokhru
 - iii) Ipecachunha
- f) Write the method of preparation of Avaleha and Bhasma.
- g) State biological sources, chemical constituents and uses of Neem.
- h) What are antihypertensives? Give biological source and chemical constituents of Rauwolfia.
- i) Define glycosides. Explain chemical tests for cardiac glycosides.
- j) State the role of moisture content and extractive value in evaluation of crude drug.
- k) Give contribution of
 - i) Seydler
 - ii) Galen
 - iii) Dioscoride in pharmacognosy

P.T.O.

**3. Attempt ALL of the following:**

- a) Name the drug which consist of 'Quinine' as a chemical constituents.
 - i) Cinchona
 - ii) Tolu balsam
 - iii) Castor oil
 - iv) Arjuna
- b) Balsams consist of _____ and _____ acids.
- c) Mention any one oil used as source of vitamins.
- d) Gym nema is used as _____
 - i) Antimalarial
 - ii) Antitumour
 - iii) Antidiabetics
 - iv) Antitussive
- e) Family of colchicum seed is _____
 - i) Loganaceae
 - ii) Liliaceae
 - iii) Lauraceae
 - iv) Leguminosae
- f) Mention the synonym of
 - i) Ephedra
 - ii) Vasaka
- g) In case of Clove and Black pepper which part of plant used as drug.
- h) State the volatile oil content of fennel fruit.
 - i) Determination of stomatal index is _____ type of evaluation.
- j) Name the drug which belongs to following synonym.
 - i) Puncture vine
 - ii) Indian saffron
- k) Give major chemical constituents present in
 - i) Turmeric
 - ii) Vinca
- l) Mayer's reagent consist of _____ solution.
- m) What you mean by Asava?
- n) Define the term 'Gutika'.
- o) Lycopodium spore method is a _____ method of evaluation of crude drug.
 - i) Morphological
 - ii) Microscopic
 - iii) Physical
 - iv) Chemical
- p) Extraction method used for preparation of delicate perfumes.
 - i) Steam distillation
 - ii) Enflurage
 - iii) Eculle
 - iv) Liquid carbon
- q) The pungent principle of ginger is _____.
- r) The Greek physician _____ known as 'Father of Medicine'.
- s) What are herbal cosmetics?
- t) Mention two drugs having family Solanaceae.

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20114

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Marks

1. Attempt any SIX of the following:

30

- a) Describe the process of blood clotting.
- b) Explain conducting system of the heart with neat diagram.
- c) Write the composition and functions of gastric juice. Name the three phases of gastric juice secretion.
- d) Explain the functions of cerebrum. Name the functional areas of cerebrum with diagram.
- e) Describe the process of urine formation.
- f) Write the functions of skin.
- g) Classify bones. Explain anatomical features of synovial joint with diagram.

2. Attempt any TEN of the following:

30

- a) Write anatomy and functions of the mitochondria.
- b) Give an account of simple epithelium.
- c) Describe the functions of lymphatic system.
- d) Name the parts of respiratory system. Write applications of a peak flow meter.
- e) Create a flow diagram that describes the sequence of events that causes contraction of ventricles and ejection of blood flow from heart.
- f) Write physiology of carbohydrate digestion.
- g) Differentiate between sympathetic and parasympathetic nervous system.
- h) Name the three layers of eye. Draw a well labelled vertical section of an eye-ball.
- i) Name the hormones secreted by pancreas. Explain physiological role of insulin.
- j) Describe phases of menstrual cycle.
- k) Enlist the endocrine glands with their location in the body.

**3. Attempt ALL of the following:**

- a) State the meaning coronal plane.
- b) Mention the tissue that lines blood vessels.
- c) List the bones forming ankle joint.
- d) Define cardiac output.
- e) State meaning of myopathy.
- f) Write two functions of CSF.
- g) Classify tissues.
- h) Define Tidal Volume.
- i) List indications of blood transfusion.
- j) Write normal values of RBC count.
- k) Which statement is correct?
 - i) The knee is proximal to hip
 - ii) The hip is proximal to knee
 - iii) The shoulder is distal to elbow
 - iv) The knee is distal to ankle
- l) Sperm maturation occurs in the :
 - i) Seminiferous tubule
 - ii) Epididymis
 - iii) Vas deference
 - iv) Urethra
- m) The hormone responsible for puberty in females is :
 - i) Prolactin
 - ii) Follicle stimulating hormone
 - iii) Oxytocin
 - iv) All of the above
- n) The largest bone in the body is :
 - i) Humerous
 - ii) Femur
 - iii) Tibia
 - iv) Sternum
- o) Classify WBC into its two types.
- p) The largest blood vessel of body is _____.
- q) The part of respiratory system mostly affected by COVID-19 is :
 - i) Nasal cavity
 - ii) Alveoli
 - iii) Pharynx
 - iv) Trachea
- r) What does liver do to help digestion?
- s) Coughing and sneezing are controlled by which part of brain?
- t) Name the functional unit of kidney.

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20115

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Marks

1. Attempt any SIX of the following:

30

- a) Give the definition and Scope of Social Pharmacy. What is the role of pharmacist in public health?
- b) Define family planning. Write in brief about various types of contraceptive methods.
- c) Define the term Epidemiology. Enlist and explain different types of Epidemiology.
- d) i) Discuss various solid waste disposal methods.
ii) What is Sewage?
- e) i) Describe any one National Health Programme for mother and child.
ii) What is Pradhan Mantri Jan Arogya Yojna (PM-JAY)?
- f) Describe causative agent, clinical presentation and role of pharmacist in prevention of Tuberculosis.
- g) Give causative agent and clinical presentation for following infections (any two).
i) Dengue
ii) COVID-19
iii) Typhoid

2. Attempt any TEN of the following:

30

- a) Differentiate between Prokaryotic and Eukaryotic Microorganisms.
- b) What are FIP Development Goals? When was it launched?
- c) Define Noise. Write about ill effects of Noise pollution on health.
- d) Write various causes of Pharmaceutical pollution.
- e) Discuss types and importance of fibres in diet.
- f) State what is Food Safety. What are nutraceuticals?
- g) State objectives of National Health Programme for prevention and control of cancer, Cardiovascular diseases, Diabetes and stroke.
- h) Write note on Gram Staining of Bacteria.
- i) Write note on Pharmacoeconomics
- j) State the causative agent and mode of transmission of
i) Malaria
ii) Cholera
- k) Define: Epidemic, Pandemic and Endemic

P.T.O.

**3. Attempt the following questions**

- a) The International Pharmaceutical Federation (FIP) was founded in year _____.
 - b) Write full form of MDG.
 - c) Health is a state of complete _____, mental and social well being and not merely the absence of disease.
 - d) The National Health Mission was launched in year _____
 - e) Define the term Demography.
 - f) Breastfeeding awareness week is celebrated in month of
 - i) September
 - ii) August
 - iii) January
 - iv) May
 - g) Give two examples of psychotropic substances.
 - h) Write one common cause of air pollution.
 - i) Kwashiorkor develops due to deficiency of _____.
 - j) The practise of adding vitamins and minerals to foods during processing to increase it's nutritional value is known as:
 - i) Fortification of food
 - ii) Food Adulteration
 - iii) Artificial ripening
 - iv) Food Security
 - k) Filariasis is caused by _____.
 - l) Following are examples of Respiratory tract infections, except
 - i) Small pox
 - ii) Amoebiasis
 - iii) Mumps
 - iv) Whooping Cough
 - m) The causative organism for plague is:
 - i) Salmonella typhi
 - ii) Vibrio cholerae
 - iii) Yersinia pestis
 - iv) M. Tuberculosis
 - n) Write full form of MERS
 - o) What do you mean by mortality?
 - p) Write full form of WHO.
 - q) Give one example of any one national health programme focussed on Nutrition.
 - r) First National Health Policy was launched by Government of India in year
 - i) 2013
 - ii) 2002
 - iii) 1983
 - iv) 1985
 - s) In which year National Health programme on Mental Health was launched ?
 - t) What is the measure of quality of life in different disease states?
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20221

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1. Attempt any SIX of the following:

- a) Define Antihypertensive agents. Classify them. Mention types of Hypertension.
- b) What are Opioid Analgesics? Give examples. Write pharmacological actions of morphine.
- c) Define Bioavailability and Biotransformation. Explain various routes of Drug Excretion.
- d) Define chemotherapy. Give classification of antibiotics based on type of bacteria. Explain drug combination is used in treatment of tuberculosis.
- e) Define Local Anaesthetics. Give two examples. Write uses of local anaesthetic.
- f) i) What are corticosteroids? Give examples.
ii) Write note on Thyroid hormones.
- g) Define Antiemetics. Give two examples, classify antiulcer agents with examples.

2. Attempt any TEN of the following:

30

- a) Describe drugs used in treatment of Atherosclerosis.
- b) Explain advantages and disadvantages of parenteral route of administration.
- c) Give one example of each :
 - i) Thrombolytic
 - ii) Anti-platelet
 - iii) Haematinic
- d) Classify cholinergic (parasympathomimetics) drugs.
- e) Define Autocoids. Give examples. Explain : physiological role of prostaglandins.
- f) Define and classify bronchodilators.
- g) Classify anti-convulsants with examples.
- h) Define diuretics and give indications for use of diuretics.
- i) What is insulin used for? What is its route of administration? Mention its adverse effects.
- j) Define anthelmintics. Give examples. Explain : Anthelmintics are administered with purgative
- k) Write examples and therapeutic uses of aminoglycoside antibiotics.

P.T.O.

**3. Attempt ALL of the following:**

- a) Define cardiotonics.
- b) Give two examples of Nootropic agents.
- c) Give full form of NSAID.
- d) Mention two groups of medicines that come under Biologicals.
- e) Give route of administration for each: Salbutamol and Neostigmine
- f) Chlorzoxazone is used as:
 - i) Antiparkinsonian
 - ii) Antihistaminic
 - iii) Centrally acting muscle relaxant
 - iv) Antibiotic
- g) Give two examples of antidiarrhoeal agents.
- h) Name the antidote for iron poisoning.
 - i) What is therapeutic index.
 - j) Mention drug of choice in treatment of Belladonna poisoning.
- k) Route of administration of Halothane is _____.
- l) Mention two common side effects of antineoplastic agents.
- m) Give one example of mydriatic.
- n) MAO inhibitors are used as
 - i) Antiinfective
 - ii) Antidepressants
 - iii) Antihistaminics
 - iv) Antipyretics
- o) Mention therapeutic use of each :
 - i) Methimazole
 - ii) Metformin
- p) Frusemide is used as :
 - i) Analgesic
 - ii) Adsorbent
 - iii) Antibiotic
 - iv) Diuretic
- q) Triple response is produced by :
 - i) Heparin
 - ii) Heroin
 - iii) Histamine
 - iv) Hydrocortisone
- r) Mention therapeutic use of each :
 - i) Acyclovir
 - ii) Fluconazole
- s) This drug is contraindicated in pregnancy :
 - i) Paracetamol
 - ii) Tetracycline
 - iii) Folic acid
 - iv) Methyldopa
- t) Dale's vasomotor reversal is shown by _____

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1. Attempt any SIX of the following:

- a) Define prescription. Explain the various steps for proper handling of prescription for dispensing of medicines.
- b) Explain the stages of patient counselling.
- c) Define OTC medication. Discuss the need and role of pharmacist in OTC medication dispensing.
- d) What advice should a pharmacist give for fever and sore throat ?
- e) Discuss the factors for site selection for setting up a retail pharmacy.
- f) Define inventory control. Enlist the methods of inventory control. Explain ABC analysis.
- g) Brief on the process of placing a purchase order.

2. Attempt any TEN of the following:

30

- a) Define SOP. Enlist the benefits of SOP.
- b) Describe the history of community pharmacy in India after the recommendations of drugs enquiry committee.
- c) Enlist the common dispensing errors. What are the strategies to minimise the dispensing errors ?
- d) Define communication. Describe the skills required for patient interview techniques.
- e) Classify communication. Describe written communication skills.
- f) Enlist the patient counselling tips for tuberculosis.
- g) Define medication non-adherence. Give two examples of medication non-adherence and how can it be corrected ?
- h) Give the formula for BMI calculation. Draw the BMI vs weight chart. Enlist the risk diseases associated with obesity.
- i) Discuss the role of pharmacists in promoting the safe practices during self-medication.
- j) Explain the legal requirements to set up a retail pharmacy.
- k) Enlist the types of cash book. Draw their formats.

**3. Attempt All QUESTIONS of the following:**

- a) The first education regulations were introduced in India in the year _____ and the most recent education regulations in _____.
- b) Write the full form of GPP
- c) The professional responsibilities of a community pharmacist does not include-
 - i) Prescription processing
 - ii) Health promotion
 - iii) Patient counselling
 - iv) Prescribing medicines
- d) Write the auxiliary labeling conditions for eye drops.
- e) DASH diet is recommended for _____.
- f) Name the types of barriers in patient counselling in community pharmacy.
- g) Define patient information leaflets.
- h) What is medication adherence ?
- i) An individual is said to be diabetic when the post prandial blood glucose level is _____ mg/dl
- j) Early detection of following condition using health screening technique saves patient's life-
 - i) Fever
 - ii) Acne
 - iii) Cancer
 - iv) Arthritis
- k) Define self medication.
- l) _____ bacteria which helps to re-establish gut flora is useful in diarrhoea.
- m) Name any two OTC products used for common cold.
- n) Define audit.
- o) Following are the disadvantages of online pharmacy except-
 - i) Easy access to medicines
 - ii) Difficulty in returning unused medicines.
 - iii) No physical assessment.
 - iv) Patient counselling not possible.
- p) State the meaning of 'store in a cold place'.
- q) Management of community pharmacy requires-
 - i) Organizing
 - ii) Procuring
 - iii) Legalizing
 - iv) Ordering
- r) A balance sheet shows _____ and liabilities.
- s) Give the full form of FIFO and LIFO.
- t) The short term finance requirements of a business can be fulfilled by-
 - i) Shares
 - ii) Debentures
 - iii) Overdraft
 - iv) All of the above

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1. Answer any SIX of the following:

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- a) Discuss TCA cycle along with its energetics.
- b) What are carbohydrates? Classify them with suitable example.
- c) What is enzyme Inhibition? Explain competitive and Non-competitive inhibition.
- d) What is Embden-Meyerhof Pathway? Discuss various stages of the pathway.
- e) Explain primary and secondary structure of protein.
- f) Explain routinely performed tests to assess the functions of kidney.
- g) Discuss in brief about B-oxidation of fatty acids.

2. Answer any TEN of the following:

30

- a) Write biochemical role, deficiency condition and symptoms of Vitamin C.
- b) Explain the process of ETC.
- c) What are abnormalities of red cells? Explain.
- d) What are lipids? Classify them with suitable examples.
- e) Discuss the functions, deficiency and recommended dietary requirement of calcium.
- f) Explain structure and functions of DNA.
- g) Define dehydration. Explain causes, symptoms and treatment of dehydration.
- h) Draw the structure of cholesterol and give functions of it.
- i) Enlist different abnormal constituents of urine.
- j) Discuss in detail about Lipolysis.
- k) What is the clinical significance of lipid profile?

3. Answer all of the following:

20

- a) Draw the structure of glucose.
- b) Write any two functions of RNA.
- c) Name any two sulfur containing amino acids.
- d) Give two Pharmaceutical application of enzymes.
- e) Write any two functions of lymphocytes.
- f) The chemical name of vitamin D is _____.

P.T.O.



- g) Define biotechnology.
- h) Co-enzyme form of vitamin riboflavin is _____.
- i) Name the site for protein synthesis in the cell.
- j) Write deficiency diseases of vitamin Thiamin.
- k) The extra cellular fluid comprises _____
- i) Tissue cells
 - ii) Plasma
 - iii) Plasma and interstitial fluid
 - iv) Interstitial fluid
- l) Synthesis of cholesterol and steroid is the function of _____.
- i) Nucleus
 - ii) Golgi apparatus
 - iii) Endoplasmic reticulum
 - iv) Peroxisomes
- m) The nitrogen base found in RNA but not in DNA is _____.
- n) The protein part of holoenzyme is known as
- i) Active site
 - ii) Allosteric site
 - iii) Co-enzyme
 - iv) Apoenzyme
- o) Where does oxidative phosphorylation take place?
- p) Body water is regulated by the hormone _____.
- i) ADH
 - ii) ACTH
 - iii) FSH
 - iv) Epinephrine
- q) Biotechnology has made contribution in which areas _____.
- i) Medicine
 - ii) Industrial
 - iii) Environmental
 - iv) All of these
- r) Give significance of SGPT Test.
- s) Write full form of ECF and ICF.
- t) Rothera's test is for detection of _____ in the urine.

22223

3 Hours / 80 Marks



20224

Seat No.

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- Instructions –*
- (1) All Questions are *Compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.
 - (7) In case student has attempted sub-question of Que. No. 3 more than once, only first attempt should be considered for assessment.

Marks

1. Attempt any SIX of the following:

30

- a) Define pharmacotherapeutics and standard treatment guidelines along with advantages of STGS.
- b) Write about etiopathogenesis of angina and its pharmacological management.
- c) Explain etiopathogenesis and pharmacological management of Diabetes.
- d) Explain epilepsy with the types and give the pharmacological management of epilepsy.
- e) Explain in detail about peptic ulcer and its management.
- f) State the etiopathogenesis of hepatitis according to its types.
- g) Give the management of tuberculosis in accordance with DOT therapy.

2. Attempt any TEN of the following:

30

- a) Define hypertension. What lifestyle changes need to be taken in hypertension?
- b) Write etiopathogenesis and clinical manifestation of asthma.
- c) Give the management of parkinsonism.
- d) Explain etiopathogenesis and clinical manifestation of GERD.
- e) Write about management of megaloblastic anemia.
- f) Give pharmacological and non-pharmacological management of malaria.
- g) Write clinical manifestation and etiopathogenesis of osteoarthritis.
- h) Explain in detail about Clinical Manifestation of anxiety.
- i) What is conjunctivitis? Write about its management.
- j) Explain various mechanisms involved in resistance to antimicrobial agent.
- k) Write etiopathogenesis and clinical manifestation of dysmenorrhea.

22223

3 Hours / 80 Marks



20225

Seat No.

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- Instructions –*
- (1) All Questions are *Compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.
 - (7) Incase student has attempted sub-question of question no. 3 more than once, only first attempt should be considered for assessment.

Marks

1. Attempt any SIX of the following:

30

- a) Write a note on “FIP Basel Statement” on the future of hospital pharmacy.
- b) What is inventory control? Enlist different techniques of inventory control. Explain “Economic Order Quantity” method.
- c) Discuss in detail about floor stock dispensing system with it’s advantages and disadvantages.
- d) Enlist daily activities of clinical pharmacist. Describe interprofessional collaboration including definition, procedure and its benefits.
- e) Enlist any five haematological tests with its normal values and significance.
- f) Define poison. Classify poisons with suitable examples.
- g) What is medication error? Give it’s types with strategies for prevention of medication error.

2. Attempt any TEN of the following:

30

- a) Define “Good Pharmacy Practices”. Give requirements of good pharmacy practices (GPP).
- b) Describe the role of pharmacist in preventing antimicrobial resistance.
- c) Give the various functions of pharmacy and therapeutic committee.
- d) Explain in detail FIFO and FEFO method with it’s advantages and disadvantages.
- e) Explain in short various disposal methods used for pharmaceutical wastes.
- f) Comment of “Automated Drug Dispensing System”.
- g) Write a note on total parenteral nutrition including its definition, content and indications for use.
- h) Define radiopharmaceuticals. Give various methods of disposal of radiopharmaceuticals.
- i) What is “Electronic Health Record”? Give it’s benefits.
- j) What is Pharmaceutical Care? Describe it’s elements.
- k) What are LASA Drugs? Give the importance of listing of LASA Drugs.

**3. Attempt the following:**

- a) Give the longform of NABH.
 - b) For hospitals with bed strength 300, number of pharmacist requirement is
 - i) 3
 - ii) 10
 - iii) 5
 - iv) 8
 - c) _____ number of copies of purchase order are prepared.
 - d) Define High Risk drugs.
 - e) Which method is not suitable for cytotoxic drug disposal.
 - i) Return to the supplier
 - ii) Waste encapsulation
 - iii) Medium temperature incineration
 - iv) High temperature incineration
 - f) Define Ambulatory patient.
 - g) Define Bulk compounding.
 - h) What does GRP stand for?
 - i) Define clinical pharmacy.
 - j) Give english translation for following Latin terms -
 - i) Pulvis
 - ii) Auristillae
 - k) Dictionaries and encyclopedias are _____ sources of Drug Information.
 - l) _____ are the pastes with a base of Kaolin and Glycerine for external application in warm conditions.
 - m) Lower levels of serum TSH indicates _____.
 - n) Spirometry test is performed to assess the disease associated with which organ?
 - o) Normal blood sugar level is _____ mg%.
 - p) Bilirubin increases in -
 - i) Hemolytic jaundice
 - ii) Cholestatic jaundice
 - iii) Obstructive jaundice
 - iv) All of the above
 - q) Antidote for organophosphorous compound poisoning is -
 - i) BAL
 - ii) Atropine
 - iii) EDTA
 - iv) Physostigmine
 - r) Define anti-natal care.
 - s) Define pharmacovigilance.
 - t) Post marketing surveillance of medicine is the function of -
 - i) DIC
 - ii) ADR monitoring centers
 - iii) National pharmacovigilance centers
 - iv) All of the above
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22223

3 Hours / 80 Marks



20226

Seat No.

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- Instructions –*
- (1) All Questions are *Compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Figures to the right indicate full marks.
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 - (5) In case student has attempted sub-question of Question No. 3 more than once, only first attempt should be considered for assessment.

Marks

1. Attempt any SIX of the following:

30

- a) Give the procedure for preparing First register and What qualifications required for entry for First register as per pharmacy Act. 1948?
- b) Write the qualification for Drug inspector and give the procedure of drug inspector in taking samples.
- c) Define the term under D and C Act. 1940
 - i) Adulterated Drugs
 - ii) Misbranded Drugs.Give the functions of CDL as per D and C Act. 1940.
- d) State in detail provisions “Schedule N” of D and C Rules 1945.
- e) Give the objectives of DPCO, 2013 and define the term under this Act -
 - i) Active Pharmaceutical Ingredients
 - ii) Formulation
 - iii) Maximum Retail price
- f) Give two points of difference in law and ethics. Explain the duties of pharmacist in relation to his trade.
- g) Explain the steps involved in New Drug Development.

2. Attempt any TEN of the following:

30

- a) Explain the general principles of law.
- b) Define Drug and New Drug as per the D and C Act. 1940.
- c) List licences (with form numbers) for sale of drugs under D and C Act. 1940.
- d) Define Repacking of Drugs and state any six conditions for grant of repacking license.
- e) Define ‘Illicit traffic’ under NDPS Act. 1985.
- f) Give offences and penalties under Drugs and Magic Remedies (O.A.) Act. 1954.
- g) Give provisions for sale and possession of poison under poison Act. 1919.
- h) Write the experience and training of Registered Medical Practitioner (RMP) required for termination of pregnancy as per MTP Act. 1971.
- i) Explain the documentation, license and renewals in pharma manufacturing.
- j) Write the difference between branded and generic drugs (any six)
- k) Explain the procedure for registration of the clinical establishment.

P.T.O.

**3. Attempt ALL questions:**

- a) List of diseases and ailments which a drug may not claim to prevent or cure is covered under schedule.
- b) As per D and C rules schedule R prescribe.....
- c) Which of the following is prohibited to be imported ?
 - i) Toilet preparations
 - ii) Ayurvedic Drugs
 - iii) Misbranded Drugs
 - iv) Schedule C, G Drugs
- d) CPCSEA stands for
- e) Define captive animal as per prevention of cruelty to Animal Act. 1960.
- f) Out of 22 members of food Authority, the proportion women is
 - i) Half
 - ii) One - Third
 - iii) One - Fourth
 - iv) Two - Third
- g) Which act's prime objective is to make sure that the essential drugs are available to all at a reasonable price.
- h) For calculation of price of bulk drugs a return of 12% is allowed on costing.
 - i) Short term marginal
 - ii) Long term marginal
 - iii) Periodic
 - iv) Intermediate
- i) Code of pharmaceutical ethics developed by.....
- j) Define the term minor.
- k) The CDSCO is a body.
- l) Which authority issue the drug manufacturing license.....
- m) Minimum haemoglobin value required for a donor to donate-blood isgm/dl
- n) Medical devices rules were established in the year
 - i) 1971
 - ii) 1917
 - iii) 1997
 - iv) 1979
- o) Head office of National Institute of Disaster Management (NIDM) is situated in which city?
- p) Consumer protection Act is significant to ?
 - i) All goods and services
 - ii) Immovable goods
 - iii) Movable goods
 - iv) Selected goods and services
- q) Define Bioethics
- r) As per Bioethics. Enlist the principle of justice.
- s) Moral rules to protect and defend the right of patient is mentioned under principle of bioethics.
- t) Animal anatomical wastes are categorised under which category of biomedical waste.