

24225

03 Hours / 80 Marks



20111

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.

Marks

1. Attempt any SIX of the following:

30

- a) Describe History of India Pharmacopoeias in brief.
- b) Explain the construction, working, advantages, disadvantages and uses of a mill working on principle of both impact and attrition.
- c) Enlist various official and non-official evaluation tests of tablets. Explain disintegration test along with apparatus.
- d) Describe various types of ointment bases in details.
- e) Explain formulation of parenteral products.
- f) Define vaccine. Give procedure of preparation, storage and uses of small pox vaccine using animal.
- g) What is c-GMP? What are the basis facility requirements that have to be followed by the pharmaceutical manufacturers?

2. Attempt any TEN of the following:

30

- a) Define effervescent granules. Describe heat method of preparation?
- b) Enlist various parts of single punch tablet machine along with significance of each part.
- c) Enlist at least six roles of community pharmacist.
- d) Define and classify immunity.
- e) Differentiate between simple maceration and maceration with adjustment. Write any six points of differentiation.
- f) Explain any three tests for identification of emulsion.
- g) Why glass is a good material for packaging of pharmaceutical? Give any six points.
- h) Give any six advantages of parenteral preparations.
- i) Define Pharmaceutical aids. Enlist ideal properties of sweetening agents.
- j) Differentiate between hard gelatin capsules and soft gelatin capsules.
- k) Define liposomes. Give their applications.

3. Attempt ALL of the following:

20

- a) Define containers.
- b) Define fine powder.
- c) Give two advantages of dry powers for reconstitution.

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- d) Which part of hand operated capsule filling machine is used to remove filled capsules from the bed?
- e) Whom we call father of Pharmaceutical education in India.
- f) Why oily solutions are not preferred for nasal drops?
- g) Which of the following is an example of neutral mixing?
- i) Mixing of solid with solid
 - ii) Mixing of gases
 - iii) Mixing of immiscible liquids
 - iv) Mixing of insoluble solids with liquid.
- h) Which of the following is not a reason behind capping and lamination of tablets?
- i) Defective punches
 - ii) Too dry granules
 - iii) High degree of compression
 - iv) Low speed of machine.
- i) What is fluidization of solids?
- j) Which formulation you select from elixir and syrup for administration in children? Why?
- k) Glycerin is commonly used as base in throat paints because –
- i) Remain at the site of application for short duration
 - ii) Less viscous
 - iii) Remain at the site of application for longer duration
 - iv) Bitter in taste.
- l) Which of the following is not an advantage of Plastic as a packaging material?
- i) Light in weight
 - ii) Poor conductor of heat
 - iii) Permeable to water vapor
 - iv) No flakes formation.
- m) IVth edition of I.P. published in
- n) Define controlled drug delivery system.
- o) Which of the following tablet is used to prepare solution?
- i) Sublingual tablet
 - ii) Film coated tablet
 - iii) Implantation tablet
 - iv) Hypodermic tablet
- p) As per “Darcy’s law”, K stands for –
- i) Pressure coefficient
 - ii) Filtration coefficient
 - iii) Area coefficient
 - iv) Permeability coefficient.
- q) Enlist two benefits of Novel drug delivery system.
- r) Why tablets are coated, Give any two reasons.
- s) Which of the following chemical is used as lubricant in tablet?
- i) Sucrose
 - ii) Magnesium stearate
 - iii) Mucilage of tragacanth
 - iv) Cyclamate.
- t) What happens if RBC’s are suspended in hypotonic solution?
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20112

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Marks

1. Attempt any SIX of the following: 30

- a) Explain reaction and principle involved in limit Test of Arsenic and draw neat and labelled sketch of Gutzeit's apparatus.
- b) Give storage condition and uses of (any two)
 - i) Oxygen
 - ii) Nitrous oxide
 - iii) Hydrogen Peroxide
- c) Define "Volumetric analysis. Mention the types of volumetric analysis, Explain Acid-base titration and give types of acid base titration.
- d) What are adrenergic drugs? Classify with examples. Draw the structure of Propranolol.
- e) Define and classify anticonvulsant, give structure and uses of Phenytoin.
- f) Define and classify Antibiotics giving suitable example of compounds under each class, give structure of Amoxicillin.
- g) Classify sulphonamides based on chemical nature and its uses. What is cotrimoxazole ?

2. Attempt any TEN of the following : 30

- a) Define limit test and give reaction and principle involved in limit test of Chloride.
- b) Define Cholinergic, give structure and chemical name of acetyl choline.
- c) What is the Principle involved in Gravimetric analysis ? Enlist the steps involved in gravimetric analysis.
- d) Define Sedative and Hypnotics, give structure of Diazepam.
- e) Give structure, chemical name and brand name of Frusemide.
- f) Define and classify antihypertensive agents.
- g) Define and classify antineoplastic agents.
- h) Define and classify Hypoglycaemic agent
- i) Give structure and brand name of (any two)
 - i) Aspirin
 - ii) Paracetamol
 - iii) Chloroquine
- j) Define and classify anti-Tubercular agent give structure of INH.
- k) Give uses and brand name of (any two)
 - i) Erythromycin
 - ii) Penicillin G
 - iii) Chlorpromazine

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

- a) Limit test are performed in:
- i) Separating flask
 - ii) Arsenic test apparatus
 - iii) Nessler's cylinder
 - iv) Measuring cylinder
- b) Which of the following are anti-microbial agents?
- i) Silver Nitrate
 - ii) Hydrogen peroxide
 - iii) Potassium permanganate
 - iv) All of the above
- c) To prepare a solution of accurately know volume, use a _____.
- i) Beaker
 - ii) Conical flask
 - iii) Volumetric Flask
 - iv) Measuring Cylinder
- d) Name anyone drug containing indole heterocyclic ring.
- e) _____ are used in iron defeciency anemia.
- f) _____ is a plant origin anticancer agent.
- g) Identify the following hetero cycle
- i) Imidazole
 - ii) Pyrazole
 - iii) Oxazolidine
 - iv) Pyrrol
- h) _____ causes both reversible loss of sensation and consciousness.
- i) Draw the structure of following groups.
- i) Amino
 - ii) Phenyl
- j) Define anti-arrhythmic agent.
- k) Write two examples of tricyclic antidepressants.
- l) Give Brand name of Ibuprofen.
- m) Give uses of Salbutamol.
- n) Write dosage form (Pharmaceutical Preparation) of Isosorbide Dinitrate.
- o) Draw the structure of Naphazoline.
- p) Define Diuretics with examples.
- q) Write IUPAC name of Dapsone.
- r) Give uses of Diclofenac.
- s) The order of preference for hetero atoms are as follow
- i) Oxygen, Nitrogen, Sulphur
 - ii) Sulphur, Nitrogen, Oxygen
 - iii) Oxygen, Sulphur, Nitrogen
 - iv) Nitrogen, Oxygen, Sulphur
- t) Give dosage form (Pharmaceutical Preparation) Azithromycin.

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20113

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Marks

1. Attempt any SIX of the following:

30

- a) Explain antioxidants with two therapeutic applications. Illustrate biological source, chemical constituents and pharmacological usefulness of Garlic.
- b) Explain classification of crude drugs on the basis of chemical nature with its two merits and demerits.
- c) Give biological source, chemical constituents, and method of preparation of Absorbent cotton.
- d) Define volatile oil and explain different extraction methods for the same.
- e) Illustrate the role of extractive soluble value in extraction and ash content in a crude drug evaluation.
- f) Define and classify pharmaceutical aids with examples.
- g) Give biological source, chemical constituents, therapeutic uses, cosmetic benefits and commercial preparations of sandal wood oil.

2. Attempt any TEN of the following :

30

- a) Give chemical constituents and uses of –
 - i) Nutmeg
 - ii) Cinnamon
- b) Mention source and therapeutic benefits of Omega-3-fatty acids.
- c) Explain the principle of Ayurveda.
- d) Illustrate different steps involved in preparation of Herbal formulation.
- e) Explain Ash content and extractive soluble value.
- f) Explain different methods of crude drug Adulteration.
- g) Define Asava and write the method of preparation of Asava.
- h) Explain the export potential of Aromatic and Medicinal plants.
- i) Give the name of chemical test used to detect the presence of Cardiac Glycoside and explain it.
- j) Define Antitussives with examples and give biological source, chemical constituents and uses of any one drug.
- k) Explain systematic investigation of plants material for its Phytochemical study.

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20114

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Marks

1. Attempt any SIX of the following:

30

- a) Name the bones in the appendicular skeleton. Describe various types of joints.
- b) Write the composition and functions of Blood.
- c) With neat well labelled diagram discuss anatomy and flow of blood through heart.
- d) Describe the various functions of liver.
- e) Name the parts of brain. Describe the structure and functions of cerebrum with diagram.
- f) With neat well labelled diagram describe the structure of Ear.
- g) With neat well labelled diagram give the anatomical features of kidney. Enlist the functions of kidneys.

2. Attempt any TEN of the following:

30

- a) Draw a well labelled diagram of cell and it's organelles.
- b) Define Tissue. Explain epithelial tissue in detail.
- c) Define blood clot. Illustrate the mechanism of blood clotting in detail.
- d) Describe the structure and functions of lymph node.
- e) Discuss the events of cardiac cycle in detail.
- f) Define respiration. Discuss physiology of respiration in detail.
- g) Give reason - pancreas is called EXO-Endocrine gland.
- h) Define reflex action and give it's two examples. Draw a well labelled diagram of reflex arc.
- i) Name any four endocrine glands. Name the harmones secreted by pituitary gland.
- j) Summarise the hyposecretion and hypersecretion effects of thyroid gland.
- k) Draw a neat well labelled diagram of female reproductive system. Enlist the functions of female reproductive system.

P.T.O.

3. Attempt ALL of the following :

- a) Define Anatomy.
- b) The cavity within a bone is called as -----
- c) Enlist the types of specialized connective tissue.
- d) The lower jaw is known as –
 - i) Maxilla
 - ii) Ethmoid bone
 - iii) Mandible
 - iv) Clavicle
- e) All of the following are Hinge Joints excepts –
 - i) Elbow Joint
 - ii) Knee Joint
 - iii) Joints between phalanges
 - iv) Wrist Joint
- f) The normal Diastolic Blood pressure in adult human being is -----.
- g) ----- are the blood vessels which transport blood away from heart.
- h) Define Residual volume.
- i) ----- is a tubular passage way for air also called as wind pipe.
- j) The duct of liver and pancreas open into –
 - i) Ileum
 - ii) Ischium
 - iii) Colon
 - iv) Duodenum
- k) Define neuromuscular junction
- l) The outer covering of the striated muscle fibre is called -----.
- m) Peripheral nervous system consist of ----- pairs of spinal nerves.
- n) ----- Nerves convey impulses from brain to other parts of the body.
- o) Which of the following is a part of middle ear –
 - i) Malleus
 - ii) Cochlea
 - iii) Vestibule
 - iv) Semicircular canals
- p) The central transparent region of eye which allows light to enter is called as -----.
- q) Olfactory nerves are present in -----.
- r) ----- system is responsible for maintenance of blood pressure.
- s) Name the site in male reproductive system where sperm maturation takes place.
- t) In male the sex hormones that maintains sexual organs and secondary sexual characteristics is –
 - i) Relaxin
 - ii) Testosterone
 - iii) Estrogen
 - iv) All of the above.

