

12425

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) 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) Explain Pharmacy as a career.
- b) Explain Principle, Construction, Working and application of Silverson Mixer.
- c) Explain the types of coating of tablets.
- d) Define capsules. Differentiate between hard gelatin and soft gelatin capsules.
- e) Define Emulsion and explain methods of Emulsion preparation.
- f) Define powders and give its classification, Write advantage and disadvantages of powder.
- g) Explain briefly SVP and LVP.

2. Attempt any TEN of the following :

30

- a) Explain any two types of packaging materials.
- b) Explain the working and application of Ball mill.
- c) Name the quality control tests of tablets.
- d) Define and classify ointments.
- e) Define creams and classify with examples.
- f) Define Ear drops and state one formula with method of preparation of ear drops.
- g) Write method of preparation of effervescent granules.
- h) Explain Pharmaceutical Plant Layout.
- i) State the outline of GMP.
- j) Classify with example Controlled Release Drug Delivery System.
- k) State the advantages of Novel Drug Delivery System.

3. Attempt ALL questions.

20

- a) Who is stated Hindu god of medicine ?
- b) Define Pharmacopoeia.
- c) When and where first Pharma Company started in India.
- d) Define Packaging.
- e) Define closures.
- f) Define Pharmaceutical aid.
- g) Name any four colouring agents.

P.T.O.



- h) Define preservative.
- i) Name mechanisms involved in Size Reduction.
- j) Enlist various grades of powder.
- k) Define sieve number.
- l) Enlist methods of Extraction.
- m) Film coated tablets are coated by _____.
 - i) Polymers
 - ii) Sugar
 - iii) Gelatin
- n) What agents are used in wet granulation
 - i) Binding agents
 - ii) Emulsifiers
 - iii) Suspending agents
- o) What are Elixirs.
 - i) Aqueous sol
 - ii) hydro-alcoholic
 - iii) biphasic
- p) Antibiotic ointment are used to
 - i) Kill micro-organism
 - ii) Kill fungi
 - iii) Both
- q) In simple ointment wool fat is used as
 - i) Base
 - ii) Emollient
 - iii) Stiffening agents
- r) Nasal drops are stored at temperature
 - i) 40 – 50°C
 - ii) 50 – 60°C
 - iii) 20 – 25°C
- s) Drug absorption from nasal spray is
 - i) slow
 - ii) rapid
 - iii) None of these.
- t) Sterile formulation should be
 - i) hypotonic
 - ii) hypertonic
 - iii) Isotonic

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20112

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 - (6) 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) Explain reaction and principle involved in limit test for Arsenic and draw neat and labelled sketch of Gutzeit apparatus.
- b) Give a brief account of:
 - i) Acid-base titration
 - ii) Complexometric titration
- c) Define Antibiotics. Classify with suitable example. Write uses of Azithromycin.
- d) State what are Hypnotics and sedatives? Classify them giving suitable examples. Draw structure of chlorpromazine.
- e) State what are sympathomimetic drugs? Classify and give the structure and uses of Adrenaline.
- f) Draw chemical structure of Dapsone. Give its chemical name; uses, formulations and storage conditions.
- g) Write uses for the following compounds:
 - i) Ferrous Sulfate
 - ii) Aluminium hydroxide gel
 - iii) Potassium permanganate
 - iv) Calcium carbonate
 - v) Oxygen.

2. Attempt any TEN of the following:

30

- a) Explain principle and procedure involved in limit test for chloride.
- b) Enlist different types of volumetric analysis. Explain at least one precipitation type of titration.
- c) Define and classify general anaesthetics giving suitable examples of compounds under each class.
- d) What are anticholinergic drugs? Give the therapeutic uses of anticholinergic drugs.
- e) Draw the structure; uses and popular brand names (Any two) of propranolol.
- f) Give the structure; chemical name and uses of furosemide.
- g) What is diabetes mellitus? Give pharmaceutical formulations of Insulin. Draw structure of Metformin.
- h) Define antipyretic analgesics. Give uses and popular brand names of paracetamol.

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- i) Write uses and brand names (Any one) for the following drugs:
 i) Amoxicillin ii) Chloramphenicol.
 j) Give structure and uses of following drugs:
 i) Isoniazid ii) Acyclovir.
 k) Classify antineoplastic drugs with example. Draw structure of fluorouracil.

3. Attempt ALL of the following:

20

- a) Guitzet test apparatus is used to carry out limit test of
- b) Name the indicator used in acid-base titration:
 i) Methyl red ii) Phenolphthalein
 iii) Methyl orange iv) All of the above.
- c) State the uses of Boric Acid.
- d) The synonym of sodium bicarbonate is :-
- e) Organic chemistry is the chemistry of :-
- f) Which of the following is a six membered ring :-
 i) Furan ii) Pyrimidine
 iii) Imidazole iv) Oxazole.
- g) While numbering the heterocyclic ring, the order of preference in numbering the hetero atoms as follows:
 i) O-N-S ii) S-O-N
 iii) O-S-N iv) N-S-O
- h) The prefix Aza/Azo is used for a hetero atom
- i) Write brand name of Diazepam.
- j) Which of the following is hydanto in derivative :-
 i) Phenobarbitone ii) Trimethadione
 iii) Phenytoin iv) Phenacemide.
- k) Adrenaline is an:
 i) Cholinergic blocker ii) Adrenergic agent
 iii) Adrenergic blocker iv) Cholinergic agent.
- l) Name any two drugs used for myasthenia gravis.
- m) Name the pharmacological category of Dopamine.
- n) Isosorbide dinitrate is used in the treatment of :
- o) Acetazolamide is used as
- p) Full form of NSAID's
- q) The chemical name of Aspirin is
- r) In what dosage form amoxicillin is given?
- s) Write any two brand name of Remdesivir.
- t) Which plant products have anticancerous properties?

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20113

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Marks

1. Attempt any SIX of the following: 30

- a) Explain pharmacological type of classification of natural drugs with its merits and demerits.
- b) Define the term adulteration and enlist different methods of adulteration along with examples.
- c) Enlist traditional Indian systems of medicine. Describe Ayurveda an indigenous system of medicine.
- d) Define neutraceuticals and antioxidants. Give their therapeutic applications.
- e) Draw a well labelled diagram of Transverse section of *Nux vomica* and give its biological source and chemical constituents.
- f) Define pharmaceutical aids. Classify according to their applications. Also define phytochemicals with examples.
- g) Give synonyms, biological source and method of preparation of absorbent cotton.

2. Attempt any TEN of the following : 30

- a) Define pharmacognosy. Differentiate between organised and unorganised crude drugs.
- b) Define medicinal and aromatic plants and give their any four importance in national economy.
- c) Give therapeutic applications of following natural drugs –
 - i) Soya
 - ii) Garlic
- d) Explain Bontrager's test and modified Bontrager's test.
- e) What are enzymes. Give biological source and uses of papaya.
- f) Give biological source and chemical constituents of cinchona.
- g) Give therapeutic activity and pharmaceutical applications of tannins.
- h) Name the drugs which contain following chemical constituents :
 - i) Fenchone
 - ii) Digitoxin
 - iii) Vasicine
- i) Define Herbal formulations. Explain method of preparation of Taila.
- j) Give any two therapeutics uses, any two cosmetic uses and any two marketed formulations of sandal wood oil.
- k) Explain any two methods of micro-scopic evaluation of crude drugs.

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20114

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Marks

1. Attempt any SIX of the following:

30

- a) Classify bones based on their shapes. Describe the structure of a typical synovial joint with diagram.
- b) Describe the process of blood clotting.
- c) Explain conduction system of the heart with neat diagram.
- d) Describe the structure and functions of Liver.
- e) Explain the functional areas of the cerebrum with diagram. Give the functions of cerebrospinal fluid.
- f) Draw a neat and labelled diagram of T.S. of eyeball. Give the functions of skin.
- g) Explain the process of urine formation with neat and labelled diagram of nephron.

2. Attempt any TEN of the following:

30

- a) State the functions of the following:
 - i) Ribosome
 - ii) Mitochondria
 - iii) Plasma membrane
- b) Write an account of simple epithelial tissue.
- c) Enlist different types of blood cells with their normal values.
- d) Enlist the components of the lymphatic system. Give the functions of the lymphatic system.
- e) Write an account of basics of electrocardiogram.
- f) Name the upper and lower parts of respiratory system. Give the functions of respiratory system.
- g) Write the physiology of carbohydrate digestion.
- h) Write the effect of parasympathetic stimulation on following body parts
 - i) Eye
 - ii) Cardiac muscles
 - iii) Salivary glands
- i) Write the principal actions of anterior pituitary hormones.
- j) Describe the phases of menstrual cycle.
- k) Write the functions of insulin and thyroid hormones.

P.T.O.

3. Attempt ALL of the following:

- a) Define the term Physiology.
- b) State the meaning of medial plane.
- c) Define the term cardiac output.
- d) _____ present in the respiratory system helps in voice production.
- e) Name the salivary glands.
- f) Name any two cranial nerves.
- g) Name the two types of photoreceptors present in the retina.
- h) If a muscle is frequently stimulated contract, its response to the stimulus progressively decreases. Such a conditions is called _____ .
 - i) State the composition of urine.
 - j) Name the accessory reproductive glands in the males.
- k) Voluntary muscles are present in the
 - i) Heart
 - ii) Limb
 - iii) Liver
 - iv) Lungs
- l) The first vertebra or G, that supports the skull present at the top of the spine is
 - i) Hyoid
 - ii) Axis
 - iii) Atlas
 - iv) Mandible
- m) The shortest bone in the human body is
 - i) Stapes
 - ii) Malleus
 - iii) Incus
 - iv) Patella
- n) The plasma protein responsible for blood clotting is
 - i) Fibrinogen
 - ii) Globulin
 - iii) Serum amylase
 - iv) Albumin
- o) The amount of air that moves in or out of the lungs with each normal respiratory cycle is _____ .
- p) When a nerve impulse reaches the neuromuscular junction, acetylcholine is released into the _____ .
- q) Coughing and Sneezing are controlled by which part of brain?
- r) The _____ membranes separates the external ear and middle ear.
- s) Which receptor is present in the nose?
 - i) Photoreceptor
 - ii) Gustatory receptor
 - iii) Olfactory receptor
 - iv) Adrenoreceptor
- t) The primary sex organ of female reproductive system is _____ .
 - i) Uterus
 - ii) Cervix
 - iii) Ovaries
 - iv) Fallopian tubes

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20115

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1. Attempt any SIX of the following:

30

- a) Define Health. Explain dimensions of health.
- b) What is scope of family planning? Classify methods of contraception.
- c) Define Vaccine and Immunization. Describe various types of vaccines.
- d) What is microbiology? Differentiate between bacteria and virus. Give examples of protozoa.
- e) Write causative agent, mode of transmission symptoms and types of Tuberculosis.
- f) Write causative agent, mode of transmission and prevention of any two:
 - i) AIDS
 - ii) Dengue
 - iii) Leprosy
- g) List any four ongoing National health program for NCDs and explain one.

2. Attempt any TEN of the following:

30

- a) Enlist the priority areas in NHP 2017. When was first National Health Policy launched?
- b) Explain sources and effects of water pollution.
- c) What is Demography? Explain demographic cycle.
- d) Describe junk food. What are ill effects of consuming junk food?
- e) Give suitable example of following:
 - i) Fortification of food
 - ii) Adulteration of food
 - iii) Genetically modified food
- f) Define communicable diseases. Discuss modes of Transmission of communicable diseases.
- g) Define:
 - i) Quarantine
 - ii) Pandemic
- h) Draw structure of bacteria with diagram.
- i) Write causative agent, mode of transmission, clinical presentation of typhoid.
- j) Describe Pradhan Mantri Jan Arogya Yojna.
- k) Define Pharmacoeconomics. Explain importance or benefits of pharmacoeconomics.

P.T.O.



3. Attempt ALL of the following:

- a) Define social pharmacy.
- b) Write full form SDG.
- c) No. of development goals given by FIP are _____.
- d) Mention any 2 indicators of Health.
- e) Breast feeding has exclusive health benefits for
 - i) Baby
 - ii) Lactating mother
 - iii) Both baby and mother
 - iv) None
- f) Depletion of ozone layer happens due to Air pollution. State True or False.
- g) Mention any 2 methods of solid waste disposal.
- h) What is meant by occupational illness?
 - i) Match the following correctly:

i) Calcium	a) Cretinism
ii) Iron	b) Pellagra
iii) Iodine	c) Anemia
iv) Vitamin B3	d) Osteomalacia
- j) Define Nutrition.
- k) Varicella zoster virus is causative agent of
 - i) Chicken Pox
 - ii) Diphtheria
 - iii) AIDS
 - iv) Dengue
- l) Write causative agent of filariasis.
- m) Write full form of SARS
- n) Acid fast staining (Ziehl-Neelsen) is used for identification of
 - i) Cornyebacterium
 - ii) Mycobacterium
 - iii) Plasmodium
 - iv) Streptobacilli
- o) Write vector involved in transmission of chikungunya.
- p) National nutritional anaemia prophylaxis programme aims to promote.
 - i) Regular intake of iron and folic acid foods
 - ii) Blood transfusion
 - iii) Emergency treatment of anaemia
 - iv) None of the above
- q) Mother Child health program, give one example.
- r) NPCDCS is a program covering
 - i) Cancer
 - ii) Diabetes
 - iii) Cardiovascular diseases
 - iv) All of these
- s) WHO removed India from the list of countries with active endemic wild polio virus transmission in the year _____.
- t) QALY stands for _____.