Roll No. : _____ Code No. : 2601

ENGLISH VERSION

# PHARMACEUTICS

**Time Allowed : 3:00 Hours** **Maximum Marks : 80**

**Notes:** (i) Attempt **all** parts.

(ii) Students are advised to specially check the numerical data of question paper in both versions. If there is any difference in Hindi translation of any question, the students should answer the question according to the English version.

(iii) Use of pager and mobile phone by the students is not allowed.

## PART-A
### (Long Questions)

**Note :** Answer **any six** questions. Each carries **equal** marks. [6×5=30]

Q.1. Write briefly on materials used for construction of containers.

Q.2. Define Extraction. Write in brief on maceration.

Q.3. Write note on novel drug delivery system.

Q.4. Write about different types of dryers.

Q.5. Write about Pharmaceutical applications of size reduction.

Q.6. Write in brief about British Pharmacopoeia.

Q.7. Write on immunological products.

## PART-B
### (Short Questions)

**Note :** Answer **any ten** questions. Each carries **equal** marks. [10×3=30]

Q.1. Write short note on Pharmaceutical aids.

Q.2. Write on working of hammer mill.

Q.3. Write about soft gelatin capsules.

Q.4. Write note on Fluidized bed dryer.

Q.5. Write about application of Ball mill.

Q.6. Write note on Homogenizers.

Q.7. Write note on glass containers.

Q.8. Write note on filter media.

Q.9. Write a brief note on Percolation.

Q.10. Why drying is an important operation in the formulation of dosage forms?

Q.11. Write a note on suspension.

## PART-C
### (Objective Questions)

**Note :** Answer **all** questions. Each question carries **equal** marks. [20×1=20]

Q.1. The first edition of Indian Pharmacopoeia was published in :

(a) 1965 (b) 1975 (c) 1955 (d) 1985

Q.2. Advantages of plastic containers _____.

(a) Poor conductor of heat (b) Sufficient mechanical strength

(c) Transported easily (d) All of the above

Q.3. Different methods of size separation are _____.

(a) Sieving (b) Air separator (c) Elutriation (d) All of the above

Q.4. Method of extraction _____.

(a) Infusion (b) Decoction (c) Maceration (d) All of the above

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Q.5. The material or medium used for retaining the particles in the process of filtration is known as the _____.
(a) Filtrate (b) Straining (c) Filter media (d) None of the above

Q.6. The process of final removal of liquid from solid materials by thermal vaporisation is :
(a) Distillation (b) Vaporisation (c) Drying (d) All of the above

Q.7. _____ refers to the adherence of tablet material to the die walls.
(a) Picking (b) Sticking (c) Capping (d) All of the above

Q.8. Which of the following is natural colorant?
(a) Amaranth (b) Erythrosine (c) Carotenoids (d) Eosin

Q.9. Bacillus Calmette Guerin (BCG) Vaccine should be stored at a temperature between :
(a) 10°C to 18°C (b) 18°C to 24°C
(c) 2°C to 8°C (d) All of the above

Q.10. Douches are meant for application in _____.
(a) Buccal cavity (b) Rectal cavity (c) Vaginal cavity (d) Nasal cavity

Q.11. Polymers used for enteric coating ____.
(a) Cellulose acetate phthalat (b) PEG-40
(c) Ethyl cellulose (d) Hydroxyethylmethyl cellulose

Q.12. The resistance developed by an individual as a result of an antigenic stimulus is :
(a) Passive immunity (b) Active immunity
(c) Both (a) and (b) (d) None of the above

Q.13. Drugs converted to suitable forms are known as ____.
(a) Excipient (b) Source of drug (c) Dosage form (d) API

Q.14. Capsules in which powders are enclosed are made up of :
(a) Gelatin (b) Riceflour (c) Fructose (d) Dextrose

Q.15. The chairman of the first edition of I.P. was :
(a) Dr. B.N. Ghosh (b) Dr. B. Mukherjee
(c) Dr. Nityanand (d) Dr. Prasana Totta

Q.16. ____ is a drug residue which remains behind after extraction.
(a) Marc (b) Menstruum
(c) Both (a) and (b) (d) None of the above

Q.17. Polymers used for film coating _____.
(a) Cellulose acetate succinate (b) HPMC phthalate
(c) Carbowax (d) Polymethacrylate

Q.18. Emulsions are :
(a) Biphasic liquid (b) Monophasic liquid
(c) Both (a) and (b) (d) None of the above

Q.19. Tablets are in :
(a) Solid dosage form (b) Liquid dosage form
(c) Both (a) and (b) (d) None of the above

Q.20. In cyclone separator, the powder is separated depending on its :
(a) Particle size (b) Particle size and density of particles
(c) Density of particle (d) Shape of powder

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# PHARMACEUTICAL CHEMISTRY

**Time Allowed : 3:00 Hours** **Maximum Marks : 80**

**Notes:** (i) Attempt **all** the questions.

(ii) Students are advised to specially check the numerical data of question paper in both versions. If there is any difference in Hindi translation of any question, the students should answer the question according to the English version.

(iii) Use of pager and mobile phone by the students is not allowed.

## PART-A

### (Long Questions)

**Note :** Answer **any six** questions. Each carries **equal** marks. [6×5=30]

Q.1. Discuss the scope and objectives of pharmaceutical chemistry.

Q.2. Explain volumetric analysis. Discuss in brief the complexometric titration.

Q.3. Write in brief the pharmaceutical formulations, storage conditions and uses of medicinal gases.

Q.4. Discuss Analgesics and Anti-inflammatery agents. Explain the physico-chemical properties and uses of Ibuprofen.

Q.5. Classify Antibiotics. Discuss chemical and physical properties of macrolides.

Q.6. Classify drugs acting on cardiovascular system. Discuss Antihypertensive drugs.

Q.7. Classify drugs acting on Autonomic nervous system. Discuss physico-chemical properties of salbutamol and ephedrine.

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## PART-B

### (Short Questions)

**Note :** Answer **any ten** questions. Each carries **equal** marks. [10×3=30]

Q.1. Name three anti-neoplastic agents.

Q.2. Write about sulfacetamide.

Q.3. What are gastrointestinal agents?

Q.4. Write a note on haematinics.

Q.5. Classify anti-tubercular drugs.

Q.6. Write a note on Alpha Adrenergic Blockers.

Q.7. Write in brief about Gravimetric analysis.

Q.8. Write a note on Metformine.

Q.9. Write the chemical structure of Aspirin.

Q.10. Write about Phenytoin.

Q.11. What are anti-depressants?

## PART-C

### (Objective Questions)

**Note :** Answer **all** questions. Each question carries **equal** marks. [20×1=20]

Q.1. Nessler cylinder is not used during limit test for which of the following?

(a) Iron (b) Sulphate (c) Chloride (d) Arsenic

Q.2. Which of the following should be stored in a light resistant container?

(a) Calcium carbonate (b) Zinc Oxide

(c) Hydrogen peroxide (d) Titanium dioxide

Q.3. EDTA is used as titrant in which of the following?

(a) Complexometric titration (b) Acid-base titration

(c) Redox titration (d) None of the above

Q.4. Lasix is the brand name of which of the following?

(a) Frusemide (b) Griseofulvin (c) Diazepam (d) Salbutamol

Q.5. Which of the following is antiviral agent?

(a) Rifampicin (b) Propranolol (c) Acyclovir (d) Phenytoin

Q.6. Drugs used to treat epilepsy are known as :

(a) Antipsychotic (b) Antidepressants

(c) Sulfonamides (d) Anticonvulsants

Q.7. Adrenergic drugs are also known as :

(a) Sympathomimetric agents (b) Hypoglycemic agents

(c) Anti-hypertensive agents (d) Sedatives and hypnotics

Q.8. Which of the following is hypoglycemic drug?

(a) Acetazolamide (b) Insulin (c) Atenolol (d) Paracetamol

Q.9. Which of the following is used as antimalarial?

(a) Erythromycin (b) Chloroquine phosphate

(c) Fluconazole (d) Glimepride

Q.10. Aza represents the presence of which of the following?

(a) S (b) O

(c) N (d) None of the above

Q.11. Laughing gas is known as _____.

Q.12. Chemical formula of Boric acid is _____.

Q.13. Griseofulvin is used as _____.

Q.14. Sodium fluoride is used in the treatment of _____.

Q.15. 5,5-diphenylimidazolidine-2, 4-dione is the chemical name of _____.

Q.16. Arsine gas produces a yellow or brown colour stain when it comes in contact with _____.

Q.17. What are dentifrices?

Q.18. Para Amino Salicylic (PAS) Acid is used in the treatment of _____.

Q.19. Give an example of Urinary Tract Anti-infective agent.

Q.20. Thiopental sodium is given by ____ route.

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# PHARMACOGNOSY

**Time Allowed : 3:00 Hours** **Maximum Marks : 80**

**Notes:** (i) Attempt the questions from all parts as directed.

(ii) Students are advised to specially check the Numerical Data of question paper in both versions. If there is any difference in Hindi translation of any question, the students should answer the question according to the English version.

(iii) Use of pager and mobile phone by the students is not allowed.

## PART-A

**Note :** Answer **any six** questions. Each question carries **equal** marks. [6×5=30]

Q.1. Define Alkaloid. Classify them with examples.

Q.2. Describe the method of preparation of "Bhasma".

Q.3. Write a note on any one of the following :

(a) Herbal Cosmetics (b) Surgical Sutures and Ligatures

Q.4. Explain the principle of homeopathic system of medicine.

Q.5. Give the biological source, family, chemical constituents and therapeutic uses of any two of the following :

(a) Beeswax (b) Digitalis (c) Ergot

Q.6. Define the term "Pharmacognosy ". Write a note on history of pharmacognosy.

Q.7. Define antihypertensive drugs. Give the biological source, family, chemical constituents and uses of Rauwolfia.

## PART-B

**Note:** Answer **any ten** questions. Each question carries **equal** marks. [10×3=30]

Q.1. Write a note on pharmacological method of classification of herbal drugs.

Q.2. Define and classify, fibres with examples.

Q.3. Define antiseptic and disinfectants. Give the biological source, family, chemical constituents and uses of Turmeric.

Q.4. Write a short note on Diastase.

Q.5. Write the methods used for the extraction of volatile oils.

Q.6. Give an account on adulteration of crude drugs.

Q.7. Give the chemical test used for the identification of tannins.

Q.8. Describe **any two** of the following :

(a) Omega-3-fatty acids (b) Dietary fibres (c) Antioxidants

Q.9. Define and classify pharmaceutical aids with examples.

Q.10. Give the biological source, family, chemical constituents and therapeutic uses of **any two** of the following :

(a) Colchicum (b) Guggul (c) Gymnema (d) Lavender oil

Q.11. Write a short note on herbal formulations.

## PART-C

**Note :** Answer **all** questions. Each question carries equal marks. [20×1=20]

Q.1. Which chemical test is used for identification of flavonoids?

(a) Alkaline-Reagent test (b) Shinoda test

(c) Both (a) and (b) (d) None of the above

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Q.2. Devil's Dung is the synonym of the herb :
(a) Belladonna (b) Asafoetida (c) Guggul (d) Gymnema

Q.3. Choose the correct combination of drug of its pharmacological effects :
(a) Vitamins-Papaya (b) Antimalarial-Vasaka
(c) Astringent-Myrobalon (d) Laxative-Arjuna

Q.4. Example of unorganised drug is :
(a) Myrrh (b) Benzoin (c) Asafoetida (d) All of the above

Q.5. Nylon is an example of which of the following?
(a) Plant fibre (b) Animal fibre
(c) Mineral fibre (d) Synthetic fibre

Q.6. Opium belongs to the family :
(a) Umbelliferae (b) Rubiaceae
(c) Papaveraceae (d) Leguminosae

Q.7. Which of the herbal formulation contains metal ash and prepared by the process of incineration?
(a) Asvas (b) Avleha (c) Bhasma (d) Vatika

Q.8. Which of the active constituent is used to produce the local anesthetic effect?
(a) Reserpine (b) Digoxin
(c) Cocaine (d) Vincrystine

Q.9. Which part of "Zingiber officinale" is used as authentic source of drug?
(a) Leaves (b) Flowers
(c) Fruits (d) Rhizomes

Q.10. "Official Pharmacopoeia" follows which system for classification/study of herbal drugs?
(a) Alphabetic (b) Morphological
(c) Chemical (d) Pharmacological

Q.11. Microorganism given in the form of nutraceutical is known as :
(a) Prebiotics (b) Probiotics
(c) Antioxidants (d) None of the above

Q.12. Example of herb containing oleo-gum-resin is :
(a) Guggul (b) Asafoetida
(c) Both (a) and (b) (d) None of the above

Q.13. Basic principle of Ayurvedic system of medicine is based on _____.

Q.14. Which of the plant secondary metabolite is used in the treatment of alkaloidal poisoning?
(a) Glycoside (b) Tannin
(c) Carbohydrate (d) Volatile oil

Q.15. Which of the following is an organised drug?
(a) Ephedra (b) Aloe
(c) Benzoin (d) Acacia

Q.16. Glycoside is the condensation product of :
(a) Aglycon-protein (b) Aglycon-sugar
(c) Protein-sugar (d) Aglycon-fat

Q.17. Biological source of Vinca plant is _____.

Q.18. _____ and _____ are crude drugs mainly used to produce cardiotonic effect.

Q.19. Cod liver oil is the rich source of _____ and _____ vitamins.

Q.20. _____ is known as father of pharmacognosy.

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Code No. : 2004

ENGLISH VERSION

# HUMAN ANATOMY AND PHYSIOLOGY

**Time Allowed : 3:00 Hours** **Maximum Marks : 80**

**Notes:** (i) Attempt **all** parts.

(ii) Students are advised to specially check the numerical data of question paper in both versions. If there is any difference in Hindi translation of any question, the students should answer the question according to the English version.

(iii) Use of pager and mobile phone by the students is not allowed.

**Note :** Attempt **all** parts.

## PART-A

**Note :** Answer **any six** questions. Each question carries **equal** marks. [6×5=30]

Q.1. Define Tissue. Describe muscular tissue.

Q.2. Describe in brief various parts of digestive system.

Q.3. Give the composition of blood. Write about red blood corpuscles.

Q.4. Write about composition of urine.

Q.5. Write in brief physiology of muscles contraction.

Q.6. Write in brief physiology of respiration.

Q.7. Write in brief about sympathetic and parasympathetic nervous system.

## PART-B

**Note:** Answer **any ten** questions. Each question carries **equal** marks. [10×3=30]

Q.1. Write short note on Epithelial tissue.

Q.2. Write about Lymph glands.

Q.3. Write short note on blood groups.

Q.4. Write about functions of kidney.

Q.5. Write short note on Brain.

Q.6. Write short note on structure of heart.

Q.7. Write short note on Ball and Socket type of joint.

Q.8. Write about functions of a human cell.

Q.9. Write short note on Microsomes.

Q.10. Write short note on Pancreas.

Q.11. Write in brief about male reproductive system.

## PART-C

**Note :** Answer **all** questions. Each question carries equal marks. Four options of answer of each question are given, only one option is correct. Choose and write only correct option writing question number. [20×1=20]

Q.1. The name "Mitochondria" was given by :

(a) Vira (b) Benda (c) Flemming (d) Palade

Q.2. Chromosomes are present in :

(a) Nucleus (b) Nucleolus (c) Cytoplasm (d) Lysosome

Q.3. White fibrous tissue is also called :

(a) Ligament (b) Reticular tissue

(c) Areolar tissue (d) Collagenous tissue

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4. The muscle which rotates the arm and the palm upward is called :
(a) Supinator (b) Pronator (c) Flexor (d) Rotator

5. Accumulation of uric acid in the synovial joints causes a disease called :
(a) Bursitis (b) Gout (c) Osteoporosis (d) Osteomalacia

6. Haemoglobin is a :
(a) Polysaccharide (b) Protein (c) Hormone (d) None of the above

7. The last product in the process of blood coagulation is :
(a) Fibrin (b) Thrombin (c) Thromboplastin (d) Prothrombin

8. "Crypts" are present in the tissue of :
(a) Thymus (b) Tonsils
(c) Spleen (d) Reticuloendothelial system

9. In an ECG graph; the period of relaxation in heart beat is denoted by :
(a) P (b) Q (c) S (d) T

10. Lecithin is a substance present in the :
(a) Nasal chamber (b) Oropharynx (c) Bronchial tubes (d) Alveoli

11. Henle's loop is :
(a) U-shaped (b) V-shaped (c) L-shaped (d) Shapeless

12. "All-or-none" is a phenomenon related to :
(a) Muscle contraction (b) Muscle relaxation
(c) Muscle fatigue (d) Action potential

13. Rhombencephalon is the name of :
(a) Forebrain (b) Medulla oblongata
(c) Midbrain (d) Hindbrain

14. Cowper's gland is the part of which of the following systems?
(a) Digestive (b) Nervous (c) Endocrine (d) Reproductive

15. Chondioblasts are responsible for forming :
(a) Nervous tissue (b) Skeletal tissue
(c) Secretory organ (d) Stratified epithelium

16. Those glands which work both as endocrine and exocrine glands, are called :
(a) Holocrine (b) Apocrine (c) Merocrine (d) Heterocrine

17. Total number of cervical, thoracic and lumbar vertebrae comes to :
(a) 24 (b) 33 (c) 37 (d) 27

18. AV node is located :
(a) On the tricuspid valve
(b) Near the tricuspid valve
(c) On the bicuspid valve
(d) Near the bicuspid valve

19. The second largest part of human brain is :
(a) Cerebellum (b) Cerebrum (c) Medulla (d) Diencephalon

20. The fertilization in females takes place in the :
(a) Uterus (b) Fallopian tubes (c) Vagina (d) Urethra

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Code No. : 2605

ENGLISH VERSION

# SOCIAL PHARMACY

**Time Allowed : 3:00 Hours** **Maximum Marks : 80**

**Notes:** (i) Attempt questions from all parts as directed.

(ii) Students are advised to specially check the Numerical Data of question paper in both versions. If there is any difference in Hindi Translation of any question, the students should answer the question according to the English version.

(ii) Use of pager and mobile phone by the students is not allowed.

## PART-A

**Note:** Answer **any six** questions. Each question carries equal marks. [6×5=30]

Q.1. Define health. Describe in brief various dimensions of health.

Q.2. Define family planning. Describe objectives of family planning.

Q.3. Write about types of immunity.

Q.4. Write about importance of safe drinking water.

Q.5. Define Communicable diseases. Write note on Whooping Cough.

Q.6. Write about Causative agent, mode of transmission and prevention of Hepatitis.

Q.7. Write about arthropod-borne infections.

## PART-B

**Note:** Answer **any ten** questions. Each question carries equal marks. [10×3=30]

Q.1. Write note on social health.

Q.2. Write note on immunological products.

Q.3. Write note on different sources of water pollution.

Q.4. Write about Oral contraceptives.

Q.5. Write brief note on effects of noise pollution in human.

Q.6. Write short note on purification of water.

Q.7. Write note on macronutrients.

Q.8. Write about food poisoning.

Q.9. Write note on modes of transmission of chickenpox.

Q.10. Write short note on cholera.

Q.11. Write short note on importance of Pharmacoeconomics.

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## PART-C

### (Objective Type Questions)

**Note:** Answer **all** questions. Each question carries equal marks. [20×1=20]

Q.1. The important factors which determine the health is/are:

(a) Life-style (b) Socio-economic condition

(c) Heredity (d) All of the above

Q.2. Which of the following is temporary method of Contraceptives?

(a) Tubectomy (b) IUD'S (c) Vasectomy (d) All of the above

Q.3. Live Vaccine of Polio is given by which route?

(a) IV (b) IM (c) Oral (d) SC

Q.4. What is the mode of transmission of chickenpox infection?
(a) By droplet (b) By droplet infection
(c) Through personal contact (d) All of the above

Q.5. What is the incubation period of typhoid fever?
(a) 6-30 days (b) 2 months (c) 3 months (d) 6 months

Q.6. Lock-Jaw is another name of .....
(a) Tetanus (b) Malaria (c) Typhoid (d) Tuberculosis

Q.7. HIV is a member of .....
(a) Astrovirus (b) Zikavirus (c) Lentivirus (d) Marburg-virus

Q.8. Which amongst the given is not an intestinal tract infection?
(a) Cholera (b) Filariasis (c) Typhoid (d) Hepatitis

Q.9. The permanent method of sterilization in males is called as .....
(a) Tubectomy (b) Vasectomy (c) Both (a) and (b)
(d) None of the above

Q.10. Poliomyelitis virus replicates mainly in the .....
(a) Mouth (b) GI Tract (c) Both (a) and (b)
(d) None of the above

Q.11. Epidemiology is the basic science ..... of medicine.
(a) Prevention (b) Social (c) Preventive and Social
(d) None of the above

Q.12. When an epidemic spreads widely is known as .....
(a) Endemic (b) Pandemic (c) Both (a) and (b)
(d) None of the above

Q.13. The water sources can be broadly divided into ..... groups.
(a) One (b) Two (c) Three (d) All of the above

Q.14. Syphilis is caused by .....
(a) Corynebacterium diptheriae (b) Mycobacterium tuberculosis
(c) Treponema pallidium (d) Human Immunodeficiency virus

Q.15. Deficiency of iodine causes .....
(a) Scurvey (b) Anaemia (c) Goitre (d) All of the above

Q.16. Causes of blindness.....
(a) Cataract (b) Vitamin A deficiency
(c) Trachoma (d) All of the above

Q.17. Harmful substances produced in the body by an infecting micro-organism is known as .....
(a) Endo-toxin (b) Toxin (c) Antitoxin (d) Antibody

Q.18. Which vitamin deficiency cause infertility?
(a) Vitamin $B_1$ (b) Vitamin E (c) Vitamin K (d) Vitamin $B_2$

Q.19. There are ..... major class of human immunoglobulins.
(a) Four (b) Five (c) Six (d) Three

Q.20. Mala-D is available in a Package of ..... pills.
(a) 30 (b) 29 (c) 28 (d) 24

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