

# Question Paper

Exam Date & Time: 29-Jun-2022 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR D. PHARM (PART - I) EXAMINATION - JUNE 2022  
SUBJECT: PCE-ER20-11T - PHARMACEUTICS

Marks: 80

Duration: 180 mins.

1A) This person is known as the Father of Indian Pharmacology. (1)

- Prof R N Chopra
- Prof M L Schroff
- Prof P C Roy
- Prof B N Ghosh

1B) The advantages of plastic containers over glass containers are \_\_\_\_\_. (1)

- Easy formation
- Resistance to breakage
- Freedom of design
- All the above

1C) In tablet formulation, lactose is commonly used as \_\_\_\_\_. (1)

- Binder
- Disintegrant
- Diluent
- Lubricant

1D) The following is an official compendia: (1)

- National Formulary
- The United States Dispensary
- Extra Pharmacopoeia
- Merck Index

1E) Which equipment is used for sieve analysis? (1)

- Alpine air jet sieve
- Cyclone separator
- Rotex screen
- Shaking screen

1F) Which one of the following is NOT a mechanism of filtration? (1)

- Entanglement
- Impact

Impingement  
Straining

1G) In the equation of Poiseuille's & Konzeny's Theory, "V" stands for \_\_\_\_\_ (1)

Velocity  
Viscosity  
Rate of filtration/flow  
None

1H) In tablet formulation, crospovidone is commonly used as \_\_\_\_\_ (1)

Binder  
Disintegrant  
Flow enhancer  
Lubricant

1I) The solvent used for extraction is known as \_\_\_\_\_ (1)

Distillate  
Extract  
Marc  
Menstruum

1J) Dry granulation process is also known as \_\_\_\_\_ (1)

Chipping  
Sieving  
Mixing  
Slugging

1K) Quality Control Tests for Capsules are: (1)

Permeability and sealing  
Weight variation  
Potency and impurity content  
All the above

1L) Rate of sedimentation is high in \_\_\_\_\_ (1)

Flocculated  
De-flocculated  
Both  
None

1M) Whitfield's ointment is the other name for: (1)

Calamine ointment  
Benzoic acid ointment  
Sulphur ointment  
Cetrimide ointment

1N) The crystalline powder on exposure to humid atmosphere, liberates wholly or partly, the water of crystallization is called \_\_\_\_\_ (1)

Compound powder  
Simple powder  
Dusting powder  
Efflorescent powder

- 1O) HEPA stands for: (1)
- High Equality Particulate Air
  - High Efficiency Particulate Air
  - High Engine Particulate Air
  - Hollow Equality Particulate Air
- 1P) How many types of antibodies are there? (1)
- Five
  - Three
  - Two
  - Four
- 1Q) SOPs are used to ensure consistency in daily operations. What does 'S' stand for in SOP? (1)
- Special
  - Standard
  - Safety
  - Sustainable
- 1R) Self-micro emulsifying drug delivery systems (SMEDDS) form transparent micro emulsions with droplet size of less than \_\_\_\_\_. (1)
- 50 nm
  - 70 nm
  - 100 nm
  - 200 nm
- 1S) \_\_\_\_\_ is used to dry the material in its final container. (1)
- Infrared dryer
  - Truck dryer
  - Spray dryer
  - Freeze dryer
- 1T) Which of the following is NOT suitable for mixing of cohesive powders? (1)
- Ribbon blender
  - Planetary mixer
  - Sigma blender
  - V-cone blender

**Answer all the questions.**

**2. Long Answer Questions.**

- 2A) Explain any TWO types of coating used for tablets. (5)
- 2B) What are syrups? Write any TWO different methods of preparation of syrups? (5)
- 2C) What are jellies? Which are the different types of jellies? Describe in brief, the formulation of jellies. (5)
- 2D) Explain in detail the evaluation tests for sterile dosage forms. (5)
- 2E) How NDDS is more useful in drug delivery than the conventional form? Discuss in detail. (5)
- 2F) Define and classify various extraction process in detail. (5)

**3. Short Answer Questions.**

- 3A) Define emulsion and, suspension with its examples. (3)
- 3B) Define pharmaceutical packaging. Write the advantages of glass as a pharmaceutical container. (3)
- 3C) Classify pharmaceutical aids and give examples for each. (3)
- 3D) Draw a diagram of triple roller and write its applications. (3)
- 3E) What are the factors that influences filtration process? (3)
- 3F) Write a short note on capsules. (3)
- 3G) Describe in brief packing, labeling, and storage of inhalations. (3)
- 3H) Discuss the different methods of mixing powders. (3)
- 3I) Explain types of immunological products. (3)
- 3J) Write a short note on sublingual tablets. (3)

-----End-----

# Question Paper

Exam Date & Time: 25-Jun-2022 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR D. PHARM (PART - I) DEGREE EXAMINATION - JUNE 2022  
SUBJECT: PCH-ER20-12T - PHARMACEUTICAL CHEMISTRY

Marks: 80

Duration: 180 mins.

### 1. Answer the following:

1A) Lead acetate cotton is placed in the Gutzeit's apparatus to trap: (1)

Hydrogen sulphide

gas

Arsine gas

Moisture

HCl gas

1B) Following is a brand name for Alprazolam: (1)

Alprax

Campose

Restyl

Clonazep

1C) Following is not an example for Ultra short acting Barbiturate. (1)

Methohexital

Thiamylal

Thiopental

Phenobarbitone

1D) In March 2021, the U.S. Food and Drug Administration (FDA) issued an emergency use authorization (EUA) for the below drug to maintain sedation via continuous infusion in people greater than age sixteen with suspected or confirmed COVID-19 who require mechanical ventilation in an intensive care unit ICU setting. (1)

Propofol

Chloroform

Thiopental sodium

Ketamine hydrochloride

1E) Dry ice is: (1)

Oxygen

Carbon dioxide

Nitrous oxide

Helium

- 1F) Shelcal is the brand name for: (1)
- Calcium carbonate
  - Calcium chloride
  - Calcium hydroxide
  - Calcium oxide
- 1G) Potassium ferricyanide is: (1)
- Internal indicator
  - External indicator
  - Self indicator
  - Potentiometric indicator
- 1H) Cerium IV sulphate is: (1)
- Oxidizing agent
  - Reducing agent
  - Complexometric agent
  - Precipitating agent
- 1I) \_\_\_\_\_ is not the pharmaceutical aid. (1)
- Bentonite
  - Talc
  - Pigments
  - Hypnotics
- 1J) 0.0092 has \_\_\_\_\_ significant digits. (1)
- 1
  - 2
  - 3
  - 4
- 1K) Difference between observed value and true value is: (1)
- Relative error
  - Absolute error
  - Accuracy
  - Error
- 1L) One of the following drug is a Quinazoline derivative: (1)
- Methaqualone
  - Meprobamate
  - Oxazepam
  - Glutehimide
- 1M) Pentothal sodium is a brand name for one of the following: (1)
- Thiopental sodium
  - Ketamine Hydrochloride
  - Propofol
  - Diazepam
- 1N) Following is not an volatile general anaesthetic: (1)
- \_\_\_\_\_

Cyclopropane  
Diethyl Ether  
Chloroform  
Thiopental sodium

1O) It is an example of cleaning agent: (1)

Calcium phosphate  
Stannous fluoride  
Potassium nitrate  
Zinc chloride

1P) Autrin is the brand name for: (1)

Ferrous fumarate  
Ferrous sulphate  
Ferric ammonium citrate  
Ferrous ascorbate

1Q) It is not the example of primary standard. (1)

Benzoic acid  
Sodium carbonate  
Potassium Permanganate  
Silver nitrate

1R) Following is an example for DHFR inhibitor. (1)

Para amino salicylic acid  
Pyrazinamide  
Ethambutol  
INH

1S) Write an example for anti leprotic drug: (1)

Celecoxib  
Gliptins  
Piroxicam  
Dapsone

1T) Name one drug used as NSAID: (1)

Aspirin  
INH  
Itraconazole  
Metformin

## 2. Long Answer Questions (Answer ALL)

- 2A) Classify and explain different types of errors. (5)
- 2B) What are the types of impurities commonly found in pharmaceutical preparations and what are the effect of these impurities? (5)
- 2C) Classify Antiarrhythmic drugs giving one example each class. (5)
- 2D) Classify Anticonvulsants giving one example each class. (5)
- 2E) Classify anti malarials giving one example from each class and write the structure and uses of (5)

Paracetamol.

- 2F) Write the structure, properties, use and brand name for Sulfacetamide and Fluconazole. (5)

**3. Short Answer Questions (Answer ALL)**

- 3A) Give the structure, Properties and use for Dicyclomine. (3)
- 3B) Give the structure, storage conditions and use for Ketamine Hydrochloride. (3)
- 3C) Enlist important anti-viral agents and write the structure of Acyclovir. (3)
- 3D) Classify antifungal agents giving one example from each class. (3)
- 3E) Write the structure and uses of two antineoplastic agents. (3)
- 3F) Write the properties, storage conditions and use for Olanzapine. (3)
- 3G) Give the structure, storage conditions and use of Phenobarbitone. (3)
- 3H) Classify antacids with examples. (3)
- 3I) Explain about Mohr's method. (3)
- 3J) Give the principle for the limit test of chlorides. (3)

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# Question Paper

Exam Date & Time: 27-Jun-2022 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR D. PHARM (PART - I) DEGREE EXAMINATION - JUNE 2022  
SUBJECT: PCO-ER20-13T - PHARMACOGNOSY

Marks: 80

Duration: 180 mins.

- 1A) Cardiac glycosides in Digitalis is found in: (1)
- Seeds
  - Leaves
  - Bark
  - Flower
- 1B) Quinine is used as: (1)
- Antihypertensive
  - Antimalarial
  - Antidiuretic
  - Antitussive
- 1C) Animal fibre is: (1)
- Hemp
  - Jute
  - Flax
  - Silk
- 1D) Papain is: (1)
- Oxidative enzyme
  - Proteolytic enzyme
  - Amylolytic enzyme
  - Pancreatic enzyme
- 1E) Vasaka belongs to: (1)
- Acanthaceae
  - Umbelliferae
  - Leguminosae
  - Labiatae
- 1F) Water soluble ergot alkaloid is: (1)
- Ergometrine
  - Ergotamine
  - Ergocryptine

- 1G) Ergocristine  
Asbestos is: (1)
- Plant fibre  
Animal fibre  
Mineral fibre  
Synthetic fibre
- 1H) Modifie Borntrager's test is used for identification of: (1)
- Digitalis  
Senna  
Cinchona  
Aloes
- 1I) Mucilage is present in: (1)
- Isapghol  
Vinca  
Ergot  
Digitalis
- 1J) Millon's test is used to detect: (1)
- Tannins  
Alkaloids  
Proteins  
Carbohydrates
- 1K) Father of Genetics: (1)
- Sushruta  
Hippocrates  
Theophrastus  
Gregor Johann  
Mendel
- 1L) Sodana, Bhavana and Marana process is related to: (1)
- Churna  
Bhasma  
Lehya  
Taila
- 1M) More number of Vittae is present in which of the following drug: (1)
- Coriander  
Fennel  
Ajowan  
Ginger
- 1N) Anomocytic stomata is present in which of the following leaf drug: (1)
- Senna  
Vasaka  
Digitalis  
Datura
- 1O) Ash value is determined for detection of: (1)

- Moisture
- Sand
- Chemical constituents
- None of the above

1P) Phloroglucinol and HCl gives red stain due to presence of: (1)

- Proteins
- Lignin
- Alkaloids
- Carbohydrates

1Q) Which of the following crude drug is having carminative action? (1)

- Digitalis
- Asafoetida
- Senna
- Aloevera

1R) Clavengers apparatus is used for determination of: (1)

- Ash value
- Extractive value
- Volatile oil content
- Moisture content

1S) \_\_\_\_\_ is essential for blood clotting. (1)

- Vitamin K
- Vitamin A
- Vitamin C
- Vitamin B

1T) Pigeons are used to assay \_\_\_\_\_ glycosides. (1)

- Digitalis
- Senna
- Rhubarb
- Cinchona

## 2. Long Answer Questions (Answer all).

- 2A) What are Volatile oils? Classify them with examples. Give the methods of extraction of Volatile oil. (5)
- 2B) What are crude drugs? Explain the Alphabetical and Chemical classification of crude drugs with their merits and demerits. (5)
- 2C) What are Glycosides? Classify them with examples. Give the method of extraction of Glycosides. (5)
- 2D) Discuss various methods/types of adulteration. (5)
- 2E) Write a note on Arista and Asava preparation. (5)
- 2F) Give the source, morphology and chemical constituents of Clove. (5)

## 3. Short Answer Questions (Answer all).

- 3A) What are surgical fibres? Classify them with examples. Give the functions of surgical fibres. (3)
- 3B) Differentiate between Fixed oil and Volatile oil. (3)
- 3C) What are Diuretics. Write a note on Gokhru. (3)
- 3D) What are Enzymes. Classify them with examples. (3)
- 3E) What are Oxytocics? Write a note on Ergot. (3)
- 3F) Explain: (a) Deterioration (b) Admixture (c) Sophistication (3)
- 3G) Write a note on stomatal number and stomatal Index. (3)
- 3H) Discuss various types of herbal cosmetics. (3)
- 3I) Define prebiotics and probiotics with examples. (3)
- 3J) List out various scopes of Pharmacognosy. (3)

-----End-----

# Question Paper

Exam Date & Time: 23-Jun-2022 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR D. PHARM (PART - I) DEGREE EXAMINATION - JUNE 2022  
SUBJECT: PHA-ER20-14T - HUMAN ANATOMY AND PHYSIOLOGY

Marks: 80

Duration: 180 mins.

1A) Which of the following example is a positive feedback mechanism to regulate body homeostasis? (1)

- Blood pressure regulation
- Blood clotting mechanism
- White blood cell formation
- Red blood cell formation

1B) Which of the following suits for glucose transporter (GLUT)? (1)

- Simple passive diffusion
- Active transport
- Carrier mediated passive transport
- Channel mediated passive diffusion

1C) Hip joint belongs to one of the followings: (1)

- Synovial
- Fibrous
- Cartilaginous
- Synarthrosis

1D) What is the average lifespan of RBCs? (1)

- 110 to 120 days
- 1 to 10 days
- 1 to 10 decades
- 1 to 10 years

1E) What is the function of thrombocytes in blood? (1)

- Macrophage cell
- Generates antibodies
- Helps in blood clotting
- Provides nutrition to RBC

- 1F) The following part has papillary muscles: (1)
- Joints
  - Heart
  - Bone marrow
  - Lymphatics
- 1G) In heart, following is true for Mitral Valve: (1)
- Located between left atria and left ventricle
  - Located between right atria and right ventricle
  - Opening to pulmonary artery
  - Opening to aorta
- 1H) Where we can see baroreceptors? (1)
- Heart Atrium
  - Medulla
  - Oblongata
  - Carotid Sinus
  - Pons and Midbrain
- 1I) Which of the following gas laws explains the solubility of gas in liquid? (1)
- Boyles law
  - Henry's law
  - Fick's law
  - Dalton's law
- 1J) What is gustation? (1)
- Sense of smell
  - Sense of taste
  - Sense of a quest
  - Sense of touch
- 1K) Which of the following secretes bile? (1)
- Acini cells
  - Hepatocytes
  - Gall bladder
  - Beta cells
- 1L) Which of the following muscle is involuntary muscle? (1)
- Atrial muscle
  - Gastrocnemius Muscle
  - Rectus abdominis muscle
  - Brachial Biceps
- 1M) Where do you find synapse? (1)
- Between two muscles
  - Between two nerves
  - Between nerve and muscle
  - Between two bones
- 1N) Where do you find the Spiral Organ of Corti? (1)

Mouth  
Ear  
Pancreas  
Liver

1O) Where do you find primary olfactory area? (1)

Hypothalamus  
Cerebral cortex  
Brain stem  
Pons

1P) Which tube connects the urine formed in the kidney to urinary bladder? (1)

Uterus  
Ureter  
Minor & major calyces  
Renal pelvis

1Q) Which of the following hormone is produced by the kidney? (1)

Erythropoietin  
Prolactin  
ADH  
Aldosterone

1R) Which hormone increases blood calcium? (1)

Calcitriol  
Thyroxin  
Estrogen  
Testosterone

1S) Which of the following is a peptide hormone? (1)

Thyroxine  
Leukotriene  
Estrogen  
Oxytocin

1T) Which of the following part the human embryo grows? (1)

Uterus  
Ovaries  
Ureter  
Fallopian tube

**Answer all the questions.**

**2. Long Answer Questions.**

- 2A) Draw a diagram of the cell, label its parts, and functions. (5)
- 2B) With the diagram, discuss the process of blood cell formation. (5)
- 2C) Compare and contrast skeletal, cardiac and smooth muscles. (5)
- 2D) Draw the diagram of nephron and label the parts. Mention three primary functions performed by the nephrons. (5)
- 2E) Discuss the neuronal regulation of blood pressure. (5)

2F) Discuss the functions of FSH, LH, estrogen, progesterone and testosterone. (5)

**3. Short Answer Questions.**

3A) List six functions of bone. (3)

3B) What is lymphatic system? Mention any two functions of it. (3)

3C) Define cardiac output (CO), stroke volume and minute volume. (3)

3D) Draw a normal ECG and label the waves, intervals and segments. (3)

3E) What is Gustation? Name different types of papillae for gustation. (3)

3F) Write the function of any two enzymes secreted in stomach. What is the significance of mucus in stomach? (3)

3G) Define pulmonary ventilation, external respiration and internal respiration. (3)

3H) Name the layers of skin. What does sub-cutaneous tissue contain? What is its significance? (3)

3I) Explain the digestion and absorption of carbohydrates. (3)

3J) With example differentiate between endocrine and exocrine glands. (3)

-----End-----



# Question Paper

Exam Date & Time: 01-Jul-2022 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST YEAR D. PHARM (PART - I) DEGREE EXAMINATION - JUNE/JULY 2022  
SUBJECT: PPR-ER20-15T - SOCIAL PHARMACY

Marks: 80

Duration: 180 mins.

1A) Social pharmacy can be considered to consist of: (1)

- Fundamental sciences
- Clinical sciences
- Social sciences
- All the above

1B) Most bacteria undergo cell division primarily by \_\_\_\_\_ process. (1)

- Binary fission
- Multiple fission
- Sporulation
- Strobilation

1C) What are the elements of FIP development goals? (1)

- Workforce and education
- Science
- Practice
- All of the above

1D) MMR is a type of \_\_\_\_\_ vaccine: (1)

- a) Inactivated (killed)
- b) Activated (live)
- c) Both a & b
- d) None of the above

1E) Name the vector responsible for Chikungunya: (1)

- Anopheles
- Aedes aegypti
- Wucheraria
- Bancrofti
- Brugia Malayi

1F) The comparison of disease experienced in different population is expressed in the forms of: (1)

- Scale
- Intensity

- Rates  
Magnitude
- 1G) National Pulse Polio Program was initiated in the year of: (1)
- 1990  
2006  
1995  
1998
- 1H) Which of the following vitamin helps in blood clotting? (1)
- Vitamin A  
Vitamin C  
Vitamin D  
Vitamin K
- 1I) Infection of the central nervous system with bacteria, mycobacteria, fungi, spirochetes, protozoa, helminths, viruses. (1)
- Meningitis  
Epilepsy  
TB  
Epiglottitis
- 1J) Lock jaw is a clinical manifestation of \_\_\_\_\_. (1)
- Trachoma  
Tetanus  
Leprosy  
AIDS
- 1K) Which of the following is a type of Protein-Energy Malnutrition (PEM) disease? (1)
- Obesity  
Anemia  
Kwashiorkor  
Dwarfism
- 1L) Which anti-malarial drug is contraindicated in pregnancy? (1)
- Chloroquine  
Doxycycline  
Quinine  
Sulfadoxine-Pyrimethamine
- 1M) Which of the following is the aggregation of two or more epidemics? (1)
- Endemics  
Syndemic  
Poly epidemic  
Pandemic
- 1N) The term RNTCP represents which disease: (1)
- Leprosy  
Mental health  
Tuberculosis  
Blindness
- 1O) Which of the following diseases is caused by the deficiency of Niacin? (1)

- Scurvy
- Rickets
- Pellagra
- Pernicious anemia

1P) Which of the following is a water-soluble vitamin? (1)

- Vitamin B1
- Vitamin C
- Vitamin B2
- All of the above

1Q) Lippes loop is \_\_\_\_\_ shaped device. (1)

- S shaped
- T shaped
- U shaped
- Y shaped

1R) Maternal healthcare component includes all EXCEPT: (1)

- Antenatal care
- Natal care
- Postnatal care
- Adult care

1S) What is the drug of choice for the treatment for Filariasis? (1)

- Artesunate
- Primaquine
- Diethylcarbamazine
- Quinine

1T) What is the function of copper-T? (1)

- Stops obliteration of the blastocoe
- Checks mutation
- Stops fertilization
- Stops zygote formation

**Answer all the questions.**

**2. Long Answer Questions.**

- 2A) What do you mean by barrier contraceptives? Discuss the advantage and disadvantage of each of these methods. (5)
- 2B) Explain the role of pharmacist in educating in prevention of Measles Mumps Rubella. (5)
- 2C) Explain the effects of noise pollution on health. (5)
- 2D) Define food safety. Explain the four steps to food safety. (5)
- 2E) Define health and discuss various dimensions of health. (5)
- 2F) Mention macro and micronutrients. Explain any one nutritional supplement in detail. (5)

**3. Short Answer Questions.**

- 3A) Explain the types of terminal methods of contraception. (3)
- 3B) Mention the causative organism and the management of typhoid. (3)
- 3C) Mention different types of water-borne diseases. (3)
- 3D) Define nutraceuticals. Describe any two of their health benefits with an example of each. (3)
- 3E) Name the vector responsible for dengue fever. Write the clinical features of dengue. (3)
- 3F) What are the uses of epidemiology? (3)
- 3G) Explain the importance of the National Leprosy Eradication Program. (3)
- 3H) Discuss various factors affecting fertility. (3)
- 3I) Explain any two clinical presentations of upper respiratory infections. (3)
- 3J) Explain the clinical, humanistic, and economic outcomes of pharmaco-economic studies. (3)

-----End-----