

- m. Which of the following antibiotics is bacteriostatic and inhibits protein synthesis by binding to the 30S ribosomal subunit?
a) Penicillin b) Tetracycline c) Cephalosporin d) Chloramphenicol
- n. Which of the following is a synthetic analogue of vasopressin used as an antidiuretic agent?
a) Desmopressin b) Terlipressin c) Conivaptan d) Tolvaptan

Q No2 (Short question) Answer any Eight [3.5×8=28]

- a. Compare and contrast the oral anticoagulants warfarin and dabigatran.
- b. Describe the different classes of antiplatelet agents.
- c. What are potassium-sparing diuretics? Discuss the mechanisms by which they maintain potassium level.
- d. Describe the use of tolvaptan, a vasopressin receptor antagonist.
- e. Compare and contrast sulfonamides with co-trimoxazole
- f. What is the role of vasopressin (antidiuretic hormone, ADH) in the renal system?
- g. Compare and contrast the mechanisms of action of the azole antifungals and the echinocandins.
- h. Describe the mechanism of action and clinical uses of dapsone in the treatment of leprosy.
- i. Describe the major classes of anthelmintic drugs.
- j. Outline the principles of directly observed therapy (DOT) in the management of tuberculosis.

Q No 3 (Medium question) Answer any Two [7×2=14]

- a. Evaluate the concept of therapeutic drug monitoring (TDM) for immunosuppressive drugs. Why is it critical in the management of patients undergoing organ transplantation?
- b. Examine the issue of bacterial resistance to quinolones and fluoroquinolones. What are the mechanisms behind resistance, and how does this impact treatment options?
- c. Discuss the differences between bacterial and eukaryotic DNA replication.

Q No 4 (Long question) Answer any One [14×1=14]

- a. Evaluate the role of monoclonal antibodies (e.g., rituximab, infliximab) as immunosuppressants. How do they differ from traditional immunosuppressive agents regarding targets and side effects?
- b. Discuss RNA processing in eukaryotes. What are the key steps involved in rRNA, tRNA, and mRNA processing, and why are these processes essential for gene expression?

19/05/2025

Printing Pages : 2

Paper Code: Pharm.D-302

C

(SVSU:2024-25/R)

Enrollment No.

PHARM. D

3rd YEAR ANNUAL EXAMINATION

Subject Name (Pharmaceutical Analysis)

[Time : 3:00 Hours]

[Max. Mark-70]

Q No1 Multiple Choice Question: Answer All Question

[1×14=14]

- a. In IR spectroscopy, which type of transition occurs when a molecule absorbs IR radiation?
 - a) Electronic transition
 - b) Vibrational transition
 - c) Rotational transition
 - d) All of the above
- b. Fluorescence spectroscopy is primarily used to measure:
 - a) The temperature of the sample
 - b) The fluorescence emission of a compound after excitation
 - c) The absorption of light by a sample
 - d) The molecular weight of a sample
- c. In Flame Photometry, what is the flame used for?
 - a) To excite the atoms to emit light
 - b) To dissolve the sample
 - c) To separate the components of the sample
 - d) To measure the absorption of light
- d. Atomic absorption spectroscopy (AAS) is mainly used to measure the concentration of:
 - a) Organic compounds
 - b) Metal ions
 - c) Pharmaceuticals
 - d) Gases
- e. Which technique is primarily used to measure the optical rotation of a compound?
 - a) Polarimetry
 - b) Gas Chromatography
 - c) UV-Visible Spectroscopy
 - d) Mass Spectrometry
- f. What does Mass Spectrometry measure?
 - a) Molecular weight of compounds
 - b) Absorption of light
 - c) Electrical conductivity
 - d) pH of a solution
- g. What does ISO 9000 standards focus on?
 - a) Equipment design
 - b) Quality management systems
 - c) Production speed
 - d) Raw material sources
- h. What is GLP used for?
 - a) Ensuring laboratory safety
 - b) Quality assurance in laboratories
 - c) Product design
 - d) Inventory management
- i. In column chromatography, what does the stationary phase do?
 - a) Move with the sample
 - b) Separate the components
 - c) Detect the compounds
 - d) Control the temperature
- j. Which method is used to ensure equipment quality in pharmaceutical labs?
 - a) Validation
 - b) Cleaning
 - c) Calibration
 - d) Inspection
- k. What is the stationary phase in Thin Layer Chromatography (TLC)?
 - a) A liquid
 - b) A solid surface
 - c) A gas
 - d) A liquid gas mixture

- l. What is measured in potentiometry?
 - a) Voltage between two electrodes
 - b) Conductivity of a solution
 - c) Temperature of a sample
 - d) Fluorescence of a compound
- m. What is Beer-Lambert's Law related to?
 - a) Light reflection
 - b) Light absorption and concentration
 - c) Temperature changes
 - d) pH changes
- n. What is the main purpose of Atomic Absorption Spectroscopy (AAS)?
 - a) To identify compounds
 - b) To measure metal ions in a sample
 - c) To determine molecular structure
 - d) To separate components in a mixture

QNo.2 (Short question) Answer any Eight **| 3.5×8=28 |**

- a. Write the application of DSC and DTA in pharmaceutical analysis
- b. Write the brief about ISO 9000
- c. Explain the principle of Ion Exchange Chromatography.
- d. What are the different regions of the infrared spectrum?
- e. Give the applications of NMR and ESR spectroscopy
- f. Discuss the principle involved in Mass spectroscopy and list the various types of ion produce in Mass Spectrum
- g. Right and short note on chromophores and auxochromes
- h. Draw the neat labeled diagram and explain any two GC detectors
- i. Discuss the various factors affecting fluorescence.
- j. Write a brief note on quenching.
- k. What do you know about dropping mercury electrode give any two advantages and disadvantage?

QNo 3 (Medium question) Answer any Two **| 7×2=14 |**

- a. Explain various methods of preparing TLC plates and its application.
- b. Give an account of the construction and working of glass electrode? Write the application of potentiometric titrations.
- c. What are pharmaceutical application of fluorimetry? How is fluorimetry more sensitive and specific than spectrophotometry.

QNo 4 (Long question) Answer any One **| 14×1=14 |**

- a. Explain with the help of a neat diagram, the construction and working of UV/Visible spectrophotometer with special emphasis on the monochromators and detectors present in them.
- b. Describe the construction and working of a Gas Chromatography? Emphasize on the ideal characteristics of stationary phases and mobile phases used in Gas Liquid Chromatography.

21/05/2025

Printing Pages : 2

Paper Code: Pharm.D-303

A

(SVSU:2024-25/R)

Enrollment No.

PHARM. D

3rd YEAR ANNUAL EXAMINATION

Subject: Pharmacotherapeutics-II (Pharm D 303)

[Time : 3:00 Hours]

[Max. Mark-70]

- QNo1 Multiple Choice Question: Answer All Questions [1×14=14]**
- [1] Which of the following drugs is considered the first-line treatment for tuberculosis?
a) Ciprofloxacin b) Rifampicin c) Amoxicillin d) Metronidazole
- [2] Which of the following is a key principle for the rational use of antibiotics?
a) Prescribing broad-spectrum antibiotics for all infections
b) Selecting antibiotics based on culture and sensitivity tests
c) Using antibiotics as the first option for viral infections
d) Prescribing antibiotics for the shortest possible duration without considering effectiveness
- [3] Biochemical test used for fungal detection:
a) Rapid kits for yeast b) urea test
c) both A and B d) None of the above
- [4] Fungal spores enter through:
a) Respiratory tract b) Excretory tract
c) oral tract d) cutaneous
- [5] Which class of drugs is used as the first-line treatment for rheumatoid arthritis?
a). NSAIDs b). DMARDs c). Corticosteroids d). Opioids
- [6] Which of the following is a disease-modifying anti-rheumatic drug (DMARD)?
a). Ibuprofen b). Methotrexate c). Acetaminophen d). Codeine
- [7] Which drug is commonly used in osteoporosis to prevent bone resorption?
a). Raloxifene b). Methotrexate c). Celecoxib d). Colchicine
- [8] Which virus causes the common cold?
a) Influenza virus. b) Rhinovirus.
c) Epstein-Barr virus d) Human immunodeficiency virus (HIV)
- [9] Which of the following is a sexually transmitted viral infection?
a) Hepatitis B. b) Tuberculosis
c) Aspergillosis. d) Histoplasmosis
- [10] Which of the following is the first-line drug for osteoarthritis pain management?
a). Methotrexate b). Acetaminophen
c). Prednisolone d). Colchicine

[11] **Oral rehydration therapy (ORT) for gastroenteritis is essential because it:**

- a) Kills the infectious agent.
- b) Provides essential fluids and electrolytes
- c) Stops diarrhea immediately
- d) Reduces stomach acid

[12] **Which diuretic is potassium-sparing?**

- a). Furosemide
- b). Hydrochlorothiazide
- c). Spironolactone
- d). Mannitol

[13] **What is the major adverse effect of ACE inhibitors in renal patients?**

- a). Hypokalaemia
- b). Hyperkalaemia
- c). Hypoglycaemia
- d). Hyponatremia

[14] **Which of the following is STIs?**

- a) HIV
- b) Hepatitis -B
- c) HPV
- d) All of the above

QNo2 (Short question) Answer any Eight [3.5×8=28]

- [1] Describe the standard first-line treatment regimen for tuberculosis.
- [2] Discuss the management of HIV and any two opportunistic infections.
- [3] Differentiate between acute and chronic renal failure based on causes and management.
- [4] Write a note on osteoarthritis.
- [5] Describe the pharmacological management of syphilis.
- [6] Describe the clinical features and drug management of gout.
- [7] Describe the pharmacological treatment of acute gastroenteritis.
- [8] Describe the diagnosis and treatment approach for uncomplicated urinary tract infections.
- [9] Explain the principles for the rational use of antibiotics.
- [10] Define septicemia and write its signs, symptoms, and management principles.

Q No 3 (Medium question) Answer any Two [7×2=14]

- [1] Explain the Pathophysiology, diagnosis and management of Tuberculosis.
- [2] Explain the clinical manifestation and management of Rheumatoid arthritis?
- [3] Explain the clinical manifestation and management of Systemic Lupus Erythematosus?

Q No 4 (Long question) Answer any One [1×14=14]

- [1] Explain the pharmacological and non-pharmacological treatments of scabies.
- [2] Explain the pharmacological and non-pharmacological treatments of Osteoarthritis.

Printing Pages : 2

Paper Code: Pharm.D-304

C

(SVSU:2024-25/R)

Enrollment No.

PHARM. D

IIIrd YEAR ANNUAL EXAMINATION

Pharmaceutical Jurisprudence (Pharm.D304)

[Time : 3:00 Hours]

[Max. Mark-70]

Q No.1 Multiple Choice Questions: Answer All Question [1×14=14]

1. A bonded laboratory requires the services of:
 - (i) Excise Officer
 - (ii) Officer in Charge
 - (iii) Drug Inspector
 - (iv) None
2. The Central Drug Laboratory is situated in:
 - (i) Kolkata
 - (ii) Lucknow
 - (iii) Mumbai
 - (iv) Kasauli
3. The medicinal and toilet preparation act was passed in:
 - (i) 1948
 - (ii) 1955
 - (iii) 1969
 - (d) 1985
4. The full form of IAEC is:
 - (i) Institutional animal education committee
 - (ii) Institutional animal ethics committee
 - (iii) Institutional animal education cooperation
 - (iv) None
5. The committee that advises DTAB is:
 - (i) DCC
 - (ii) DEC
 - (iii) CCUM
 - (iv) PCI
6. The government opium factory is situated at:
 - (i) Ghazipur
 - (ii) Lucknow
 - (iii) Srinagar
 - (iv) Kolkata
7. The members of DTAB hold office for a period of:
 - (i) 1 Year
 - (ii) 5 Years
 - (iii) 7 Years
 - (iv) 10 Years
8. Schedule P is related to-
 - (i) Life period of drugs
 - (ii) Toilet preparations
 - (iii) Ophthalmic preparations
 - (iv) Biologicals
9. Which of the following are prohibited to be imported:
 - (i) Toilet preparations
 - (ii) Misbranded drugs
 - (iii) Unani drugs
 - (iv) Schedule C drugs
10. Advertisement of prescription drugs are meant for:
 - (i) Physician
 - (ii) Manufacturer
 - (iii) Patient
 - (iv) Retailer
11. In 1985, which of the following act was passed:
 - (i) Drug & Magic remedies act
 - (ii) NDPS act
 - (iii) MTP act
 - (iv) Patents & Design act
12. The Central Register is maintained by:
 - (i) Central Council
 - (ii) MCI
 - (iii) AICTE
 - (iv) State Council

13. The grant of license to manufacture a drug requires:

- (i) Form 24 (ii) Form 25 (iii) Form 26 (iv) Form 27

14. According to the D&C act, which schedule deals with objectionable advertisements:

- (i) Schedule F (ii) Schedule H (iii) Schedule J (iv) Schedule

Q No. 2 (Short Questions) Answer any eight

[3.5×8=28]

1. Explain the role of the pharmacist in his/her profession.
2. Explain the functions of the Pharmacy Council of India & its importance.
3. What is the procedure for granting of patent in India?
4. What do you mean by IAEC? Given its role in animal experiments.
5. What are the qualifications for the appointment of drug inspectors?
6. Distinguished between bonded and non-bonded laboratories according to the Medicinal & Toilet Preparation Act.
7. Define the term 'Magic Remedies' and 'Psychotropic Substance'.
8. Explain the salient features of the Essential Commodities Act relevant to drug price control orders.
9. Explain the duties of a drug inspector & the procedure of taking samples.
10. What were the objectives of the Patents & Design Act, 1970?

Q No. 3 (Medium Questions) Answer any two

[7×2=14]

1. Illustrate the salient features of the Drugs and Magic Remedies Act and its rules.
2. Distinguished between Adulterated, Misbranded & Spurious drugs. Also, enlist some examples.
3. What do you know about CPCSEA, its power & duties concerning 'Prevention of Cruelty to Animals Act-1960'?

Q No. 4 (Long question) Answer any one

[14×1=14]

1. Illustrate the Drug & Cosmetics Act, 1940, with its objectives and definitions. Also, mention the provisions of the Act related to sales, import, labeling, and packaging of drugs and cosmetics in brief.
2. Illustrate the objectives of Narcotic Drugs and Psychotropic substances Act-1985 & Rules. Also, give the constitution and functions of the Narcotic & Psychotropic Consultative Committee.

Printing Pages : 2

Paper Code: Pharm.D-305

B (SVSU:2024-25/R)

Enrollment No.

PHARM. D

3rd YEAR ANNUAL EXAMINATION

Subject Name: (Medicinal Chemistry)

Subject Code: Pharm D 305

[Time : 3:00 Hours]

[Max. Mark-70]

Q No1 Multiple Choice Question: Answer All Question

[1×14=14]

- a. The primary mechanism of action of sulfonylureas is:
 - a) Stimulating insulin release from β -cells
 - b) Inhibiting glucose absorption in the intestine
 - c) Reducing hepatic glucose production
 - d) Increasing glucose uptake in muscle
- b. Which of the following is a thiazolidinedione?
 - a) Metformin
 - b) Rosiglitazone
 - c) Chlorpropamide
 - d) Acarbose
- c. Biguanides are contraindicated in:
 - a) Type 1 diabetes
 - b) Chronic kidney disease
 - c) Hypertension
 - d) Hyperthyroidism
- d. The SAR of thiazide diuretics involves substitution at:
 - a) Position 1 and 2
 - b) Position 3 and 4
 - c) Position 6 and 7
 - d) Position 5 and 6
- e. Loop diuretics act on:
 - a) Proximal tubule
 - b) Loop of Henle
 - c) Distal tubule
 - d) Collecting duct
- f. Norethindrone is classified as a:
 - a) Testosterone derivative
 - b) Progestin
 - c) Estrogen antagonist
 - d) Corticosteroid
- g. The therapeutic use of spironolactone includes:
 - a) Hypokalemia
 - b) Hypertension
 - c) Diabetes insipidus
 - d) Hypothyroidism
- h. Propylthiouracil inhibits:
 - a) Thyroid hormone secretion
 - b) Peripheral conversion of T4 to T3
 - c) TSH release from the pituitary
 - d) Iodide trapping by thyroid cells
- i. Sulfobromophthalein is primarily used to:
 - a) Assess kidney function
 - b) Diagnose liver function abnormalities
 - c) Detect glucose in urine
 - d) Measure thyroid hormone levels
- j. Acetazolamide is commonly used for:
 - a) Acute mountain sickness
 - b) Hypertension
 - c) Peripheral edema
 - d) Hypokalemia

- k. The drug used as a potassium-sparing diuretic is:
 - a) Chlorthalidone
 - b) Spironolactone
 - c) Mannitol
 - d) Furosemide
- l. Chlorpropamide has a longer duration of action because:
 - a) It binds extensively to plasma proteins
 - b) It is rapidly excreted
 - c) It undergoes slow hepatic metabolism
 - d) It is less potent than other sulfonylureas
- m. Which of the following is a synthetic estrogen?
 - a) Estradiol
 - b) DES (diethylstilbestrol)
 - c) Progesterone
 - d) Testosterone
- n. The primary action of L-thyroxine is:
 - a) Blocking iodine uptake
 - b) Replacing deficient T4 levels
 - c) Increasing iodine clearance
 - d) Suppressing TSH production

Q No.2 (Short question) Answer any Eight [3.5×8=28]

- a. Describe the synthesis of a major antitubercular agent, Isoniazid.
- b. Compare and contrast the uses of local anti-infective agents and preservatives. Provide examples.
- c. Explain the significance of Computer-Aided Drug Design (CADD) in modern drug discovery processes.
- d. Discuss the structure-activity relationship (SAR) of antifungal agents.
- e. Write a short note on the diagnostic agent.
- f. Describe the pharmacological action and adverse effects of biguanides (metformin).
- g. Differentiate between beta-blockers and calcium channel blockers in the management of hypertension.
- h. Discuss the role of statins in managing hyperlipidemia and their side effects.
- i. Give the synthesis and medicinal uses of Furosemide.

Q No 3 (Medium question) Answer any Two [7×2=14]

- a. Write Synthesis and uses of propranolol
- b. Define and classify steroid hormones with examples
- c. Discuss the synthesis, pharmacological actions, and clinical applications of estradiol.

Q No 4 (Long question) Answer any One [14×1=14]

- a. Describe in detail the classification, mechanism of action, and side effects of anticoagulants with examples.
- b. Compare and contrast the mechanism of action, therapeutic uses, and adverse effects of thiazide and loop diuretics. Also give examples of chlorthiazide, frusemide, and xipamide

Printing Pages : 2

Paper Code: Pharm.D-306

C (SVSU:2024-25/R)

Enrollment No.

PHARM.D

IIIrd YEAR ANNUAL EXAMINATION

Pharmaceutical Formulations (Pharm.D306)

[Time : 3:00 Hours]

[Max. Mark-70]

QNo .1 Multiple Choice Question: Answer All Question [1×14=14]

1. A Cleansing cream is an example of-
 - a. O/W emulsion
 - b. W/O emulsion
 - c. Multiple emulsion
 - d. None of above
2. Largest size of capsule used in human beings is represented by number
 - a. 1
 - b. 000
 - c. 5
 - d. 00
3. In case of hard capsules, the iron content of gelatin should be _____ppm.
 - a. 12-15
 - b. 20-25
 - c. less than 100
 - d. Less than 50
4. Type B gelatin has isoelectric pH of—
 - a. 4.7
 - b. 7
 - c. 9
 - d. 8
- 5 Identify the super disintegrant-
 - a. Sodium starch glycollate
 - b. Starch
 - c. Sodium alginate.
 - d. All of above.
6. Capsule shells are made with _____.
 - a. Gelatin
 - b. Starch
 - c. Sodium alginate
 - d. Lactose
7. The sweetening agent commonly used in chewable tablet formula is
 - a. Mannitol
 - b. Lactose
 - c. Starch
 - d. SCMC
8. The most common granulation method is-
 - a) Dry granulation
 - b) Wet granulation
 - c) Direct compression
 - d) All of these
9. Which of the following are ointment bases ?
 - a) Oleaginous base
 - b) Absorption base
 - c) Emulsion base
 - d) All of the above
10. Endodermic Ointments are act as ____
 - a) Protectant
 - b) Antiseptic
 - c) Stimulant
 - d). Parasiticides
11. Bulk powders are
 - a) Potent
 - b) non-potent
 - c) Both a and b
 - d) None
12. HEPA filters have capacity to retain particles is as small as _____ size of particles with efficiency _____
 - a) 3 µm, 99.97%
 - b) 0.03 µm, 99.56%
 - c) 0.003 µm, 99.97%
 - d). 0.3 µm, 99.97%

13. _____ is an example of gelling agent.

- a) Pectin b) Propylene Glycol c) Sorbitol d) Liquid Paraffin

14. SLS in tooth paste is used as-

- a. Abrasive b. Surfactant c. Thickening agents. d. Sweeteners

Q No2 (Short question) Answer any Eight

[3.5×8=28]

1. Classify pharmaceutical dosage forms.
2. Define dusting powders and dentifrices.
3. What are disintegrants? Give two examples.
4. Differentiate between hard gelatin and soft gelatin capsules.
5. What is the use of buffers in parenteral formulation?
6. Define preservative and name any four preservatives used in ophthalmic.
7. Discuss various types of jellies.
8. Explain various test to identify emulsion.
9. Write the advantages and disadvantages of transdermal drug delivery systems
10. Discuss friability test apparatus.

Q. No. 3 (Medium Question) Answer any two

07×2=14]

- Q1. Define parenteral. Explain its types, advantages and limitations.
- Q2. Discuss ointment bases with examples.
- Q3. Explain Transdermal drug delivery system.

Q.No.4 Long Question (Answer any One)

[14×1=14]

1. Explain various quality control test or evaluation parameters for parenteral product in detail.
- Q2. Describe in detail about evaluation parameters of capsules as per IP/USP.