

Question Paper

Exam Date & Time: 09-May-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD YEAR PHARM D. DEGREE EXAMINATION - MAY 2022
SUBJECT: PHA 3.1T: PHARMACOLOGY - II
(REVISED REGULATIONS 2014)

Marks: 70

Duration: 180 mins.

Answer all the questions.

Long essays:

- 1) Write a note on the methods of quantification of gene expression. (10)
- 2) Classify anticancer drugs with examples. Discuss the mechanism of action of alkylating agents and vinca alkaloids. (10)
- 3) With a neat, labeled diagram of nephron, depict the sites of action of diuretics. Discuss the mechanism of thiazide diuretics with a diagram. Why thiazide diuretics are drugs of choice and not loop diuretics in hypercalciuria induced nephrolithiasis? (10)

4. Short Essays:

- 4A) Explain the apoptotic pathways with a diagram. (5)
- 4B) Describe the process of translation. Explain the mechanism of different antibacterial drugs interfering this process? (5)
- 4C) Classify cephalosporins with examples. Compare and contrast the different generations of cephalosporins. (5)
- 4D) Describe the various mechanisms of antifungal agents. (5)
- 4E) Discuss the general principles implied in the management of poisoning. (5)
- 4F) Outline the transport, utilization and excretion process of iron. Highlight the role of iron regulating element in this pathway. (5)

5. Give reasons for the following:

- 5A) Combining warfarin with ceftriaxone may increase bleeding risk. (2)
- 5B) Okazaki fragments are formed during the formation of the lagging strand in the DNA fragmentation process. (2)
- 5C) Sulpha drugs in combination with trimethoprim are bactericidal in action. (2)
- 5D) Why do penicillins show selective antibacterial effect on gram-positive bacteria? (2)
- 5E) Fluoroquinolones are not the first choice of treatment option for typhoid. (2)

Question Paper

Exam Date & Time: 13-May-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD YEAR PHARM D. DEGREE EXAMINATION - MAY 2022
SUBJECT: PQA 3.2T: PHARMACEUTICAL ANALYSIS
(2014 REGULATION)

Marks: 70

Duration: 180 mins.

Answer ALL questions.

Draw chemical reactions and neatly labelled diagrams wherever necessary.

Long Answer Questions.

- 1A) Explain photometric titration with two examples. (5)
- 1B) Explain the effect of solvent and pH on absorption spectra. (5)
- 2) Write the van Deemter equation and explain the terms. Discuss the factors affecting the efficiency of (10)
a column.
- 3) Describe the principle of conductometric titrations. Explain the conductometric titrations of weak (10)
acid vs weak base and strong acid vs weak base.

4. Short Answer Questions.

- 4A) Explain the instrumentation for photo fluorimeter in brief. (5)
- 4B) Explain the theory of IR spectroscopy. (5)
- 4C) Explain the instrumentation of ESR spectrometer in brief. (5)
- 4D) List the properties of carrier gases of GC with suitable examples. (5)
- 4E) Define the term validation. Explain validation of analytical instruments. (5)
- 4F) Write a brief note on "Good laboratory practice". (5)

5. Short Answer Questions.

- 5A) Write the advantages of flame photometry. (2)
- 5B) List the interferences of Atomic Absorption Spectroscopy. (2)
- 5C) Explain the instrumentation of Atomic Emission Spectroscopy in brief. (2)
- 5D) Explain the thermogram of DSC. (2)
- 5E) Write and explain the formula to calculate the specific optical rotation for liquids. (2)

Question Paper

Exam Date & Time: 06-May-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD YEAR PHARM D. DEGREE EXAMINATION - MAY 2022
SUBJECT: PPR 3.3T: PHARMACOTHERAPEUTICS - II
(REVISED REGULATOIN 2014)

Marks: 70

Duration: 180 mins.

Long Essay Questions.

- 1) Explain the TNM staging in cancer diagnoses. Explain the management of leukemia. (10)
- 2) With a help of a neat algorithm explain the pharmacotherapy of rheumatoid arthritis using biologic agents. (10)
- 3) Define and classify pneumonia. Give a brief account on the microbial spectrum and explain antimicrobial chemotherapy according to standard recommendations. (10)

4. Short Essay Questions.

- 4A) Mention any five principles that guide rational antimicrobial therapy. Explain any two. (5)
- 4B) Describe the pharmacotherapeutic profile of any two acceptable regimens recommended in human immunodeficiency virus (HIV) infection treatment. (5)
- 4C) Define DOTs. Give the pharmacotherapeutic profile of any two bactericidal and bacteriostatic agents for pulmonary tuberculosis. (5)
- 4D) Explain chemotherapy of complicated malaria according to standard recommendations. (5)
- 4E) Explain the therapeutic strategies to manage any two complications of Chronic Kidney disease. (5)
- 4F) Define systemic inflammatory response syndrome and septic shock. Add a note on any two treatment approaches in managing septicemia with examples. (5)

5. Give Reasons Questions.

- 5A) Salicylic acid use in Psoriasis has advantages and disadvantages. (2)
- 5B) Therapeutic decision making in meningitis is based on CSF investigations. (2)
- 5C) For symptoms control in osteoarthritis management, route of administration remains key. (2)
- 5D) In the management of chemotherapy induced nausea and vomiting choice and class of anti-emetics should be appropriate. (2)
- 5E) Indications of antifungal agents vary with its classes. (2)

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Question Paper

Exam Date & Time: 16-May-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD YEAR PHARM D. DEGREE EXAMINATION - MAY 2022
SUBJECT: PMA 3.4T: PHARMACEUTICAL JURISPRUDENCE
(REVISED REGULATION 2014)

Marks: 70

Duration: 180 mins.

Answer all the questions.

Long Essay Questions:

- 1) A) Who appoints Drug Inspectors? What are the qualifications and experience required for his appointment? (10)
B) Mention the conditions required for general and restricted licenses.
- 2) Mention Schedules with examples: Schedule H, Schedule H1, Schedule J, Schedule G, Schedule X. (10)
- 3) Enlist types of pricing mentioned under DPCO 2013 and explain how a ceiling price of a scheduled formulation is calculated. (10)

4. Short Essay Questions:

- 4A) Define Patent, what can and what cannot be patented? (5)
- 4B) What is the procedure for approval for courses for study and examination by PCI? (5)
- 4C) Describe the steps taken by government upon the recommendations of the Drugs Enquiry Committee. (5)
- 4D) What are the objectives of Drugs and Magic Remedies Act? Define Advertisement, Magic Remedy and Registered Medical Practitioner. (5)
- 4E) What ethics a pharmacist need to observe in relation to his job and trade? (5)
- 4F) What is National fund for control of drug abuse and what it is used for? (5)

5. Give reasons:

- 5A) Functions of government analyst. (2)
- 5B) Write two examples of prescription and non-prescription drugs. (2)
- 5C) What is Schedule Y? (2)
- 5D) What are Essential Commodities? (2)
- 5E) Give labelling requirements of Sch. H drug. (2)

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Question Paper

Exam Date & Time: 04-May-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD YEAR PHARM D DEGREE EXAMINATION - MAY 2022

SUBJECT: PCH 3.5T: MEDICINAL CHEMISTRY

(REVISED REGULATION 2014)

Marks: 70

Duration: 180 mins.

Long answer questions:

- 1) Write the SAR of Tetracyclines and Sulphonamides. Outline the synthesis for Chloramphenicol. (10)
- 2) Classify anticancer agents by giving examples. Write briefly on DNA intercalators. Outline the synthesis for Chlorambucil and 5-Fluro uracil. (10)
- 3) Write the classification of antiarrhythmic drugs with example. Write the mechanism of any two classes. Give the synthesis of any one antiarrhythmic drug. (10)

4. Short answer questions.

- 4A) Write the structure of any two fibric acid derivatives used as antihyperlipidemic drug. Write the synthesis of any one. (5)
- 4B) Outline the synthesis for the following compounds: (5)
 - i) Mebendazole
 - ii) Pyrazinamide
 - iii) Amantidine
- 4C) Write the chemistry of Quinolones used as urinary antiseptics. Outline the synthesis of Nitrofurantoin. (5)
- 4D) Classify antimalarial drugs by giving one structure under each class. Outline the synthesis of Prguanil. (5)
- 4E) Write the Descriptors used in QSAR and mention their applications. Define Prodrugs. Classify them and give their uses. (5)
- 4F) Write the salient features for Carbonic anhydrase inhibitors. Outline the synthesis of Tolbutamide. (5)

5. Give Reasons for the Following.

- 5A) Acyl group in Penicillin and Cephalosporins are crucial for antibacterial activity. (2)
- 5B) Co-trimaxazole is preferred to Sulphonamides as antibacterials. (2)
- 5C) Carbimazole is used as an antithyroid drug. (2)
- 5D) Hydralazine is used as an antihypertensive drug. (2)
- 5E) Gemfibrozil is highly lipophilic drug. (2)

Question Paper

Exam Date & Time: 11-May-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD YEAR PHARM D. DEGREE EXAMINATION - MAY 2022
SUBJECT: PCE 3.6T: PHARMACEUTICAL FORMULATIONS
(REVISED REGULATION 2014)

Marks: 70

Duration: 180 mins.

Answer all the questions.

Long Answer Questions.

- 1) Mention different types of tablet coating. Explain sugar coating process in detail. (10)
(2+8 = 10 marks)
- 2) What are different methods for manufacturing hard gelatin capsules in large scale? Explain any ONE method in detail. (10)
(2+8 = 10 marks)
- 3) Define parenteral preparations. Explain various routes of parenteral administration. (10)
(2+8 = 10 marks)

4. Short Essay Questions.

- 4A) Describe different filling methods for Liquid Orals. (5)
- 4B) Briefly explain different types of ointment bases. (5)
- 4C) Explain the Extraction of gelatin with the help of a flow-sheet. (5)
- 4D) Briefly explain the methods for the preparation of Emulsions. (5)
- 4E) Mention different types of transdermal drug delivery systems and explain any ONE type in detail. (5)
(1+4 = 5 marks)
- 4F) What are different evaluation tests for parenteral preparations? Explain sterility testing. (5)
(1+4 = 5 marks)

5. Give reasons for the following.

- 5A) Novel drug delivery systems are advantageous over conventional dosage forms. (2)
- 5B) Controlled flocculation in structured vehicle is desired approach in the preparation of suspensions. (2)
- 5C) Direct compression method is beneficial over other methods of tableting. (2)
- 5D) Base adsorption value is important in the preparation of soft gelatin capsules. Give reason along with appropriate formula. (2)
- 5E) Pyrogens should not be present in parenteral preparations. (2)