

MANIPAL UNIVERSITY

THIRD YEAR PHARM D. DEGREE EXAMINATION – MAY 2012

SUBJECT: PD 3.1: PHARMACOLOGY – II

Wednesday, May 02, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ Answer ALL the questions. Draw the neat, labeled diagram wherever necessary.

✍ Long essays:

1. Classify cephalosporins based on their antibacterial spectrum. Compare and contrast different generations of cephalosporin.

(10 marks)

2. Describe the life cycle of *E.histolytica* and site of action of different antiameobic drugs in it. Mention the advantages of tinidazole and secnidazole over metronidazole in anti-ameobic treatment.

(6+2+2 = 10 marks)

3A. Mention the adverse reactions of loop diuretics.

3B. Explain the functions of vitamin B₁₂.

(5+5 = 10 marks)

4. Short essays:

4A. How Rb gene act as a tumor suppressive gene?

4B. Outline the process of transcription by RNA polymerase in prokaryotic cell.

4C. Discuss the mechanism of DNA repair by nucleotide excision process.

4D. Describe the mechanism of cell death by TNF- α .

4E. Describe the blood clotting cascade and drugs interfering in it.

4F. Outline the process of translation. Explain the mechanism of streptomycin.

(5 \times 6 = 30 marks)

5. Give reasons for the following:

5A. Prophylactic doses (high) of chloramphenicol in newborn infants.

5B. Action of furosemide is diminished by NSAIDs.

5C. Pyridoxine is given to patients receiving anti- TB drugs.

5D. Protease inhibitors are effective in preventing further rounds of HIV infection.

5E. Folic acid cannot reverse methotrexate toxicity.

(2 \times 5 = 10 marks)



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THIRD YEAR PHARM D. DEGREE EXAMINATION – MAY 2012

SUBJECT: PD 3.2: PHARMACEUTICAL ANALYSIS

Friday, May 04, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ Answer all questions. Draw neatly labeled diagram wherever necessary.

✍ Long Essay:

1A. Define ISO 9000 with its benefit. Mention the quality management principle of ISO 9000.

1B. Explain with suitable example “Dead-stop” end point technique.

(5+5 = 10 marks)

2. Explain in detail the monochromatic system and detectors in UV-Visible spectrophotometer.

(10 marks)

3A. Explain the rate theory of chromatography with its advantages and disadvantages.

3B. Explain the instrumentation of gas chromatography in brief.

(5+5 = 10 marks)

4. Short Essay:

4A. Explain the working of any two detectors in HPLC.

(5 marks)

4B. Explain the molecular factors affecting intensity of fluorescence.

(5 marks)

4C. i) What is half wave potential? Explain briefly.

ii) Explain the principle of atomic absorption spectroscopy.

(3+2 = 5 marks)

4D. i) Write the theory of NMR in brief.

ii) What is Bragg’s law for Diffraction?

(3+2 = 5 marks)

4E. Describe the working principle of thermal detectors of IR spectrometer.

(5 marks)

4F. i) Write the importance and types of statistical Quality control chart.

ii) What is differential scanning calorimeter? Mention its types

(3+2 = 5 marks)

5. Short answer:

5A. Differentiate potentiometric and conductometric titrations.

5B. Name the components of flame photometer.

5C. Write the ionization methods in mass spectroscopy.

5D. Write neatly labeled diagram of inductively coupled plasma source.

5E. What are polarimeter and specific optical rotation?

(2×5 = 10 marks)



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THIRD YEAR PHARM D. DEGREE EXAMINATION – MAY 2012

SUBJECT: PD 3.3: PHARMACOTHERAPEUTICS – II

Monday, May 07, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

☞ **Answer all the questions**

☞ **Long Essay Questions:**

1. Describe clinical presentation and management of gouty arthritis. (4+6 = 10 marks)
2. Describe clinical presentation of pneumonia. Explain the etiology and management of community-acquired pneumonia. (5+5 = 10 marks)
3. Describe the clinical manifestation and management of systemic candidiasis and cryptococcosis. (5+5 = 10 marks)

4. Short Essay Questions:

- 4A. Describe the clinical features and management of ankylosing spondylitis. (2+3 = 5 marks)
- 4B. Describe systemic inflammatory response syndrome. Outline the evidence based treatment guidelines for sepsis and septic shock. (2+3 = 5 marks)
- 4C. Classify different stages of chronic kidney disease based on GFR criteria. Explain the role of ACE inhibitors in CKD management. (3+2 = 5 marks)
- 4D. Describe clinical manifestation of systemic lupus erythematosus (SLE) and outline general approach for the management of SLE. (2+3 = 5 marks)
- 4E. Discuss the management for breast cancer. (5 marks)
- 4F. Explain signs and symptoms of meningitis. Briefly describe the management of bacterial meningitis. (2+3 = 5 marks)

5. Short Questions:

- 5A. Give two examples each for alkylating agents and antimetabolites.
- 5B. Outline the treatment for moderate to severe psoriasis.
- 5C. Outline clinical presentation and treatment of syphilis.
- 5D. Write the extra-articular manifestations of rheumatoid arthritis.
- 5E. Write the treatment algorithm for pharyngitis. (2×5 = 10 marks)



MANIPAL UNIVERSITY**THIRD YEAR PHARM D. DEGREE EXAMINATION – MAY 2012****SUBJECT: PD 3.4: PHARMACEUTICAL JURISPRUDENCE**

Wednesday, May 09, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ **Answer ALL the questions.**

✍ **Long Essay Questions:**

- 1A. What categories of drugs are prohibited to be imported to India as per Drugs and Cosmetics Act?
- 1B. What are the conditions for wholesale sale of drugs other than Schedule C, C₁ and Schedule X?
- 2A. Write the provisions for bonded manufactory as per Medicinal and Toilet Preparations Act.
- 2B. Explain the term 'illicit traffic' in relation to Narcotic and Psychotropic substances Act.
- 3A. Write short notes on Health Survey and Planning Committee and Hathi Committee.
- 3B. Discuss in brief the ethics that a pharmacist should observe in relation to his Job.

(10×3 = 30 marks)

4. Short Essay Questions:

- 4A. Draw a specimen label for a Schedule X drug and write its specifications.
- 4B. Who appoints Government Analyst? What are his qualification and duties?
- 4C. What is subsequent register and how is it prepared?
- 4D. What are different categories of advertisements which are exempted from prohibition as per Drugs and Magic Remedies Act?
- 4E. What are the conditions for breeding and stocking of animals?
- 4F. What is the official body which regulates the prices of scheduled drugs? And what are its functions?

(5×6 = 30 marks)

5. Short Answers:

- 5A. What is "Product Patent" and "Process Patent"?
- 5B. Enlist the essential Requirements for the registration of Designs according to Designs Act.
- 5C. Define 'Opium Derivative' as per NDPS Act.
- 5D. What are prescription and non-prescription drugs? Give examples.
- 5E. Define "Pharmacy" as per Drugs and Cosmetics Act.

(2×5 = 10 marks)



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THIRD YEAR PHARM D. DEGREE EXAMINATION – MAY 2012

SUBJECT: PD 3.5: MEDICINAL CHEMISTRY

Friday, May 11, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

Answer ALL the questions.

Long Essay:

1A. Name the causative organism responsible for malaria. Classify anti-malarials with examples and giving their structures.

1B. Give the synthesis of the following drugs:

- i) Sulfacetamide ii) chloramphenicol

(6+4 = 10 marks)

2A. Explain the role of QSAR in rational drug design.

2B. Define antifungal agents. Give the preparation of ketoconazole.

2C. Mention the structural activity relationships of glucocorticoids.

(5+3+2 = 10 marks)

3A. Write the mechanism of action and synthesis of Methazolamide.

3B. Give the synthesis and mechanism of action of Hydralazine.

3C. Write the structure of Erithrityl tetra nitrate.

(5+4+1 = 10 marks)

4. Short essay:

4A. Write the synthesis and use of the following.

- i) Ethambutol ii) Diatriazoic acid

(2½+2½ = 5 marks)

4B. i) Give the structure and explain the Synthesis of Lidocaine.

ii) Give the structure and uses of Mevastatin.

(3+2 = 5 marks)

4C. i) Give the synthesis and uses of Phenindione.

ii) Give the structure and uses of Glimiperide.

(3+2 = 5 marks)

4D. Write the structure and use of the following drugs:

- i) Albendazole ii) Amantadine iii) Metronidazole
iv) Benznidazole v) Acyclovir

(5 marks)

4E. What are Macrolide antibiotics? Give examples. Discuss the chemistry and uses of Macrolides.

(1+1+3 = 5 marks)

4F. Give the structure, mechanism of action and uses of the following antibiotics:

- i) Streptomycin ii) Amoxycillin

(2½+2½ = 5 marks)

5. Short answers:

5A. Mention the IUPAC name, preparation and uses of chlorobutol.

5B. Give the reasons for the following:

i) Why tetracyclines should not be administered along with dairy products?

ii) Streptomycin cannot be given by oral route for the treatment of Tuberculosis.

5C. Give any two examples, with structures for 2, 4-diamino pyrimidines and mention their uses.

5D. Write the general mechanism action of antianginal agents.

5E. What are Scabicides? Give two examples with structures.

(2×5 = 10 marks)



MANIPAL UNIVERSITY**THIRD YEAR PHARM D. DEGREE EXAMINATION – MAY 2012****SUBJECT: PD 3.6: PHARMACEUTICAL FORMULATIONS**

Monday, May 14, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

Answer all questions.**Long Essay Questions:**

1. Discuss the various granulation techniques for production of tablets.
(10 marks)
2. How liquid orals are formulated? What are the factors to be considered for the same? Explain.
(10 marks)
3. Discuss the properties of ointment bases. Add a note on preparation of ointments.
(6+4 = 10 marks)

Short Essay Questions:

- 4A. Write on the physical stability of emulsions. How it is evaluated? Explain.
- 4B. Explain with suitable diagrams, how the hard gelatin capsules are filled?
- 4C. Write notes on the official quality control tests for parenterals.
- 4D. List the quality control tests specified in IP for tablets. Explain any two such tests.
- 4E. Describe the requirements of ophthalmic formulations.
- 4F. Explain the concept of controlled and novel drug delivery systems.
(5×6 = 30 marks)

Short Answers Questions.

- 5A. What are transdermal drug delivery systems?
- 5B. What do you mean by enteric coating? Where it is used? What excipients are used for the same?
- 5C. Write the steps involved in the production of soft gelatin capsule dosage form.
- 5D. Write a note on gaseous sterilization. Where it is used?
- 5E. Write two examples each for diluent and disintegrating agents.
(2×5 = 10 marks)

