MANIPAL UNIVERSITY

SECOND YEAR B. PHARM. DEGREE EXAMINATION – MAY 2015

SUBJECT: PHARMACEUTICAL ANALYSIS (PQA 205)
(CREDIT BASED SYSTEM)

Tuesday, May 05, 2015

Time: 10:00 – 13:00 Hrs.   Max. Marks: 50

✍   **Answer ALL the questions.**

✍   **Long Essay:**

1.   Explain Nernst equation and factors affecting Nernst equation in detail with relevant examples.

2.   Explain the titration curve of strong acid Vs strong base with special emphasis on pH at different points and suggesting a suitable indicator.

3.   Explain advantages and disadvantages of organic precipitants. Give four examples and their structure.

(8 marks × 3 = 24 marks)

4.   **Short Essay:**

4A.   Describe various concentration expressions of solution and explain them in brief.

4B.   Explain in detail about replacement complexometric titration with an example.

4C.   How is 0.1M perchloric acid prepared and standardized as per I. P.1996?

4D.   Discuss the principle of Mohr's method in detail with example.

(4 marks × 4 = 16 marks)

5.   **Short Answer:**

5A.   Calculate the solubility product of $Mg(OH)_2$ given that its solubility is 2.041×10^{-4} moles/lit.

5B.   Name four drugs which can be determined by diazotisation titration.

5C.   Write a short note on washing of precipitate.

5D.   Enlist the conditions that a chemical reaction must fulfill for use in titrimetric analysis.

5E.   Can HCl be used in ceric titrations? What are the precautions to be taken?

(2 marks × 5 = 10 marks)

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SECOND YEAR B. PHARM. DEGREE EXAMINATION – MAY 2015

SUBJECT: PHARMACEUTICAL MICROBIOLOGY (PBT 202)
(CREDIT BASED SYSTEM)

Thursday, May 07, 2015

Time: 10:00 – 13:00 Hrs.   Max. Marks: 50

✍ **Answer ALL the questions. Put question numbers properly with margin.**

✍ **Long Essay:**

1. Differentiate between Phenotype and Genotype. Discuss in detail the phenotypic modifications.

2. Discuss sterilization by filtration as under: Stages involved in the process - Advantages, differences between depth filters and screen filters.

3. Discuss the role of B and T cells in immunity.

(8 marks × 3 = 24 marks)

4. **Short Essay:**

4A. Enlist the methods of cultivation of animal viruses and explain any one method.

4B. Explain briefly the procedure for determining RWC of a disinfectant.

4C. Differentiate between endotoxins and exotoxins.

4D. Write the causative organism, route of infection symptoms and prevention of AIDS.

(4 marks × 4 = 16 marks)

5. **Short Answer:**

5A. Mention the basis for classification of living things by Whittaker and the names of the five kingdoms.

5B. What is the Gram's reaction of protoplasts of Gram positive bacteria? Justify your answer.

5C. Why is 'Hour glass tube' preferred to 'Witness tube' as a sterilization indicator?

5D. Enlist the merits of Chick Martin coefficient.

5E. Mention the types of bacteria found in milk and mention two milk borne diseases.

(2 marks × 5 = 10 marks)

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SECOND YEAR B. PHARM. DEGREE EXAMINATION – MAY 2015

SUBJECT: PHARMACEUTICAL TECHNOLOGY (PCE 203)
(CREDIT BASED SYSTEM)

Saturday, May 09, 2015

Time: 10:00 – 13:00 Hrs.   Max. Marks: 50

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1. Explain the principle and construction of the horizontal and vertical tube evaporators with diagram.

2. Write briefly on extraction process like infusion, decoction, maceration and percolation.

3. State Bernoullis theorem with equation. Explain the working of Orifice meter.

(8 marks × 3 = 24 marks)

4. **Short Notes:**

4A. Explain the construction and working of Double Cone Classifier.

4B. How simple and compound powders are prepared? Give example.

4C. Explain the construction and working of Tray dryer.

4D. Define prescription. Explain various parts of prescription.

(4 marks × 4 = 16 marks)

5. **Short Answers:**

5A. Define caking. Classify crystallizers.

5B. What is the difference between National formulary and Pharmacopoeia?

5C. Define a Gargle and give a suitable formula.

5D. How a 5% drug solution can be prepared from 2% and 8% solution by alligation method?

5E. Define Emulsion and mention the reason for using Emulgent.

(2 marks × 5 = 10 marks)

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SECOND YEAR B. PHARM. DEGREE EXAMINATION – MAY 2015

SUBJECT: PHARMACEUTICAL CHEMISTRY (PCH 204)
(CREDIT BASED SYSTEM)

Tuesday, May 12, 2015

Time: 10:00 – 13:00 Hrs.   Max. Marks: 50

✍ **Answer ALL questions.**

✍ **Long Essays:**

1A. Explain the structure of DNA.

1B. Classify amino acids giving two examples and their structures for each class.

1C. What are lignans chemically? Give examples and their medicinal uses.

$$(2+4+2 = 8 \text{ marks})$$

2A. How quinolinic acid is prepared from quinoline? Explain the Knorr synthesis of quinoline.

2B. Explain the stereochemistry of nitrogen compounds.

$$(4+4 = 8 \text{ marks})$$

3A. Give the structure and biological importance of β-carotene.

3B. Elucidate the structure of citral.

$$(2+6 = 8 \text{ marks})$$

4. **Short Essays:**

4A. Define stereospecific reaction and explain the stereochemistry of a stereospecific reaction.

$$(1+3 = 4 \text{ marks})$$

4B. Discuss the methods to determine the functional nature of nitrogen in alkaloids.

$$(4 \text{ marks})$$

4C. Explain the chemistry of cardiac glycosides.

$$(4 \text{ marks})$$

4D. Explain the concept of mutarotation taking a suitable example.

$$(4 \text{ marks})$$

5. **Short Answers:**

5A. Draw the structure of imidazoline, imidazolidine, pyrazine and piperazine.

5B. Discuss Ullmann method of synthesis of acridine.

5C. Give the structure and uses of quinine.

5D. Give the structure and medicinal uses of any two coumarin derivatives.

5E. What are oils and fats chemically? Give its biological importance.

$$(2 \text{ marks} \times 5 = 10 \text{ marks})$$

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SECOND YEAR B. PHARM. DEGREE EXAMINATION – MAY 2015

SUBJECT: PHARMACOGNOSY - I (PCO 206)
(CREDIT BASED SYSTEM)

Thursday, May 14, 2015

Time: 10:00 – 13:00 Hrs.   Max. Marks: 50

✍ **Answer ALL the questions.**

✍ **Draw neat labeled diagrams and structures wherever necessary.**

✍ **Long Essays:**

1. Describe Acacia under a suitable Pharmacognostic scheme.

(8 marks)

2. Write the botanical source, chemical constituents, uses, morphology, microscopy of Leaf drug with neat labelled diagram.

(8 marks)

3A. Write a note time of collection of various parts of crude drugs.

3B. Hybridization and Chemodemes

(4+4 = 8 marks)

4. **Short Essays:**

4A. Therapeutic classification of crude drugs

4B. Briefly explain the different methods of adulteration of crude drugs

4C. Explain the fixation of CO_2 into sugars with reactions

4D. Source, preparation and uses of Spermaceti

(4 marks × 4 = 16 marks)

5. **Short Answers:**

5A. Curcumin and Crocin

5B. Chemical constituents of Quassia and Ginger

5C. Drugs acting on GIT disorders

5D. Kino

5E. Extractive value

(2 marks × 5 = 10 marks)

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SECOND YEAR B. PHARM. DEGREE EXAMINATION – MAY 2015

SUBJECT: PATHOPHYSIOLOGY (PTH 201)
(CREDIT BASED SYSTEM)

Saturday, May 16, 2015

Time: 10:00 – 13:00 Hrs.   Max. Marks: 50

✍ **Answer ALL questions.**

✍ **Long Essays:**

1A. Differentiate necrosis and apoptosis.

1B. Explain the general mechanism of cell injury.

1C. Describe the clinical role of apoptosis and explain its mechanism.

(2+2+4 = 8 marks)

2A. Describe the pathogenesis of tuberculosis.

2B. Explain the etiopathogenesis of bronchial asthma.

(4+4 = 8 marks)

3A. Describe the clinical symptoms and pathophysiology of parkinsonism.

3B. Classify epilepsy based on clinical presentation.

(4+4 = 8 marks)

4. **Short Essay Type Questions:**

4A. Define neoplasia and explain its pathogenesis.

4B. Explain the mechanism of autoimmune diseases.

4C. Explain the structure and function of Major Histocompatibility Complex.

4D. Classify anaemia based on etiology and describe the morphological changes in red blood cells.

(4 marks × 4 = 16 marks)

5. **Short Answer Type Questions:**

5A. Enumerate clinical symptoms of malaria.

5B. Define cretinism and myxoedema.

5C. Explain the mechanism of reversible cell injury.

5D. Enumerate four complications of chronic renal failure.

5E. Enumerate four etiological factors for congestive heart failure.

(2 marks × 5 = 10 marks)

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