Reg. No.										

MANIPAL UNIVERSITY

SECOND YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2013

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

Monday, April 29, 2013

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

✍ **Answer ALL questions.**

✍ **Long essay type questions:**

1A. Discuss the role of antigen presenting cells in immune system.

1B. Describe mechanisms of the four types of hypersensitivity reactions with two clinical examples for each.

(2+6 = 8 marks)

2A. Describe the characteristics of cancer cells.

2B. Describe the short and long term complications of diabetes mellitus.

(4+4 = 8 marks)

3A. Describe the etiopathogenesis of malarial infection.

3B. Explain the mechanism of pathological calcification.

(4+4 = 8 marks)

4. **Short essay questions**:

4A. Explain the risk factors and pathophysiology of ischemic stroke.

4B. Discuss the etiopathogenesis of epilepsy.

4C. Explain clinical features of anemia.

4D. Describe the etiopathogenesis of acute renal failure.

(4×4 = 16 marks)

5. **Short answer questions**:

5A. Explain type I hypersensitivity reaction with an illustration.

5B. Explain the three stages of apoptosis.

5C. Enumerate the functions of cytokines.

5D. Classify immunodeficiency disorders with suitable examples.

5E. Diagramatically represent the renin-angiotensin mechanism.

(2×5 = 10 marks)

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SECOND YEAR B. PHARM. DEGREE EXAMINATION –APRIL/MAY 2013

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

Thursday, May 02, 2013

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

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

✍ **Long essay:**

1. Discuss normal bacterial growth curve and mention the methods of maintaining synchronous growth.
2. Draw a neat labelled diagram of "portable sterilizer" and discuss its design and operation.
3. Define and classify immunity. Discuss acquired immunity in detail with examples.

(8×3 = 24 marks)

✍ **Short essay:**

4A. Explain typical bacteriophage structure with diagram.

4B. Explain the merits of Chick Martin coefficient over Rideal Walker coefficient and write the procedure for determining C.M.C.

4C. Define pathogenicity, virulence, infection and infestation.

4D. Write the causative agent, mode of transmission, important symptoms, prevention and treatment of cholera.

(4×4 = 16 marks)

✍ **Short answer questions:**

5A. Pasteurisation, a method of sterilization of milk, was proposed by whom and for which purpose it was proposed?

5B. Schematically represent the different types of flagellar arrangement with specific examples.

5C. Enlist various sterilisation indicators.

5D. Enlist the methods of bacteriostatic evaluation of disinfectants. Give the formula for calculating MIC by gradient plate method.

5E. Enlist the tests to ascertain the presence of coliform bacteria in water samples.

(2×5 = 10 marks)

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SECOND YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2013

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

Saturday, May 04, 2013

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

✍ **Answer all the questions. Draw diagram wherever necessary.**

✍ **Long Essays:**

1. Classify powders. Write two advantages and disadvantages of powders. Explain effervescent granules.

(2+2+4 = 8 marks)

2. Explain the construction and working of hammer mill with a neat labelled diagram.

(2+3+3 = 8 marks)

3. Explain fractional distillation process. Mention various applications.

(5+3 = 8 marks)

4. **Short notes:**

4A. Define a suspension. Explain any two evaluation parameters.
4B. Explain with diagram principle of sigma blade mixer.
4C. Write in detail about heat sterilization of surgical catgut.
4D. What is a preservative and antioxidant? Give any four examples for each.

(4×4 = 16 marks)

5. **Short answers:**

5A. Define unit operation and unit process with an example.
5B. Classify suppository bases.
5C. Write a note on Duhring's rule.
5D. Write a brief note on principle of Tray dryer.
5E. What is Raoult's law?

(2×5 = 10 marks)

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SECOND YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2013

SUBJECT: PHARMACEUTICAL CHEMISTRY (PCH 204)

(CREDIT BASED SYSTEM)

Tuesday, May 07, 2013

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

✍ **Answer ALL questions.**

✍ **Long essay type questions:**

1A. What are glycosides? Explain the chemistry of sennosides.

1B. Explain the structural elucidation of ephedrine.

(4+4 = 8 marks)

2A. Discuss the geometry of peptide linkage.

2B. What are flavonoids? Write the structure of one flavonoid.

2C. What are nucleoside and nucleotides?

(4+2+2 = 8 marks)

3A. Discuss the stereochemistry of disubstituted cyclohexane.

3B. Explain the electrophilic reactions of pyrrole with an example.

3C. Give the structure of a pyrazole derivative having medicinal value.

(4+3+1 = 8 marks)

✍ **Short essay type questions:**

4A. Write four chemical reactions of atropine.

(4 marks)

4B. Explain the chemistry of sucrose and lactose.

(4 marks)

4C. Discuss the chemistry and uses of Artemisinin.

(4 marks)

4D. i) Explain Conard-Limpach synthesis of quinoline.

ii) Give the structure of one quinoline derivative with antimalarial activity.

(3+1 = 4 marks)

✍ **Short answer questions:**

5A. Explain Tschitschibabin reaction with suitable example.

5B. Define carotenoids. Give the structure of β- carotene.

5C. Draw the structure of zingeberene and mention its uses.

5D. Draw the structure of benzofuran and indole.

5E. Draw the structures of two phenothiazine derivative and mention its uses.

(2×5 = 10 marks)

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SECOND YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2013

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

Thursday, May 09, 2013

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

✍ **Long essay questions:**

1. Write a note on washing of precipitate. Give four examples of washing solutions.

(8 marks)

2. Explain the theories of acids and bases with two examples each. Give their merits and demerits.

(8 marks)

3A. Explain with examples side reaction in permanganate titrations.

3B. Explain what conditions involved in the Iodometric determination.

(4+4 = 8 marks)

4. **Short essay questions:**

4A. How is the total hardness of water determined? Give necessary equation.

4B. Explain the principle for estimation of halogen acid salts of bases by non-aqueous titration with an example.

4C. Write the difference between Mohr's method and Volhard's method for the determination of halides.

4D. Write a short note on minimization of errors.

(4×4 = 16 marks)

5. **Short answer questions:**

5A. Enlist the steps of gravimetry.

5B. 258.10 + 0.066 + 0.382466 + 93.6544 + 0.259 = ?

5C. How is the presence of excess of nitrous acid after the equivalence point determined by external indicator?

5D. Name various types of indicators used in iodine titrations.

5E. Define: i) Solubility product ii) Calibration

(2×5 = 10 marks)

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SECOND YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2013

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

Saturday, May 11, 2013

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

- **Answer all the questions.**
- **Draw neat labeled diagrams and structures wherever necessary.**

- **Long essay type questions:**

1. Explain the internal factors affecting the cultivation of crude drugs.

2. Write the botanical source, family, chemical constituents, uses, morphology, microscopy and powder characteristics of Ipecac.

3A. Define plant fibres and write a note on absorbent cotton.

3B. Give the preparation and chemical tests for gum tragacanth.

(8×3 = 24 marks)

- **Short essay type questions:**

4A. Fixed oil biosynthesis

4B. Chemical nature, properties and uses of Tannins

4C. Isolation methods of Lipids

4D. Chemical evaluation of crude drugs

(4×4 = 16 marks)

- **Short answer questions:**

5A. Spiriulina

5B. Sources of crude drugs and distinction of organized and unorganized crude drugs

5C. Cochineal

5D. Define Resins with examples

5E. Classification of proteins

(2×5 = 10 marks)