

MANIPAL UNIVERSITY

SECOND YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2012

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

Monday, April 30, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer all questions.**

✍ **Long Essay:**

1A. Define and classify pathological calcification.
1B. Explain the clinical importance and mechanism of two types of calcification process.
(4+4 = 8 marks)

2A. Define and classify autoimmune diseases with suitable examples.
2B. Explain the mechanism of autoimmune diseases.
(2+6 = 8 marks)

3A. Define and classify epilepsy.
3B. Explain the pathogenesis of epilepsy.
(4+4 = 8 marks)

4. Short Essay:

4A. Explain the pathogenesis of tuberculosis.
4B. Differentiate between benign and malignant tumors.
4C. Explain the etiopathogenesis of atherosclerosis.
4D. Explain the pathogenesis of HIV infection and their complications.
(4×4 = 16 marks)

5. Short Answer:

5A. Enumerate the degenerative changes of cell injury.
5B. Enumerate four complications of chronic renal failure.
5C. Explain the structure of immunoglobulins.
5D. Differentiate iron deficiency and megaloblastic anaemia.
5E. Differentiate apoptosis and necrosis.
(2×5 = 10 marks)



MANIPAL UNIVERSITY

SECOND YEAR B. PHARM. DEGREE EXAMINATION –APRIL/MAY 2012

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

Thursday, May 03, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ Answer ALL the Questions. Put question numbers properly in the margin.

✍ Long Essay:

1. With the help of a neat labeled diagram, discuss the structure of a typical bacterial cell.
2. Discuss sterilization by filtration with regard to theories behind mechanism of filtration and test for measuring the efficiency of filters.
3. Explain the principle, procedure and application of ELISA test.

(8×3 = 24 marks)

4. Short Essay:

- 4A. Write a detailed note on sexual spores produced by fungi with diagrams.
- 4B. Explain the tube dilution method and gradient plate technique for evaluating bacteriostatic activity of disinfectants.
- 4C. Enlist microbial virulence factors. How does hyaluronidase help in enhancing penetration of the host tissues by the pathogen?
- 4D. Write the causative organism, route of infection, symptoms and prevention of tuberculosis.

(4×4 = 16 marks)

5. Short Answer:

- 5A. Write any four differences between prokaryotes and eukaryotes.
- 5B. Simple staining can differentiate *Staphylococci* from *Streptococci* but to differentiate *B. subtilis* from *E. coli*, Gram Staining is needed. Why?
- 5C. Write the mechanism of moist heat sterilization.
- 5D. Write the formulae for calculating CMC and RWC of disinfectants.
- 5E. Mention the principle of 'Phosphatase Test'.

(2×5 = 10 marks)



MANIPAL UNIVERSITY**SECOND YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2012****SUBJECT: PHARMACEUTICAL TECHNOLOGY (PCE 203)
(CREDIT BASED SYSTEM)**

Saturday, May 05, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ Answer all the questions. Draw diagram wherever necessary.**✍ Long Essays:**

1. Describe the construction and working of a vacuum dryer. Mention its advantages. Compare fluidised bed dryer with spray dryer.

(5+3 = 8 marks)

2. Define and classify incompatibilities. Briefly discuss therapeutic incompatibility with suitable examples.

(4+4 = 8 marks)

3A. Define Galenicals. List the various extraction methods.

3B. What are spirits? How do you prepare aromatic spirit of ammonia?

3C. Write the difference between tinctures and extracts.

(3+3+2 = 8 marks)

4. Short Essays:

4A. Explain the methods of sterilization of catgut.

4B. Describe the working of a triple effect evaporator.

4C. Explain the historical development of pharmacy profession with special reference to pharma industry.

4D. Discuss the importance of dosage forms.

(4×4 = 16 marks)

5. Short Answers:

5A. Write Stokes law. What is hindered settling?

5B. What are collodions?

5C. What are the salient features of IP 2007?

5D. State Henry's law and Raoult's law.

5E. Calculate the quantity of sodium chloride required to make 200 ml of eye wash isotonic.

(F.P of 1% boric acid = -0.29°C and F.P of 1% solution of sodium chloride = -0.58°C)

(2×5 = 10 marks)



MANIPAL UNIVERSITY

SECOND YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2012

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

Tuesday, May 08, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer ALL questions.**

✍ **Long Essays:**

1A. Explain the structural elucidation of citral.

1B. Define and classify alkaloids with examples.

(6+2 = 8 marks)

2A. Explain Hantzsch synthesis of pyridine.

2B. Explain nucleophilic substitution reactions of pyridine with suitable examples.

2C. Give the structure of one pyrazine derivative with antitubercular activity.

(3+4+1 = 8 marks)

3A. How will you prove that glucose has a six membered ring structure?

3B. Discuss the chemistry of Taxol.

3C. What are non-drying oils?

(4+3+1 = 8 marks)

4. Short Essays:

4A. i) Discuss the Zeisel method for determining $-OCH_3$ group and Herzig-mayer's method for determining $N-CH_3$ group.

ii) Write the synthesis and uses of ephedrine

(2+2 = 4 marks)

4B. Explain any four chemical reactions of amino acids writing their chemical equations.

(4 marks)

4C. Explain the chemistry of carotenoids and give its biological importance.

(4 marks)

4D. Explain briefly the stereochemistry of E 2 reactions.

(4 marks)

5. Short Answers:

5A. What are the uses of flavonoids?

5B. Write the structure of any two pyrimidine bases present in nucleic acids.

5C. In 2-bromocyclohexenone, why bromine takes up the axial position rather than the equatorial position?

5D. Give the structures of two furan derivatives with antibacterial activity.

5E. Write one method of preparation of Pyrazole

(2×5 = 10 marks)



MANIPAL UNIVERSITY

SECOND YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2012

**SUBJECT: PHARMACEUTICAL ANALYSIS (PQA 205)
(MAHE SYLLABUS)**

Thursday, May 10, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 75

- ✍ **Answer ALL the questions. Draw neat and labelled diagrams whenever necessary.**
✍ **Write the chemical reactions whenever necessary.**

1. Short answers:

1A. Define the following terms:

- i) Primary standard ii) Secondary standard iii) Absolute standard
iv) Derived standard v) Normality

(5 marks)

1B. Write a Short note on:

- i) Accuracy ii) Precision

(5 marks)

- 1C. i) What is Iodometry titration? Explain with the help of example.
ii) Write the Nernst Equation and its significance.

(3+2 = 5 marks)

1D. Explain the factor affecting the stability constant of EDTA complexes in brief.

(5 marks)

1E. Explain the preparation and standardization of 0.1M perchloric acid.

(5 marks)

1F. Explain Arrhenius theory of acids and bases and describe its limitations.

(5 marks)

1G. What is diazotization titration? Explain with suitable example.

(5 marks)

✍ **Essay:**

2. With the help of suitable example, explain in detail redox titration curve and give its significance.

(10 marks)

3. Explain the steps involved in gravimetric analysis in brief.

(10 marks)

4A. Explain the principle of estimation of sodium chloride by modified Volhards's method.

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

(5+5 = 10 marks)

5A. Explain the direct and replacement complexometric titrations.

5B. Classify and write the properties of non-aqueous solvents.

(5+5 = 10 marks)



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SECOND YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2012

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

Thursday, May 10, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Long Essay:**

1. Explain redox titration curve with relevant example.
2. Explain the theories of acids and bases with two examples each. Give their merits and demerits.
3. Explain the factors affecting completeness of precipitation in gravimetry.

(8×3 = 24 marks)

4. Short Essay:

- 4A. Explain the preparation and standardization of 0.1M Potassium methoxide and give one example of drug estimated by titration with the same in non-aqueous titrimetry.
- 4B. Mention the differences between primary standard and secondary standards. Give examples of each.
- 4C. What is argentometric titration? Describe Fajan's method in detail.
- 4D. Explain in detail masking and demasking techniques with specific examples.

(4×4 = 16 marks)

5. Short Answer:

- 5A. Mention the types of crucibles used in gravimetric analysis.
- 5B. Can hydrochloric acid be used in ceric ammonium sulphate titrations? Justify your answer.
- 5C. Give one technique each for electrical and optical methods employed in pharmaceutical industries.
- 5D. Give the difference between, universal and mixed indicators with one example each.
- 5E. Enlist any four drugs determined by diazotization titration.

(2×5 = 10 marks)



MANIPAL UNIVERSITY

SECOND YEAR B. PHARM. DEGREE EXAMINATION – APRIL/MAY 2012

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

Saturday, May 12, 2012

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ Answer all the questions.

✍ Draw neat labeled diagrams and structures wherever necessary.

✍ Long Essays:

1. Write the Botanical source, Family, Chemical constituents, Uses, Morphology, Microscopy and powder characteristics of Ephedra.
2. Explain the external factors affecting the cultivation of crude drugs.
3. Describe Acacia under a suitable Pharmacognostic scheme.

(8×3 = 24 marks)

4. Short Essays:

- 4A. Discuss in detail the biological methods of evaluation.
- 4B. Explain the Lipid biosynthesis with reactions.
- 4C. Write a note on Chaulmoogra oil.
- 4D. Give the extraction procedure of Tannins.

(4×4 = 16 marks)

5. Short Answers:

- 5A. Absorbable gelatin sponge.
- 5B. Significance of ash values.
- 5C. Turmeric.
- 5D. Scope of Pharmacognosy.
- 5E. Structure of Palmitic and Stearic acid.

(2×5 = 10 marks)

