

MANIPAL UNIVERSITY

SECOND YEAR B. PHARM. DEGREE EXAMINATION – MAY 2014

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

Monday, May 05, 2014

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer all questions.**

✍ **Long Essays:**

- 1A. Describe the etiology and mechanism of reversible cell injury.
1B. Describe the pathological changes that occur during necrosis.

(4+4 = 8 marks)

- 2A. Define myocardial infarction. Explain the clinical symptoms of myocardial infarction.
2B. Explain the pathogenesis of congestive heart failure.
2C. Explain the pathogenesis of atherosclerosis.

(2+3+3 = 8 marks)

- 3A. Explain the etiopathogenesis and tissue changes that occur in alcoholic liver disease.
3B. Classify anaemia based on etiology and explain the clinical features of each type.

(4+4 = 8 marks)

✍ **Short Essays:**

- 4A. Explain the etiopathogenesis of bronchial asthma.
4B. List out the differences between type I and type II diabetes mellitus.
4C. Explain the mechanisms of any two hypersensitivity reactions.
4D. Explain the etiopathogenesis of tuberculosis.

(4 marks×4 = 16 marks)

✍ **Short Answers:**

- 5A. Enumerate four clinical symptoms of parkinsonism.
5B. Define angiogenesis and invasiveness of neoplasia.
5C. Enumerate the etiology for inflammation.
5D. Enumerate the regulators of cell cycle.
5E. Differentiate cell mediated and humoral immunity.

(2 marks×5 = 10 marks)



MANIPAL UNIVERSITY**SECOND YEAR B. PHARM. DEGREE EXAMINATION – MAY 2014****SUBJECT: PHARMACEUTICAL MICROBIOLOGY (PBT 202)
(CREDIT BASED SYSTEM)**

Wednesday, May 07, 2014

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

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

✍ **Long Essays:**

1. Define pure culture and discuss the methods of isolation of pure culture.
2. With the help of a neat labeled diagram, discuss the design and operation of a hot air oven.
3. Discuss the role of neutrophils and macrophages in combating infectious diseases.
(8 marks×3 = 24 marks)

✍ **Short Essays:**

- 4A. Write a detailed note on a sexual spores produced by fungi with diagrams.
- 4B. Explain the effect of pH and presence of organic matter on the course of disinfection.
- 4C. Differentiate exotoxins from endotoxins.
- 4D. Write the causative agent, mode of transmission, important symptoms, and treatment of diphtheria.
(4 marks×4 = 16 marks)

✍ **Short Answers:**

- 5A. Define Resolving power of a microscope and mention the methods to increase it.
- 5B. Enlist the methods of preservation of pure culture.
- 5C. Define Excitation and Ionization radiation.
- 5D. In evaluation of bacteriostatic activity of disinfectants, what is the difference between cup plate method and Ditch plate method?
- 5E. Define BOD and enlist different methods to reduce BOD of industrial waste water.
(2 marks×5 = 10 marks)



MANIPAL UNIVERSITY

SECOND YEAR B. PHARM. DEGREE EXAMINATION – MAY 2014

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

Friday, May 09, 2014

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer all the questions.**

✍ **Long Essays:**

1. Explain the various modes of heat transfer with suitable examples.

(8 marks)

2. Explain with diagram the construction, principle & advantages of Swenson-Walker crystallizer.

(2+2+2+2 = 8 marks)

3. Define a suspension. Differentiate various characteristics of flocculated & deflocculated suspensions.

(2+6 = 8 marks)

✍ **Short Essays:**

4A. Explain the cold compression method for preparation of suppositories.

4B. What are the advantages of hardinge mill over ball mill? Explain briefly about Elevation of boiling point.

4C. How does emulsifying agent work? Explain in brief the method to prepare emulsion by dry gum method for a formula consisting of fixed oils.

4D. Define bound and unbound moisture. Explain the drying rate curve with a labeled diagram.

(4 marks×4 = 16 marks)

✍ **Short Answers:**

5A. Differentiate tincture and spirit.

5B. Write note on explosive powder.

5C. Write note on Inscription and Signatura.

5D. Difference between boilable & non boilable catgut.

5E. In what proportion should 20% benzocaine ointment be mixed with an ointment base to produce a 2.5% benzocaine ointment?

(2 marks×5 = 10 marks)



MANIPAL UNIVERSITY
SECOND YEAR B. PHARM. DEGREE EXAMINATION – MAY 2014
SUBJECT: PHARMACEUTICAL CHEMISTRY (PCH 204)
(CREDIT BASED SYSTEM)

Monday, May 12, 2014

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 do you prove that D-glucose has a six membered ring structure? Explain
 3B. Write the medicinal uses and mechanism of action Taxol and its derivatives.
 3C. What are non-drying oils?
- (4+3+1 = 8 marks)

✍ **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 characteristic chemical reactions of amino acids.
- (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)

✍ **Short Answers:**

- 5A. What are the medicinal uses of flavonoids? Give two examples 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 marks×5 = 10 marks)



MANIPAL UNIVERSITY

SECOND YEAR B. PHARM. DEGREE EXAMINATION – MAY 2014

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

Wednesday, May 14, 2014

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ Answer ALL the questions.

✍ Long Essays:

1. Derive the expression for the pH at equivalence point of the titration of 0.1 M acetic acid against 0.1 M NaOH. Show the required calculations for pH at various stages of this titration and suggesting a suitable indicator. (Dissociation constant of acetic acid 1.82×10^{-5})
(8 marks)
2. Explain the factors affecting the completeness of the precipitation? How is it checked?
(8 marks)
- 3A. Explain advantages and disadvantages of ceric ammonium sulphate in redox titration.
- 3B. Explain with the help of an example side reactions in permagnometry titrations.
(4+4 = 8 marks)

✍ Short Essays:

- 4A. Derive an expression for pM and give its importance in complexometry.
- 4B. Differentiate between primary standards and secondary standards. Give examples of each.
- 4C. How is 0.1M perchloric acid prepared and standardized as per I. P.1996.
- 4D. Explain Mohr's and Modified Mohr's method for estimation of halides.
(4 marks×4 = 16 marks)

✍ Short Answers:

- 5A. Define: i) Solubility product ii) Calibration
- 5B. Explain with reaction determination of end point using starch iodide paper in diazotization titration.
- 5C. Explain Arrhenius theory of acids and bases and describe its merits and demerits.
- 5D. Define standard oxidation potential in redox titrations.
- 5E. Enlist the different steps involved in gravimetric analysis.
(2 marks×5 = 10 marks)



MANIPAL UNIVERSITY
SECOND YEAR B. PHARM. DEGREE EXAMINATION – MAY 2014
SUBJECT: PHARMACOGNOSY - I (PCO 206)
(CREDIT BASED SYSTEM)

Friday, May 16, 2014

Time: 10:00 – 13:00 Hrs.

Max. Marks: 50

✍ **Answer ALL the questions.**

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

✍ **Long Essays:**

1A. With the help of neat labeled diagram describe the morphological features of Fennel and Datura.

1B. Explain TCA cycle.

(4+4 = 8 marks)

2. Extrinsic factors affecting cultivation of crude drugs.

(8 marks)

3. Give the source, constituents and method of preparation and uses of sodium alginate and Honey.

(4+4 = 8 marks)

✍ **Short Essays:**

4A. Physical methods of evaluation.

4B. Source and uses of Gelatin and Spirulina.

4C. Source and preparation of castor oil and bees wax.

4D. Classification and methods of estimation of Tannins.

(4 marks×4 = 16 marks)

✍ **Short Answers:**

5A. Bentonite

5B. Definition and reasons for adulteration

5C. Definition of Alkaloids and Glycosides

5D. Various types of calcium oxalate and stomata

5E. Morphological method of classification

(2 marks×5 = 10 marks)

