

**MANIPAL UNIVERSITY****SECOND YEAR PHARM D. DEGREE EXAMINATION – MAY 2016****SUBJECT: PPR 2.6T: PHARMACOTHERAPEUTICS – I  
(2014 REGULATION)**

Thursday, May 05, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ **Answer ALL the questions.**

✍ **Long Answer Questions:**

1. What are dyslipidemias? Explain the therapeutics of various disorders associated with lipoprotein metabolism.
2. Explain the role of biguanides, sulfonyl ureas and alpha glucoSIDase inhibitors in the management of type 2 diabetes mellitus. Enumerate the various insulin preparations and write the steps involved in usage of Insulin pen.
3. Classify hyperthyroidism based on etiology. Explain the management of hyperthyroidism.

(10 marks × 3 = 30 marks)

4. **Short Answer Questions:**

- 4A. Explain BP management in special population explaining the drugs preferred.
- 4B. Explain the pathophysiology of systolic heart failure.
- 4C. With the help of neat diagram describe a typical ECG.
- 4D. Explain the therapeutic role of Bisphosphonates and Selective Estrogen Receptor Modifiers in Osteoporosis.
- 4E. What is myxedema coma and explain the management of the same.
- 4F. Explain the adverse effects and risk factors associated with hormonal contraceptives.

(5 marks × 6 = 30 marks)

5. **Give reasons for the following:**

- 5A. Essential medicines list is vital for Indian healthcare system.
- 5B. Beta-blockers are contraindicated in particular type angina pectoris.
- 5C. Torsade de pointes is a type of ventricular arrhythmia.
- 5D. Pink puffers are differ from blue bloaters.
- 5E. Corticosteroids are not the first line treatment in asthma.

(2 marks × 5 = 10 marks)



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## MANIPAL UNIVERSITY

### SECOND YEAR PHARM D. DEGREE EXAMINATION – MAY 2016

#### SUBJECT: PBT 2.2T: PHARMACEUTICAL MICROBIOLOGY (2014 REGULATION)

Saturday, May 07, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ **Answer ALL questions.**

✍ **Long Answer Questions:**

1. Mention the growth requirements of bacteria. Explain any two methods of cultivating anaerobic microorganisms.
2. Define and classify sterilisation. Discuss sterilisation by ethylene oxide as under:  
Properties, Mode of action, Factors affecting the efficiency
3. Explain Natural and Adaptive immunity in detail and enlist the differences between the two.  
(10 marks × 3 = 30 marks)

4. **Short Answer Questions:**

- 4A. Differentiate Gram positive bacteria from Gram negative bacteria with respect to their cell wall composition and Gram's reaction.
- 4B. Define the terms autotroph, heterotroph, phototroph, chemotroph and organotroph.
- 4C. Write the formulae to calculate RWC, CMC and briefly outline the procedure for RWC.
- 4D. Describe the differences in principle and applications of Western blot and Southern blot techniques.
- 4E. Define vaccines and explain 3 + 3 quantal assay.
- 4F. Write the causative organism, mode of transmission, symptoms and treatment for tuberculosis.  
(5 marks × 6 = 30 marks)

5. **Give Reasons for the following:**

- 5A. Magnification power of an Electron microscope is much higher than that of optical microscope.
- 5B. Bacterial endospores exhibit high thermal resistance.
- 5C. McConkey agar is selective as well as differential medium.
- 5D. *E. coli* is positive for indole production test whereas *Enterobacter aerogenes* is negative.
- 5E. Sandwich ELISA technique cannot be used for the detection of antibodies.  
(2 marks × 5 = 10 marks)



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## MANIPAL UNIVERSITY

### SECOND YEAR PHARM D. DEGREE EXAMINATION – MAY 2016 SUBJECT: PCO 2.3T: PHARMACOGNOSY AND PHYTOPHARMACEUTICALS (2014 REGULATION)

Tuesday, May 10, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ **Answer ALL questions.**

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

✍ **Long Answer Questions:**

1. Give a detailed account of Harvesting of crude drugs. Add a note on its preservation.
2. Compare and contrast between Alexandrian Senna and Tinnevelly Senna with the help of morphology, microscopy and powder microscopy.
3. Discuss Acacia under a suitable Pharmacognostic scheme.

(10 marks × 3 = 30 marks)

4. **Short Answer Questions:**

- 4A. Discuss in detail the Sero-taxonomical approach for classification of crude drugs.
- 4B. Give the biological sources, active constituents, uses of Gelatin and explain its preparation.
- 4C. Give the preparation, chemical constituents, identification tests and uses of Olive Oil.
- 4D. Write the morphology of insect flower and give its insecticidal principles.
- 4E. Write the source, constituents and uses of Isapgol and describe its cultivation and collection.
- 4F. Give an accounts of living cell inclusions of a plant cell.

(5 marks × 6 = 30 marks)

5. **Give reasons for the following:**

- 5A. Clove powder sometimes contain starch grains stone cells
- 5B. Drug discovery from natural products has less attrition
- 5C. Castor oil is soluble in alcohol
- 5D. Absorbent is wrapped in a brown paper and stored away from light
- 5E. Caffeine is a pseudo-alkaloid

(2 marks × 5 = 10 marks)



## MANIPAL UNIVERSITY

### SECOND YEAR PHARM D. DEGREE EXAMINATION – MAY 2016

#### SUBJECT: PD 2.3: PHARMACOGNOSY AND PHYTOPHARMACEUTICALS

Tuesday, May 10, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ **Answer ALL questions.**

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

✍ **Long Essays:**

1. Explain how various exogenous factors that affect the cultivation of crude drugs.
2. Describe the morphology, anatomy and powder microscopy of Quassia.
3. Give the monograph of any two Carbohydrate containing drugs of marine origin.

(10 marks × 3 = 30 marks)

4. **Short Essays:**

- 4A. Write a note on various systems of classification of crude drugs.
- 4B. Give the production of an oxytocic drug.
- 4C. Write the extraction methods of Lipids and add a note on chemical test for Wool fat.
- 4D. Define and give the estimation of Proteins.
- 4E. Write the chemical tests for the identification of cell wall constituents.
- 4F. Give the source, preparation and uses of Hemp.

(5 marks × 6 = 30 marks)

5. **Short Answers:**

- 5A. Enfleurage method
- 5B. Symbiosis
- 5C. Plastids
- 5D. Role of cytokinins in Plant tissue culture
- 5E. Substitution with inferior commercial varieties as an adulteration method

(2 marks × 5 = 10 marks)



**MANIPAL UNIVERSITY****SECOND YEAR PHARM D. DEGREE EXAMINATION – MAY 2016****SUBJECT: PHA 2.4T: PHARMACOLOGY – I**

Thursday, May 12, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ **Answer ALL the questions.**

✍ **Draw a labeled diagram wherever necessary.**

✍ **Long Essays:**

1. Classify receptors. Explain the downstream pathway of G-Protein coupled receptors.
2. With example classify antipsychotics. Discuss their mechanism of action and side effects.
3. Explain with a diagram, the synthesis, storage, release, reuptake and metabolism of Noradrenaline. Mention the drugs that intervene in these processes.

(10 marks × 3 = 30 marks)

4. **Short Essays:**

- 4A. Explain the mechanisms of pharmacodynamic drug interaction.
- 4B. Explain the mechanisms of propylthiouracil, carbimazole.
- 4C. Explain the mechanism of action of oxytocin.
- 4D. Explain the mechanisms of antihypertensive drugs affecting RAAS pathway.
- 4E. Explain the mechanism of action of insulin.
- 4F. Describe mechanism of action of nitrates.

(5 marks × 6 = 30 marks)

5. **Give reasons for the following:**

- 5A. Ephedrine produces tachyphylaxis.
- 5B. Tetracycline should not be administered with milk.
- 5C. Levodopa is combined with carbidopa in the treatment of Parkinsonism.
- 5D. Histamine produces different side effects after sc. injection and iv. injection.
- 5E. Fentanyl– droperidol combination is used for minor surgical procedures.

(2 marks × 5 = 10 marks)



# MANIPAL UNIVERSITY

## SECOND YEAR PHARM D. DEGREE EXAMINATION – MAY 2016

### SUBJECT: PD 2.4: PHARMACOLOGY – I

Thursday, May 12, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

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

✍ **Long Essay:**

1. Draw a flowchart to describe the various processes of drug discovery. Explain various phases of clinical trials.  
(2+8 = 10 marks)
2. Classify anti-anginal drugs with examples. Describe the pharmacological actions of nitrates. Mention two uses and adverse effects each.  
(4+3+3 = 10 marks)
3. Describe the pharmacological actions of morphine on CNS. Enumerate the uses and side effects of morphine.  
(6+2+2 = 10 marks)

4. **Short Essays:**

- 4A. Explain the mechanisms of the following:
  - i) Penicillin action is prolonged when combined with probenecid.
  - ii) Although penicillin is a hydrophilic drug, it is used for the treatment of meningitis.
  - iii) Severe hypoglycemia is seen when salicylates are administered after tolbutamide administration.
  - iv) The chances of developing paracetamol liver toxicity are more in alcoholics.
  - v) Adrenaline prolongs the action of local anesthetics.
- 4B. Mechanism of action of thyroid hormone
- 4C. Mechanism of action of ACE inhibitors
- 4D. Mechanism of action of lithium
- 4E. Mechanism of action of adrenaline
- 4F. Mechanism of various drugs on the biosynthetic and degradative pathway of prostaglandins  
(5 marks × 6 = 30 marks)

5. **Give reasons for the following:**

- 5A. The anti-depressant action of imipramine develops after weeks.
- 5B. Dopamine in cardiogenic shock
- 5C. Zolpidem has little anti-seizure action, but exerts hypnotic effect.
- 5D. Tropicamide for testing error of refraction
- 5E. Salbutamol should not be used on a regular schedule for bronchial asthma.  
(2 marks × 5 = 10 marks)



**MANIPAL UNIVERSITY****SECOND YEAR PHARM D. DEGREE EXAMINATION – MAY 2016****SUBJECT: PPR 2.5T: COMMUNITY PHARMACY  
(2014 REGULATION)**

Saturday, May 14, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ **Answer ALL questions.**

✍ **Long Essay Questions:**

1. Discuss schedule N requirements of community pharmacy.
2. Write the factors contributing to irrational drug use and describe the pharmacists' role in promoting rational drug use.
3. Explain code of ethics for community pharmacist in relation to patients, health professionals and society.

(10 marks × 3 = 30 marks)

4. **Short Answer Questions:**

- 4A. Define health screening services and explain its advantages.
- 4B. Explain potential barriers in patient counseling.
- 4C. Explain clinical presentation and prevention of typhoid.
- 4D. Explain ABC analysis of inventory control.
- 4E. Explain the quality criteria for patient information leaflet.
- 4F. Explain CORE pharmacotherapy plan in pharmaceutical care.

(5 marks × 6 = 30 marks)

5. **Give reason for the following:**

- 5A. Aspirin should not be given to children suffering from chickenpox and influenza.
- 5B. Lead time is vital in inventory control.
- 5C. Date is an important aspect in a prescription.
- 5D. In kwashiorkor disease, subcutaneous fat is normal.
- 5E. To prevent scurvy, human requires dietary ascorbate.

(2 marks × 5 = 10 marks)



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## MANIPAL UNIVERSITY

SECOND YEAR PHARM D. DEGREE EXAMINATION – MAY 2016

SUBJECT: PPR 2.1T: PATHOPHYSIOLOGY  
(2014 REGULATION)

Tuesday, May 17, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ **Answer ALL questions.**

✍ **Long Essay Questions:**

1. Classify autoimmune disease with examples. Discuss the etiology and pathogenesis of autoimmune disease.
2. Explain the healing process of skin wound by first intention and second intention.
3. Discuss sexual and asexual life cycle of malaria parasite in detail.

(10 marks × 3 = 30 marks)

4. **Short Answer Questions:**

- 4A. Enlist the beneficial and harmful effects of inflammation.
- 4B. Explain the morphology of reversible cell injury.
- 4C. With the help of a neat diagram explain the steps involved in cancer metastasis.
- 4D. Classify different type of angina and explain any one in detail.
- 4E. Enlist the difference between bronchitis and emphysema.
- 4F. Discuss type-1 hypersensitive reaction in detail.

(5 marks × 6 = 30 marks)

5. **Give reasons for the following:**

- 5A. Isografts are not commonly rejected.
- 5B. Nonsteroidal anti-inflammatory drugs (NSAIDs) may induce or worsen acute renal failure.
- 5C. Cigarette smoking plays different role in Crohn's disease and ulcerative colitis.
- 5D. Depression and mania are different from each other.
- 5E. Mantoux test is commonly used in tuberculosis diagnosis.

(2 marks × 5 = 10 marks)





**MANIPAL UNIVERSITY**  
**SECOND YEAR PHARM D. DEGREE EXAMINATION – MAY 2016**  
**SUBJECT: PD 2.1: PATHOPHYSIOLOGY**

Tuesday, May 17, 2016

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

**Answer ALL questions.**

**Long Essay Questions:**

1. Define hypertension and discuss the role of renin angiotensin aldosterone system (RAAS) in the pathogenesis of hypertension.
2. Write the etiological classification of ARF and explain the pathophysiology and complications of ARF.
3. Discuss the role of various chemical mediators of acute inflammation.

(10 marks × 3 = 30 marks)

**Short Essay Questions:**

- 4A. What are the causes of Congestive heart failure and write the NYHA classification of heart failure.
- 4B. Discuss the events of wound healing by first intention.
- 4C. Describe the etiology and pathogenesis of Parkinsonism.
- 4D. What are the signs and symptoms and complications of tuberculosis?
- 4E. Define immune tolerance and explain the mechanism involved in central and peripheral tolerance.
- 4F. Briefly discuss the four characteristic features of cancer.

(5 marks × 6 = 30 marks)

**Short Answer Questions:**

- 5A. Write the signs and symptoms of systemic lupus erythematosus (SLE).
- 5B. Enumerate the signs and symptoms Parkinsonism.
- 5C. Write the difference between benign and malignant tumors.
- 5D. Classify hypertension according to JNC-7.
- 5E. Enlist the complications of wound healing.

(2 marks × 5 = 10 marks)

