

MANIPAL UNIVERSITY

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

SUBJECT: PD 2.1: PATHOPHYSIOLOGY

Monday, April 29, 2013

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ Answer ALL questions.

✍ Long Essay Questions:

1. With the help of a neat diagram explain the etiology and life cycle of malaria.
2. Discuss the vascular and cellular events of acute inflammation.
3. Write the etiological classification of acute renal failure (ARF) and explain the pathophysiology and complications of ARF.

(10×3 = 30 marks)

4. Short Essay Questions:

- 4A. Enumerate the mechanism of irreversible cell injury.
- 4B. Briefly discuss the mechanism involved in graft rejection.
- 4C. Explain mechanism of metastasis.
- 4D. Explain type IV hypersensitivity reaction with suitable example.
- 4E. Discuss the dopamine theory of pathogenesis of schizophrenia.
- 4F. Discuss the neural regulation of blood pressure.

(5×6 = 30 marks)

5. Short Answer Questions:

- 5A. Enlist various tumour markers.
- 5B. Enlist short term and long term complications of diabetes mellitus.
- 5C. Enlist various risk factors for stroke.
- 5D. Enlist various etiological factors for peptic ulcer disease.
- 5E. Write the difference between recurrent and relapse urinary tract infection.

(2×5 = 10 marks)



MANIPAL UNIVERSITY**SECOND YEAR PHARM D. DEGREE EXAMINATION – APRIL/MAY 2013****SUBJECT: PD 2.2: PHARMACEUTICAL MICROBIOLOGY**

Thursday, May 02, 2013

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1. Define pure culture and discuss the methods of isolation. Enlist the methods of preservation.
2. With the help of a neat labeled diagram, discuss the design and operation of hot air oven.
3. Define and classify immunity. Describe the process of phagocytosis.

(10×3 = 30 marks)

4. Short Essays:

- 4A. Compare the physiological features of bacteria and fungi.
- 4B. Define the terms autotroph, heterotroph, phototroph and chemotroph. Differentiate synthetic medium from complex medium and give the composition of nutrient broth.
- 4C. Explain the influence of time of contact and pH on the course of disinfection process.
- 4D. Write a short note on PCR.
- 4E. Briefly outline the procedure for microbiological assay of Vitamin B₂.
- 4F. Write the causative microorganism, mode of transmission, important symptoms and treatment of hepatitis.

(5×6 = 30 marks)

5. Short Answers:

- 5A. Electron microscope has greater resolving power than that of optical microscope. Why?
- 5B. Mention any four characteristics of viruses.
- 5C. Virus cannot be cultivated in nutrient broth. Why? Suggest a method of cultivation.
- 5D. Give the complete classification of methods for quantitative measurement of bacterial growth.
- 5E. Differentiate Western blot from Southern blot.

(2×5 = 10 marks)



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

SUBJECT: PD 2.3: PHARMACOGNOSY AND PHYTOPHARMACEUTICALS

Saturday, May 04, 2013

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ Answer ALL questions. Draw structures and diagrams wherever necessary.

✍ Long Essays Questions:

1. Detailed account of harvesting and drying of crude drugs.
2. Microscopy (TS and powder) of Cassia bark and Fennel fruit.
3. Qualitative identification tests for Acacia, Sterculia gum, Agar and Starch.

(10×3 = 30 marks)

4. Short Essays Questions:

- 4A. Morphological method of classification with merits and demerits.
- 4B. Cultivation, collection and preparation of Ergot.
- 4C. Source, uses and preparation of Castor oil and Bees wax.
- 4D. Source, chemistry, uses and tests for Gelatin.
- 4E. Morphology of Nux vomica and Clove.
- 4F. Source and preparation of starch from various sources.

(5×6 = 30 marks)

5. Short Answers Questions:

- 5A. Definition of Pharmacognosy.
- 5B. Tobacco as a natural pesticide.
- 5C. Definition and classification of Tannins.
- 5D. Hemp as surgical fibres.
- 5E. Adulteration with exhausted drugs and harmful or worthless heavy metals.

(2×5 = 10 marks)



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

SUBJECT: PD 2.4: PHARMACOLOGY – I

Tuesday, May 07, 2013

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

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

✍ **Long Essays:**

1. Classify anti- arrhythmic drugs with examples. Discuss the mechanism of action of Na⁺ channel blockers and give their side effects.
(4+4+2 = 10 marks)

2. Describe the pharmacological actions of corticosteroids. List any five uses and toxicities.
(5+5 = 10 marks)

3. Classify anti-epileptic agents with examples. Describe the mechanism of action of phenytoin sodium. Explain the toxicities caused by phenytoin.
(4+4+2 = 10 marks)

4. **Short Essays:**

- 4A. Explain the mechanism of smooth muscle contraction by Gq protein.
- 4B. With a neat diagram discuss the signal transduction mechanism of nuclear receptors.
- 4C. Adrenergic transmission and the drugs affecting it.
- 4D. Mechanisms of action of Disulfiram and fomepizole.
- 4E. Mechanism of action of Chlorpromazine.
- 4F. Mechanism of action of Nitrates and calcium channel blockers in variant angina.
(5×6 = 30 marks)

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

- 5A. High doses of atropine is required to produce mydriatic effect in rabbits.
- 5B. Cyclopam is given for intestinal and renal colic pain.
- 5C. ACE inhibitors in diabetic nephropathy.
- 5D. Oral contraception fails when rifampin is concurrently taken.
- 5E. Combination of penicillin and probenecid.
(2×5 = 10 marks)



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

SUBJECT: PD 2.5: COMMUNITY PHARMACY

Thursday, May 09, 2013

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

Long Essay Questions:

1. Discuss the various steps in patient counseling. Explain the barriers to patient counseling and strategies to overcome the same.
(4+3+3 = 10 marks)
2. Explain the location, layout and legal requirements to start a community pharmacy.
(10 marks)
3. Define Inventory Control. Explain ABC and EOQ methods of Inventory Control.
(2+4+4 = 10 marks)

Short Essay Questions:

- 4A. Explain the contents and layout design of patient information leaflets.
- 4B. Explain the various parts of a prescription.
- 4C. Explain the role of community pharmacist in family planning.
- 4D. Write briefly on FDA criteria for Over-the-Counter (OTC) medications.
- 4E. Explain principles of pharmaceutical care.
- 4F. Discuss the contributing factors for irrational drug use.
(5×6 = 30 marks)

Short Answers Questions:

- 5A. Write the applications of computers in community pharmacy.
- 5B. Explain the clinical presentations and prevention of Malaria.
- 5C. Write the importance's of health screening services.
- 5D. Write the management of bacterial conjunctivitis.
- 5E. Define Health promotion as per WHO.
(2×5 = 10 marks)



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

SUBJECT: PD 2.6: PHARMACOTHERAPEUTICS – I

Saturday, May 11, 2013

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ **Answer ALL questions.**

✍ **Long Essay:**

1. Discuss the pharmacotherapy of congestive heart failure. (10 marks)

2A. Explain the role of corticosteroids, Beta-2 agonist and methyl xanthines in Chronic asthma.
2B. Enumerate the Pulmonary Function test and write the significance of PFT in Asthma and COPD. (6+4 = 10 marks)

3A. Define Diabetes Mellitus and explain the role of biguanides and sulfonyl ureas in management of the same.
3B. Enumerate the Micro- and Macro- vascular complications of diabetes mellitus and explain the management of any two. (5+5 = 10 marks)

4. Short Essay:

4A. Explain the management of osteoporosis.
4B. Explain the treatment modalities in hyperthyroidism.
4C. Explain the role of pharmacist in rational prescribing.
4D. Explain the drugs used in the treatment of primary open angle glaucoma.
4E. Explain briefly the general prescribing guidelines in the elderly.
4F. Write the life style modifications in the treatment of dyslipidemia. (5×6 = 30 marks)

5. Short Answers:

5A. Enumerate the common organisms that cause conjunctivitis.
5B. Explain role of nitrates in angina pectoris.
5C. Write the management of hypertension in diabetes and in coronary artery disease.
5D. Enumerate the Class III antiarrhythmics and mention their pharmacological role.
5E. Explain any one mechanism involved in drug induced air flow obstruction. (2×5 = 10 marks)

