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MANIPAL UNIVERSITY
SECOND YEAR PHARM D. DEGREE EXAMINATION – MAY 2015
SUBJECT: PD 2.1: PATHOPHYSIOLOGY

Tuesday, May 05, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ **Answer ALL the questions.**

✍ **Long Essay Questions:**

1. Explain the causes and pathogenesis of reversible and irreversible cell injury. (10 marks)

- 2A. Explain role of renin-angiotensin-aldosterone system pathway in the pathophysiology of hypertension.
- 2B. Explain the etiopathogenesis of atherosclerosis. (5+5 = 10 marks)

3. Enlist and discuss the role of various cell derived and plasma derived mediators of inflammation. (10 marks)

4. **Short Essay Questions:**

- 4A. Explain the differences between Type 1 and Type 2 Diabetes Mellitus.
- 4B. Explain pathophysiology of Parkinsonism.
- 4C. Describe the pathogenesis of acute renal failure.
- 4D. Explain the mechanism of autoimmunity.
- 4E. Explain the pathogenesis of HIV infection.
- 4F. Discuss the microscopic and macroscopic features of Benign and malignant tumors. (5 marks × 6 = 30 marks)

5. **Short Answer Questions:**

- 5A. Name any two fat soluble vitamins and their function.
- 5B. Name the microorganisms responsible for causing community and hospital acquired pneumonia.
- 5C. Differentiate between depression and mania.
- 5D. Enlist the harmful effect of inflammation.
- 5E. Write the cause and symptoms of unstable angina. (2 marks × 5 = 10 marks)



MANIPAL UNIVERSITY

SECOND YEAR PHARM D. DEGREE EXAMINATION – MAY 2015

SUBJECT: PD 2.2: PHARMACEUTICAL MICROBIOLOGY

Thursday, May 07, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

☞ Answer ALL the questions.

☞ Long Essays:

1. Define staining and mention the reasons for bacterial staining. Discuss Gram's staining.
2. Explain the effect of time of contact, temperature, presence of organic matter and pH on the course of disinfection.
3. Discuss the role of neutrophils and macrophages in combating infectious diseases.

(10 marks × 3 = 30 marks)

4. Short Essays:

- 4A. Write a detail note on fungal asexual spores with diagrams.
- 4B. Anaerobic bacteria fail to grow in the presence of oxygen. Explain and write a note on the methods of cultivation of anaerobic bacteria.
- 4C. With the help of a neat diagram, explain the working of "portable sterilizer".
- 4D. Describe the life cycle of malarial parasite.
- 4E. Describe the procedure to carry out culture sensitivity testing by agar diffusion method.
- 4F. Write the causative microorganism, mode of transmission, important symptoms and treatment of HIV.

(5 marks × 6 = 30 marks)

5. Short Answers:

- 5A. Name any two scientists and their major contribution to the field of microbiology.
- 5B. Why are bacterial spores resistant to heat?
- 5C. Fungi can be cultivated in nutrient broth but not in fluid thioglycollate broth. Why? Suggest a specific medium for cultivation of fungi.
- 5D. Elaborate IMViC and mention the specific tests for *E.coli*.
- 5E. Differentiate Western blot from Southern blot.

(2 marks × 5 = 10 marks)



MANIPAL UNIVERSITY
SECOND YEAR PHARM D. DEGREE EXAMINATION – MAY 2015
SUBJECT: PD 2.3: PHARMACOGNOSY AND PHYTOPHARMACEUTICALS

Saturday, May 09, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

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

✍ **Long Essays:**

1. Discuss on various environmental factors affecting the cultivation of crude drugs.
2. Describe the morphology, anatomy and powder microscopy of Nuxvomica.
3. Define, classify, give the identification tests and discuss the chemistry of Carbohydrates.

(10 marks × 3 = 30 marks)

4. **Short Essays:**

- 4A. How are crude drugs classified in alphabetical and based on their chemical nature?
- 4B. Briefly discuss the cultivation and collection aspects of Opium.
- 4C. Source, method of production, chemical constituents and uses of Wool fat
- 4D. Write a note on Absorbable gelatin film.
- 4E. Give a note on Cell wall constituents.
- 4F. Give the source, preparation and uses of Jute.

(5 marks × 6 = 30 marks)

5. **Short Answers:**

- 5A. Contributions by the botanists for the development of Pharmacognosy
- 5B. Types of fracture in bark drugs
- 5C. Define Corm with examples
- 5D. Borntrager's test
- 5E. Comment on Substitution with inferior commercial varieties

(2 marks × 5 = 10 marks)



MANIPAL UNIVERSITY

SECOND YEAR PHARM D. DEGREE EXAMINATION – MAY 2015

SUBJECT: PD 2.4: PHARMACOLOGY – I

Tuesday, May 12, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

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

✍ Long Essay:

1. Explain drug biotransformation reactions with examples.

(10 marks)

2. Classify antianginal agents with examples. Discuss the mechanism of action, uses and adverse effects of any one class.

(4+3+2+1 = 10 marks)

3. Classify glucocorticoids with examples and describe the pharmacological actions of glucocorticoids.

(4+6 = 10 marks)

4. Write the mechanisms of actions of:

4A. Diazepam

4B. d- Tubocurarine

4C. Haloperidol

4D. Neostigmine in Myasthenia gravis

4E. Levodopa and drugs affecting metabolism of levodopa

4F. Valproate and vigabatrin

(5 marks × 6 = 30 marks)

5. Give reasons for the following:

5A. Zafirlukast can be used in bronchial asthma

5B. Nicotinic acid is used in hypertriglyceridemia

5C. Oral antibiotics drugs can cause failure of oral contraceptive drugs

5D. Action of thiopentone lasts only for a few minutes

5E. Beta blockers are beneficial in hyperthyroid patients

(2 marks × 5 = 10 marks)



MANIPAL UNIVERSITY
SECOND YEAR PHARM D. DEGREE EXAMINATION – MAY 2015
SUBJECT: PD 2.6: PHARMACOTHERAPEUTICS – I

Thursday, May 14, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ **Answer ALL the questions.**

✍ **Long Essays:**

1. Explain the pharmacotherapy of myocardial infarction. (10 marks)
2. Classify diabetes mellitus. Explain the management of Type 1 Diabetes Mellitus. (2+8 = 10 marks)
- 3A. Explain the pathophysiology of chronic bronchitis and emphysema.
- 3B. Explain the role of bronchodilators and corticosteroids in the management of COPD. (5+5 = 10 marks)

4. **Short Essays:**

- 4A. Write the treatment principles of heart failure and mention the non-pharmacological management of heart failure.
- 4B. Write a short note on consequences of irrational drug use with suitable examples.
- 4C. Explain the role of hyper-osmotic agents in the management of Primary Open Angle Glaucoma.
- 4D. Discuss the pharmacokinetic parameters for dosage adjustment in pediatrics.
- 4E. Explain briefly the management of hyperthyroidism.
- 4F. Explain the pharmacotherapy of contraception. (5 marks × 6 = 30 marks)

5. **Short Answers:**

- 5A. Mention adverse effects of digoxin and theophylline.
- 5B. Mention the advantages and disadvantages of estrogen in Hormone Replacement Therapy.
- 5C. Enlist the WHO drug use indicators.
- 5D. Mention the dosing and adverse effects of levothyroxine.
- 5E. Explain the management of hypertension in the elderly patient. (2 marks × 5 = 10 marks)

PD 2.6

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MANIPAL UNIVERSITY
SECOND YEAR PHARM D. DEGREE EXAMINATION – MAY 2015
SUBJECT: PD 2.5: COMMUNITY PHARMACY

Saturday, May 16, 2015

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ **Answer ALL the questions.**

✍ **Long Essay Questions:**

1. Explain pharmacist role in care for geriatric patients and pediatric patients.
2. Define over-the-counter drugs and explain the role of Pharmacist during the dispensing of the over-the-counter drugs.
3. Define prescription. Explain the various parts of the prescription with the help of a model prescription.

(10 marks × 3 = 30 marks)

4. **Short Essay Questions:**

- 4A. Explain SOAP note.
- 4B. Explain the treatment and prevention of any two nutritional deficiency disorder.
- 4C. Explain the clinical presentation and prevention of Typhoid.
- 4D. Explain the various WHO indicators for rational drug use.
- 4E. Discuss the applications of computers in community pharmacy.
- 4F. Discuss the scope of community pharmacy.

(5 marks × 6 = 30 marks)

5. **Short Answer Questions:**

- 5A. Define Health as per WHO.
- 5B. Name the causative organism and prevention of Leprosy.
- 5C. Enumerate the drugs used for nausea and vomiting.
- 5D. Write the importance of Safety stock.
- 5E. Enumerate the criteria for patient information leaflets.

(2 marks × 5 = 10 marks)

