

MANIPAL UNIVERSITY

FIRST YEAR PHARM D. DEGREE EXAMINATION – MAY 2010

SUBJECT: PD 1.1: HUMAN ANATOMY AND PHYSIOLOGY

Monday, May 03, 2010

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ **Answer ALL questions.**

✍ **Long Essays:**

1. Draw a neat picture of an electrocardiogram. Correlate the ECG waves with the events happening in the heart. What are the factors affecting cardiac output?
(3+5+2 = 10 marks)
2. Discuss the mechanisms involved in inhalation and exhalation. Define lung compliance. List some conditions that affect it.
(6+2+2 = 10 marks)
3. List the hormones of the pancreas. Explain their physiological actions. Illustrate positive and negative feedback mechanism with examples.
(2+4+4 = 10 marks)

✍ **Short Essay:**

- 4A. Describe the physiology of smooth muscle contraction.
- 4B. Write the composition and actions of saliva on food.
- 4C. Outline the process of formation of RBCs.
- 4D. Define glomerular filtration rate. Explain any two mechanisms that regulate GFR.
- 4E. Briefly explain the events involved in the stimulation of auditory receptors.
- 4F. Discuss the functions of oxytocin.
(5×6 = 30 marks)

✍ **Short Answers:**

- 5A. Define:
 - i) Conus medullaris
 - ii) Cauda equina
- 5B. List the functions of the skeletal system.
- 5C. What is cytoskeleton? Name the filamentous proteins.
- 5D. Brief upon rigor mortis.
- 5E. Chemical synapses relay signals slower than electrical synapses, comment.
(2×5 = 10 marks)



MANIPAL UNIVERSITY

FIRST YEAR PHARM D. DEGREE EXAMINATION – MAY 2010

SUBJECT: PD 1.2: PHARMACEUTICS

Tuesday, May 04, 2010

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ Answer ALL the questions.

1. Long Essays:

- 1A. Define Prescription. Explain various parts and handling of prescription.
- 1B. Define Pharmacopoeia. Trace out the historical development of I.P. Mention the salient features of latest edition of I.P.
- 1C. Classify powders. Describe the method of preparing effervescent granules.

(10×3 = 30 marks)

2. Short Essays:

- 2A. Write the principle involved in the preparation of cresol with soap solution I.P.
- 2B. Explain briefly the various tests to identify the type of emulsions.
- 2C. Give a working formula for 12 suppositories (2G size) of tannic acid each containing 300 mg of tannic acid. (Displacement value of tannic acid = 0.9).
- 2D. Write a note on infusions.
- 2E. Write a short note on surgical dressings.
- 2F. Discuss therapeutic incompatibility with examples.

(5×6 = 30 marks)

3. Short Answers:

- 3A. Write any two formulae for the calculation of child dose.
- 3B. What is proof spirit?
- 3C. Write a note on dusting powder.
- 3D. Define liniment with an example.
- 3E. Define displacement value with an example.

(2×5 = 10 marks)



MANIPAL UNIVERSITY

FIRST YEAR PHARM D. DEGREE EXAMINATION – MAY 2010

SUBJECT: PD 1.3: MEDICINAL BIOCHEMISTRY

Wednesday, May 05, 2010

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ **Answer ALL the questions.**

✍ **Long Essay Questions:**

- 1A. Classify enzyme inhibition and explain competitive inhibition with suitable examples.
 1B. Explain the mechanism of enzyme action.

(5+5 = 10 marks)

- 2A. Describe urea cycle.
 2B. Add a note on disorders of urea cycle.
 2C. Write the normal urea level with one cause for elevated blood urea level.

(6+3+1 = 10 marks)

- 3A. Describe denovo synthesis of purine ring.
 3B. Add a note on genetic code.

(8+2 = 10 marks)

✍ **Short Essay Questions:**

- 4A. Explain process of glycogenolysis.
 4B. Write briefly about ketone body metabolism.
 4C. Name different transport mechanism across cell membrane. Explain facilitated diffusion with neat diagram.
 4D. Describe liver function tests.
 4E. Describe the formation and fate of bilirubin.
 4F. Write briefly about hormonal regulation of lipid metabolism.

(5×6 = 30 marks)

✍ **Short Answer:**

- 5A. Write the enzyme defect in following conditions:
 i) Pompe's disease ii) Mc Ardle's disease iii) Orotic aciduria
 vi) Albinism
- 5B. Write briefly about high energy compounds.
- 5C. Write normal values for:
 i) Serum bicarbonate ii) Anion gap iii) Serum uric acid
 iv) LDL cholesterol
- 5D. What are un couplers? Give two examples.
- 5E. Write two reactions in glycolysis generating ATP by substrate level phosphorylation.

(2×5 = 10 marks)



MANIPAL UNIVERSITY

FIRST YEAR PHARM D. DEGREE EXAMINATION – MAY 2010

SUBJECT: PD 1.5: PHARMACEUTICAL INORGANIC CHEMISTRY

Friday, May 07, 2010

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

✍ **Answer ALL the questions.**

✍ **Long Essays:**

- 1A. What are inorganic gastrointestinal agents? Classify them giving examples.
 1B. Write the method of preparation and principle involved in the assay of dried Aluminium hydroxide gel
(2+4+4 = 10 marks)
- 2A. Write the principle involved in the limit test for Sulphate with reactions.
 2B. Describe and discuss the apparatus of Arsenic limit test.
(4+6 = 10 marks)
- 3 Write the principle and steps involved in the gravimetric analysis.
(10 marks)

✍ **Short Essays:**

- 4A. Define cathartic? Write the principle involved in the assay of Magnesium sulphate.
 4B. Write the principle and reactions involved in the Iron limit test.
 4C. What is Kaolin chemically? Mention its use. How do you test for its purity?
 4D. Give the preparation, principle involved in the assay and use of ammonium chloride.
 4E. Define haematinic. Write the preparation, principle involved in the assay of Ferrous fumarate.
 4F. Define electrolyte combination therapy? Give the composition of ORS powder.
(5×6 = 30 marks)

✍ **Short Answers:**

- 5A. Give the applications of radiopharmaceuticals.
 5B. Name some major intra and extra cellular electrolytes. Mention the importance of calcium.
 5C. Give the uses for the following:
 i) Sodium bromide
 ii) Ammonium carbonate
 iii) Zinc Sulphate
 iv) Sodium thiosulphate
 5D. Complete and balance the following equations:

$$\text{KMnO}_4 + \text{H}_2\text{SO}_4 + \text{H}_2\text{O}_2 \longrightarrow$$

$$\text{BaCl}_2 + \text{H}_2\text{SO}_4 \longrightarrow$$

 5E. Define Expectorant and Polishing agent with one example each.
(2×5 = 10 marks)



MANIPAL UNIVERSITY**FIRST YEAR PHARM D. DEGREE EXAMINATION – MAY 2010****SUBJECT: PD 1.6 B: REMEDIAL BIOLOGY**

Saturday, May 08, 2010

Time: 10:00 – 13:00 Hrs.

Max. Marks: 70

- ✍ **Answer ALL the questions.**
✍ **Draw neat labelled diagrams wherever necessary.**

1. Long Essays:

- 1A. Describe the external and internal structure of the heart of the frog and discuss the mechanism of heart.
- 1B. Describe the general characters of Aves. Add a note on usefulness of Aves and medicinal uses of birds.
- 1C. Define seed. How do you differentiate seeds based on endosperm? Explain the special features of seeds with example.

(10×3 = 30 marks)

2. Short Essays:

- 2A. Describe the different modification of the root for storage of food.
- 2B. Bring out the differences between angiosperm and gymnosperm.
- 2C. Describe characters of class mammalian.
- 2D. Give the distinguishing characters of the following families along with suitable examples:
i) Umbeliferae
ii) Zingiberaceae
- 2E. Write a note on factors promoting growth of plants.
- 2F. Write the characters of meristematic and permanent tissues.

(5×6 = 30 marks)

3. Short Answers:

- 3A. Reflex action.
- 3B. Hypogynous and perigynous flowers.
- 3C. Unicostate parallel and multicostate parallel.
- 3D. Actinomorphic and zygomorphic flower.
- 3E. Fissipeda and pinnipeda.

(2×5 = 10 marks)

