

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

FIRST YEAR B.P.T./B.O.T. DEGREE EXAMINATION – AUGUST 2006**SUBJECT: PHYSIOLOGY**

(COMMON FOR BOTH OLD & NEW REGULATIONS)

Tuesday, August 08, 2006

Time available: 3 Hours.

Max. Marks: 80

1. Name functional divisions of cerebellum. Enumerate its afferent and efferent connections. Discuss in detail the functions of cerebellum. Add a note on cerebellar disorder.
(1+3+4+2 = 10 marks)
2. Write short answers:
- 2A. Enumerate any four properties of cardiac muscle. Discuss any one property in detail.
(2+2 = 4 marks)
- 2B. Discuss briefly how nerve action potential is converted into muscle action potential.
(4 marks)
- 2C. Define reflex. Draw a basic reflex arc. Discuss the clinical significance of reflexes.
(1+1+2 = 4 marks)
- 2D. Name the different factors that affect the diffusion of gases across the respiratory membrane and give the role of any two.
(4 marks)
- 2E. List the hormones secreted from Posterior Pituitary. Discuss the functions of any one hormone in detail.
(1+3 = 4 marks)
3. Answer briefly:
- 3A. Enumerate four functions of kidney.
- 3B. List four contraceptive methods in females.
- 3C. Enumerate four changes that take place during erythropoiesis.
- 3D. List two actions of each of following GI hormones
i) CCK-PZ ii) Secretin
- 3E. List four functions of middle ear.
(2×5 = 10 marks)
4. Define cardiac cycle. Enumerate different phases of cardiac cycle. Draw left intraventricular pressure curve. Give the basis of heart sounds.
(1+2+4+3 = 10 marks)

5. Write short answers:

5A. Describe the cardiovascular changes during severe exercise.

(4 marks)

5B. Enumerate two special features of coronary circulation and two special features of pulmonary circulation.

(2+2 = 4 marks)

5C. Name the different types of hypoxia. Give one example for each.

(2+2 = 4 marks)

5D. Explain the following terms:

i) quantal summation

ii) wave summation

iii) spatial summation

iv) temporal summation

(4 marks)

5E. Briefly explain the 'Starling hypothesis' in tissue fluid form.

(4 marks)

6. Answer briefly:

6A. Enumerate two functions of reticular formation.

(2 marks)

6B. Write briefly on Cystometrogram.

(2 marks)

6C. Draw a diagram to show negative feedback control of hormonal secretion. Give an example.

(1½+½ = 2 marks)

6D. Enumerate four factors influencing spermatogenesis.

(2 marks)

6E. List four functions of HCl in gastric secretion.

(2 marks)



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FIRST YEAR B.P.T./B.O.T. DEGREE EXAMINATION – AUGUST 2006**SUBJECT: BIOCHEMISTRY**

(COMMON FOR BOTH OLD & NEW REGULATIONS)

Wednesday, August 09, 2006

Time available: 3 Hours

Max. Marks: 80

✍ **Answer ALL questions.**

1. Explain the structure of collagen with suitable diagram. (5 marks)
2. Explain glycogenolysis and its regulation. (6+4 = 10 marks)
3. Write the importance of copper, zinc and selenium in the human body. (2+2+2 = 6 marks)
4. What is nitrogen balance? Write the factors affecting nitrogen balance. (2+4 = 6 marks)
5. Classify amino acids based on:
 - 5A. Structure
 - 5B. Nutritional requirement
 - 5C. Metabolic fate
 (6 marks)
6. Mention any two cell organelles and their function. (3 marks)
7. Explain fluid mosaic model of membrane with suitable labelled diagram. (8 marks)
8. With respect to calcium homeostasis explain:
 - 8A. Role of different hormones.
 - 8B. Disorders.
 (7+3 = 10 marks)
9. What is Cori's cycle? Write the significance. (5 marks)
10. Enlist the differences between fat soluble and water soluble vitamins. Mention the coenzyme forms of vitamin B1, B2, B6 and folic acid. (10 marks)
- 11A. Name three specialized products of tyrosine and methionine.
- 11B. Explain the digestion and absorption of proteins starting from mouth. (3+5 = 8 marks)
- 12A. Define enzyme.
- 12B. What is co enzyme? Give an example. (1+2 = 3 marks)



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FIRST YEAR B.O.T. DEGREE EXAMINATION – AUGUST 2006**SUBJECT: PSYCHOLOGY – I**

Thursday, August 10, 2006

Time: 3 Hrs.

Max. Marks: 80

✍ Answer ALL questions.**✍ All questions carry equal marks.**

1. What are the branches of psychology?
2. Discuss the thinking processes.
3. What is emotional intelligence?
4. Compare and contrast, classical and operant conditioning.
5. Discuss any two theories of emotion.
6. How is behavior related to brain function?
7. What is memory? Discuss the theories of memory.
8. What is attribution and how does it affect social perception?

