

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(END SEMESTER EXAMINATION)**

**CLASS: BPHARM  
BRANCH: PHARMACY**

**SEMESTER: V  
SESSION: MO 2024**

**SUBJECT: BP503T PHARMACOLOGY II**

**TIME: 3.00 Hours**

**FULL MARK: 75**

**INSTRUCTIONS:**

1. The missing data, if any, may be assumed suitably.
2. Before attempting the question paper, be sure that you have got the correct question paper.
3. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
4. This question paper consists of (03) three parts. Read the part wise instructions before attempting the questions.

**PART-I**

**Objective types questions (Instruction: Answer all questions)**

**Q1. (10 x 2 = 20 Marks)**

- A. What is bioassay? Why is it important?
- B. Write the triggers for vasopressin secretion.
- C. Write short notes on androgen and anabolic steroids.
- D. Name two coagulants and mention their mechanism of action
- E. Name a drug used as heparin antagonist
- F. What are the different valves present in the heart
- G. Name two antagonists of 5HT-receptor
- H. Which drugs are used for treatment of migraine and Vomiting
- I. Name two antithyroid drugs
- J. Name two selected COX-2 NSAIDS.

**PART-II**

**Short Answers**

**(Instruction: Answer seven out of nine questions)**

**(7 x 5 = 35 Marks)**

- Q2. What are diuretics? Classify diuretics with examples. Describe mechanism of action of one diuretic drug
- Q3. What is vasopressin? Describe the mechanism of action of vasopressin with an appropriate diagram.
- Q4. Describe circulatory shocks and their classes. List the drugs for shock treatment
- Q5. What is hemodynamic? Describe the various factors and blood pressure that regulate the blood flow in the blood vessels with appropriate diagrams.
- Q6. What is autotoxins? Write short notes on Histamine
- Q7. Classify NSAIDS and their mechanism of action
- Q8. Explain different types of arrhythmias and their antiarrhythmic drugs.
- Q9. Illustrate thyroid hormones and explain their synthesis and therapeutic uses.

**PTO**

- Q10. A 65-year-male was diagnosed to be suffering from congestive heart failure (CHF). He had pitting edema of feet, dyspnoea and cough on mild exertion, fatigue, engorged neck veins, soft enlargement of liver, pulmonary congestion and mild cardiac dilatation. The pulse was 100/min, respiration 20/min and BP 130/86 mm of Hg. He was prescribed—  
 Tab furosemide 40 mg once daily in the morning.  
 Tab captopril 25 mg twice daily, morning and evening.  
 After 2 hours of taking the medicines, he started passing increased quantity of urine and in the next few hours he gradually started feeling weakness, nausea, sweating and fainted while walking to the toilet. The pulse was recorded as 110/min and BP 80/40 mm Hg.
- (a) What could be the cause of sudden onset symptoms and the marked fall in BP? [2]  
 (b) Is the choice of drugs incorrect? [1]  
 (c) How could such adverse event be prevented? [1]  
 (d) What immediate management is required? [1]

### PART-III

#### Long Answers

(Instruction: Answer two out of three questions)

(2 x 10 = 20 marks)

- Q11. Explain types of Angina pectoris ? Classify anti-anginal drugs and explain their mechanism of action and therapeutic uses for Angina patients.
- Q12. Illustrate Renin angiotensin system. Describe pharmacodynamic and pharmacokinetic profile including adverse event and contraindication of any one drug which inhibits Renin angiotensin system
- Q13. What is cardiac action potential? Elaborate on the different phases of the cardiac action potential with an appropriate sketch. Describe the human heart's conduction, contraction, and circulation pathways with an appropriate diagram. Write a short note on the shapes and sizes of the cardiac action potentials of a human heart. (1+3+4+2) CO4

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