

(Affiliated to the Tamil Nadu Dr M.G.R Medical University, Chennai)

B. Sc. CARDIOPULMONARY PERFUSION CARE TECHNOLOGY

1411 – PHARMACOLOGY

II YEAR

UNIT I – HEMATINICS : PARENTERAL IRON THERAPY , COAGULANTS

I. ELABORATE ON

10 MARKS

REFERENCE – THE TAMILNADU DR.M.G.R MEDICAL UNIVERSITY QUESTION PAPER

S.no	Questions	Reference	Bloom's Taxonomy
1	Classify Coagulants (hemostatics). Discuss the mechanism of action, therapeutic uses, and adverse effects of Vitamin K preparations.	AUGUST 2020	Analyze
2	Describe the indications, contraindications, preparation, and detailed administration protocol for Parenteral Iron Therapy using Iron Dextran .	APRIL 2023	Apply
3	Define Hematinics . Discuss the etiology and treatment principles of Iron Deficiency Anemia (IDA) and elaborate on the merits and demerits of parenteral iron over oral iron therapy.	FEBRUARY 2018	Analyze
4	Explain the detailed physiological steps of the Intrinsic Pathway of Blood Coagulation . Name the major coagulant agents used to treat factor deficiencies in this pathway.	AUGUST 2024	Analyze
5	Classify Antifibrinolytic Agents (Coagulants). Elaborate on the mechanism of action, uses, and adverse effects of Tranexamic Acid and Aminocaproic Acid .	APRIL 2022	Apply
6	Describe the chemistry, mechanism of action, and clinical importance of Desmopressin in controlling bleeding disorders like Hemophilia A and Von Willebrand's Disease.	FEBRUARY 2019	Apply

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S.no	Questions	Reference	Bloom's Taxonomy
7	Define Functional Iron Deficiency . Explain why parenteral iron is the preferred route in chronic kidney disease patients receiving erythropoietin therapy, including specific drug examples (e.g., Iron Sucrose).	AUGUST 2021	Analyze
8	Discuss the management of acute Iron Toxicity (Poisoning). Describe the role and mechanism of iron chelating agents in its treatment.	APRIL 2020	Apply
9	Describe the different modern preparations of Parenteral Iron (e.g., Iron Sucrose, Ferric Carboxymaltose). Compare and contrast their molecular properties and hypersensitivity risk profiles.	FEBRUARY 2025	Analyze
10	Discuss the pharmacological actions, administration, and therapeutic uses of Antihemophilic Factor (Factor VIII) concentrates.	AUGUST 2019	Understand

II. WRITE NOTES ON**5 MARKS****REFERENCE – THE TAMILNADU DR.M.G.R MEDICAL UNIVERSITY QUESTION PAPER**

S.no	Questions	Reference	Bloom's Taxonomy
1	Write notes on the mechanism and use of Thrombin as a topical hemostatic agent.	APRIL 2024	Understand
2	Briefly explain the storage and transport of iron in the body, including the role of transferrin and ferritin.	FEBRUARY 2017	Understand

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S.no	Questions	Reference	Bloom's Taxonomy
3	State the specific indications that necessitate the use of Parenteral Iron Therapy .	AUGUST 2022	Apply
4	Write a note on the structure and therapeutic uses of Ferric Carboxymaltose (FCM) .	APRIL 2021	Analyze
5	Describe the key steps and components involved in the Extrinsic Pathway of Blood Coagulation .	FEBRUARY 2020	Understand
6	Write notes on the potential immediate and delayed adverse effects and necessary precautions of Iron Sucrose injection.	AUGUST 2023	Apply
7	Differentiate between Vitamin K1 (Phylloquinone) and Vitamin K3 (Menadione) with respect to source and clinical use.	APRIL 2018	Analyze
8	Explain the mechanism by which Desmopressin acts as a procoagulant in the management of Type I Von Willebrand's Disease.	FEBRUARY 2024	Understand
9	Write a note on the clinical uses of Fibrinogen Concentrate .	AUGUST 2017	Understand
10	Outline the protocol for calculating the Total Dose Infusion (TDI) of parenteral iron using the Ganzoni formula (or equivalent).	APRIL 2019	Apply

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S.no	Questions	Reference	Bloom's Taxonomy
1	Name any three Coagulant drugs and their primary route of administration.	AUGUST 2012	Remember
2	Define Hepcidin and state its primary role in iron metabolism.	APRIL 2024	Remember
3	Enlist three common adverse effects of parenteral iron infusion.	FEBRUARY 2023	Remember
4	Give the chemical classification of Vitamin K preparations.	AUGUST 2020	Understand
5	Name two Antifibrinolytic drugs used as hemostatics.	APRIL 2021	Remember
6	Define Hemostasis and its two main components.	FEBRUARY 2019	Remember
7	State the clinical use of Protamine Sulfate .	AUGUST 2024	Understand
8	Name the four coagulation factors whose synthesis is dependent on Vitamin K.	APRIL 2020	Remember
9	Define Labile Iron Pool and its clinical significance.	FEBRUARY 2018	Remember
10	Enlist the active factors contained in Prothrombin Complex Concentrates (PCCs) .	AUGUST 2023	Remember
11	State one major advantage of Iron Sucrose over	APRIL 2017	Understand

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S.no	Questions	Reference	Bloom's Taxonomy
	High Molecular Weight Iron Dextran .		
12	Give the primary role of Folic Acid as a hematinic.	FEBRUARY 2021	Remember
13	What is the main clinical indication for using the hemostatic drug Ethamsylate ?	AUGUST 2018	Understand
14	What is the mechanism of action of Aprotinin ?	APRIL 2019	Understand
15	Name two potential life-threatening reactions associated with high molecular weight iron dextran.	FEBRUARY 2022	Remember