

Question Paper

Exam Date & Time: 25-Jan-2023 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER MSc (RENAL REPLACEMENT THERAPY & DIALYSIS TECHNOLOGY) DEGREE EXAMINATION -
JANUARY 2023

SUBJECT: RRT5101- ANATOMY AND PHYSIOLOGY RELATED TO KIDNEY AND DIALYSIS
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the excretory functions of the kidney. Explain renal clearance and its importance. (20)
- 2) What is pronephros? Explain the anatomy of the nephron with a neat labelled diagram. (20)
- 3A) Explain the vitamin D pathway. Outline the role of the kidney in the vitamin D pathway. (10)
- 3B) Explain systemic and pulmonary circulation. (10)
- 3C) List the types of dialysis catheters and their insertion location in chronic kidney disease individuals. List the complications related to these catheters. (10)
- 3D) Explain the layers of the peritoneal membrane. How is the peritoneal membrane used in peritoneal dialysis? (10)
- 4A) What is filtration fraction? Write a note on it. (5)
- 4B) Explain the fetal kidney functions in humans. (5)
- 4C) List the functions of blood. Which blood group is called a universal recipient and why? (5)
- 4D) Explain the features of extracellular body fluid. (5)

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FIRST SEMESTER MSc (RENAL REPLACEMENT THERAPY & DIALYSIS TECHNOLOGY) DEGREE EXAMINATION -
JANUARY 2023

SUBJECT: RRT5102- MICROBIOLOGY AND PHARMACOLOGY RELATED TO KIDNEY AND DIALYSIS
(2021 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Classify the types of phosphate binders. Explain the pharmacokinetics, indications, dosages, and adverse effects of phosphate binders used in chronic kidney disease. (20)
- 2) Explain hepatitis C infection in hemodialysis patients and its preventive measures followed in the hemodialysis unit. (20)
- 3A) Explain the recommendation for the diagnosis and management of catheter-related infections. (10)
- 3B) Illustrate biomedical waste management in hospitals and write its importance. (10)
- 3C) Outline the pharmacological measures used to manage intradialytic hypotension and hypertension. (10)
- 3D) Explain the hepatitis B vaccination strategy and dosages for dialysis patients and staff of the dialysis unit. (10)
- 4A) Outline the factors affecting drug removal in dialysis. (5)
- 4B) What are diuretics? and mention its different classes. List the side effects of diuretics in chronic kidney disease patients. (5)
- 4C) Explain the route of transmission of HIV infection in hemodialysis patients and how it can be prevented. (5)
- 4D) Outline the importance of hand hygiene techniques in the hospital setting. (5)

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