

**UNIVERSITY OF ESWATINI**  
**FACULTY OF HEALTH SCIENCES**  
**FINAL EXAMINATION NOVEMBER. 2021**

TITLE OF COURSE: RENAL TRANSPLANTATION

COURSE CODE: GNS 472

**TIME ALLOWED: 2 HOURS**

**PAGES: 3 (including cover page)**

**MARKS: 75**

**INSTRUCTIONS:**

1. ASSURE THAT YOU ARE WRITING THE EXAM FOR THE COURSE IN WHICH YOU ARE ENROLLED.
2. ANSWER ALL THREE (3) QUESTIONS
3. START EACH QUESTION ON A NEW PAGE.
4. WRITE LEGIBLY.

**THIS PAPER IS NOT TO BE OPENED UNTIL THE INVIGILATOR HAS GRANTED PERMISSION.**

### QUESTION 1

Mr Mvelase is a 62-year-old patient who has been on haemodialysis for eight (8) years via a left brachiocephalic fistula. He has an underlying polycystic kidney disease, grade 2 hypertension controlled on four (4) agents, and benign prostatic hypertrophy. VCU shows complete bladder emptying. His 30-year-old son is fully evaluated as a donor and they travel to the Republic of South Africa, Milpark Hospital for the surgery.

- 1.1. Identify the agents commonly used for induction of immunosuppression (3)
- 1.2. Discuss the three (3) groups of drugs used for maintenance immunosuppression and briefly outline the mechanism of action for these agents. Give examples commonly used in each group. (12)
- 1.3. Explain the measures used to prevent infectious disease complications after transplantation and specify the duration of this prophylaxis. (8)
- 1.4. Describe the complications that are likely to occur to Mr Mvelase post-transplant. (2)

### QUESTION 2

Mrs Mhlanga is a 60-year-old hypertensive patient, HIV positive controlled on the appropriate ARVs and has end-stage kidney disease on peritoneal dialysis for the past five (5) years. She is mother of three (3) healthy daughters delivered normally. She recently had a cone biopsy of her cervix done for carcinoma in situ of the cervix. She expresses her interest to have a kidney transplant after one of her daughters' offers to donate.

- 2.1. Does Mrs Mhlanga HIV status excludes her from kidney transplantation? (1)
- 2.2. Describe how you will evaluate Mrs Mhlanga to ensure that she is a candidate for kidney transplantation. (14)
- 2.3. After transplantation Mrs Mhlanga develops diabetes mellitus. Describe post-transplant diabetes mellitus in terms of risk factors and how the diagnosis is made. (5)

2.4 Explain how the immunosuppression can be modified to improve glucose control in

Mrs Mhlanga.

(5)

**TOTAL = 25 MARKS**

### QUESTION 3

Mr Dladla a 32-year-old engineer with end-stage kidney disease who has recently commenced haemodialysis at three (3) times a week intervals. He often has to travel to neighbouring countries and has had difficulty in getting slots in some countries. He is now desperate to have a kidney transplant. His close family members are screened and found to be unsuitable donors. He brings an unemployed neighbour who happens to be a suitable donor and he is eventually transplanted

3.1. Describe the advantages of kidney transplantation when compared with long term dialysis. (5)

3.2. The immediate postoperative period was uneventful, however after 12 days post induction his creatinine levels begin to rise from 68  $\mu\text{mol/L}$  to 180  $\mu\text{mol/L}$ .

Describe how you define acute allograft dysfunction and outline how you evaluate such patients. (10)

3.3. Differentiate the three forms of kidney allograft rejection. (10)

**TOTAL = 25 MARKS**