

UNIVERSITY OF SWAZILAND
FACULTY OF HEALTH SCIENCES
GENERAL NURSING
FINAL EXAMINATIONS SEMESTER ONE

TITLE: RENAL FUNCTION AND FAILURE

CODE: GNS 471

TOTAL MARKS: 75%

TIME: 2HRS

INSTRUCTIONS:

1. Answer all questions
2. SECTION A part A is a Multiple Choice
3. SECTION A part B is fill in the correct words
4. SECTION B are essay questions

Do Not open the question paper until the invigilator tells you to do so !!!!!

SECTION ONE

MULTIPLE CHOICE QUESTION

1. The main function of the kidney is...
 - a. Removal of urine and end products like urea
 - b. Regulation of fluids, temperature and blood pressure, glucose
 - c. Maintenance of a healthy body
 - d. To regulate the volume and composition of extracellular fluids and to excrete waste products
2. The surface of the kidney is covered by a thin layer called the
 - a. cortex
 - b. Capsule
 - c. Papillae
 - d. Hilus
3. The macrostructure of the kidneys is mainly its
 - a. Situation behind the peritoneum on either side of the vertebral column
 - b. Situated at the level of the 12th ribs lower than the adrenal gland
 - c. Indication of the cortex and the nephron
 - d. Being observed by the naked eye
4. Microstructure is composed of
 - a. What one can view without using their eyes
 - b. Nephron, blood supply, and urine formation
 - c. the nephron
 - d. It's the nephron, Bowman's capsule, loop of Henle
5. The normal glomerular filtrate rate is
 - a. the amount of blood filtered at a give time
 - b. a125ml/min
 - c. 1ml/min excreted as urine
 - d. the substance absorbed by the peritubular capillary
6. The renal stone in the kidney will alter the functions of the kidney by interfering with
 - a. The structure support of the kidney
 - b. Regulation of the concentration of urine
 - c. Entry and exit of blood vessels at the kidney
 - d. Collection and drainage of urine from the kidney
7. A patient with kidney disease has a creatinine clearance of 40ml/min. The nurse recognised that these findings are a result of
 - a. Tubular secretion
 - b. Glomerular filtration
 - c. Capillary permeability
 - d. Concentration of filtrate
8. Diminished ability to concentrate urine, related to aging of the urinary system is attributed to
 - a. a decrease in bladder sensory receptors
 - b. a decrease in the number of functioning nephrons

- c. decreased functions of the loop of Henle and tubules
 - d. thickening of the basement membrane of Bowman's capsule
9. During physical assessment of the urinary system, the nurse
- a. Palpate an empty bladder as small nodule
 - b. Uses auscultation over each CVA to detect impaired renal blood flow
 - c. Finds a dull percussion sound when 100 ml of urine is present
 - d. Palpates above the symphysis pubis to determine the level of urine in the bladder
10. Normal findings expected by the nurse on the physical assessment of the urinary system include
- a. Non palpable left kidney
 - b. Auscultation of renal artery bruit
 - c. CVA tenderness elicited by a kidney punch
 - d. Palpable bladder to the level of the symphysis pubis
11. A diagnostic study that indicates renal blood flow, glomerular filtration, tubular function and excretion is a(n)
- a. IVP
 - b. VCUG
 - c. Renal scan
 - d. Loopogram
12. On reading the urinalysis results of a dehydrated patient the nurse would expect to find
- a. A pH of 8.4
 - b. RBC of 4/hpf.
 - c. Colour yellow, cloudy
 - d. Specific gravity of 1.035
13. A nurse identifies a risk for urinary calculi in a patient who related a past history that includes
- a. Adrenal insufficiency
 - b. Serotonin deficiency
 - c. Hyperaldosteronism
 - d. hyperparathyroidism
14. In evaluating disorders of the urinary tract, one of the first studies done
- a. Creatinine clearance test
 - b. Urinalysis
 - c. Urodynamics
 - d. Auscultation
15. Increasing prostate size in man as they age, may affect the urinary patterns causing
- a. Bladder enlargement
 - b. Poor emptying of the kidneys since urine formation will be affected
 - c. Hesitancy, retention, slow stream and bladder infections
 - d. Importance

FROM 16 TO 25 QUESTIONS FILL IN THE MISSING WORDS

16. The parenchyma of the kidney can be visualised and the inner layer is called _____ and the outer layer is called _____ (1)
17. The thin smooth layer of fibrous membrane that covers the kidney is _____ and the _____ serves as the entry site for the renal artery and nerves (1)
18. The _____ is the functional unit of the kidney and each kidney contains about 800 to 1.2 million of _____ (1)
19. The afferent arteriole divides into a capillary network termed the _____, which is a tuft of up to _____ (1)
20. Acid-based regulation involves reabsorbing and conservation of the _____ and secreting excess _____ (1)
21. _____ is produced and released in response to hypoxia and renal blood flow and _____ stimulates the production of red blood cells. (1)
22. _____ is a hormone that can be obtained from diet or synthesized by the action of _____ on cholesterol in the skin (1)
23. The patient with renal failure has a deficiency of the active metabolites of _____ and manifest problems of altered _____ and phosphate balance (1)
24. _____ is important in the regulation of blood pressure and _____ is produced and secreted by juxtaglomerular cells of the kidney (1)
25. The narrow area where the ureters joins the renal pelvis is called the _____ (1)

Total marks (25)

SECTION B ESSAY QUESTIONS

Question one

- a) Draw and describe the structure of the longitudinal section of the kidney (10)

Question two

- Describe the Tubular Functions of the kidney (10)

Question Three

- a) Discuss the Gerontologic considerations related to the physiological changes of the kidneys (10)
- b) Calculate the creatinine clearance when the urine creatinine is 85mg/ml, urine volume is 100ml/ml/min and the serum creatinine is 50mg/ml (5)

Question Four

- c) Mr Muluza a 62 year old male is admitted with chronic kidney disease with irreversible loss of kidney function.
 - i) Briefly describe the clinical manifestations he is likely to present under the following topics
 - a. Urinary system
 - b. Metabolic disorders
 - c. Electrolytes and acid base balance (15)