

**UNIVERSITY OF SWAZILAND**  
**FACULTY OF HEALTH SCIENCES**  
**FINAL EXAMINATION PAPER, MAY 2013**

**TITLE OF PAPER: ADVANCED MEDICAL-SURGICAL NURSING IV**

COURSE CODE: NUR 511

TIME ALLOWED: TWO (2) HOURS

MARKS: 75

THIS EXAM PAPER HAS 13 PAGES

**INSTRUCTIONS:**

1. THERE ARE THREE (3) QUESTIONS IN THIS PAPER.
2. ANSWER ALL THREE QUESTIONS.
3. EACH QUESTION IS ALLOCATED 25 MARKS.
4. WRITE LEGIBLY.

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

## QUESTION 1

**Situation:** Mrs. Y is admitted to the Intensive Care Unit [ICU] following severe upper gastrointestinal bleeding resulting from peptic ulcers. Relatives reported that she vomited about two litres of blood at home. Mrs. Y is conscious and is being prepared for intubation and further management.

A. Explain the scientific rationale for Mrs. Y to experience:

- (i) Right upper quadrant pain (2)
- (ii) Oliguria (2)
- (iii) Pallor (2)
- (iv) Confusion (2)
- (v) Angina (2)

B. Among the drugs which Mrs. Y is receiving is ranitidine and vasopressin. State the type of drug (classification), its indication in Mrs. Y, and possible side effects of:

- (i) Ranitidine (3)
- (ii) Epinephrine (3)

C. Describe your nursing management of Mrs. Y on the diagnoses:

- (i) Fluid volume deficit (4)
- (ii) Knowledge deficit (5)

**TOTAL 25 MARKS**

## QUESTION 2

**Situation:** Mr. J. is admitted to the ICU and presents with central nervous system depression, severe dehydration and a fruity breath odour. His blood sugar is 400 mg/dl with ketonemia.

- A. What condition is Mr. J likely to be suffering from? (1)
- B. State the diagnostic criteria for Mr. J's condition. (4)
- C. Describe the nursing management for Mr. J. on monitoring him for complications on:
  - (i) Risk for cerebral edema (4)
  - (ii) Risk for hypo or hypernatremia (4)
  - (iii) Fluid volume overload (4)

**Situation:** Mr. M a 44 year old male client complains of severe polyuria, polydipsia and polyphagia. He reports that he was diagnosed diabetes insipidus three (3) years ago. Mr. M's serum sodium = 190 mEq/L, urine osmolality = 200 mOsm/kg, serum osmolality = 400 mOsm/L, urine specific gravity = 1.001

- D. Explain the scientific rationale for Mr. M's
  - (i) serum sodium = 190 mEq/L (2)
  - (ii) urine osmolality = 200 mOsm/kg (2)
  - (iii) urine specific gravity = 1.001 (2)
  - (iv) serum osmolality = = 400 mOsm/L (2)

**TOTAL 25 MARKS**

**QUESTION 3**

**For each of the following questions / statements, in your answer sheet write CLEARLY the letter that corresponds with the most appropriate answer e.g. 1. B**

**Situation:** You are nursing Mr. B a 24 year old male who has been admitted to the ICU following a motor vehicle accident that caused a severe head injury, he has been admitted via the operating theatre and is unconscious. You have done a neurological assessment using the Glasgow Coma Scale on Mr. B.

**Questions 1 – 5 relate to the above situation.**

1. From the best motor response, you observed that Mr. B withdraws his legs on application of a blunt needle on the calf. You will therefore give Mr. B a score of:
  - A. 5
  - B. 4
  - C. 3
  - D. 2
  
2. However, Mr. B in his verbal response reflects some confusion. What score will you give to him?
  - A. 5
  - B. 4
  - C. 3
  - D. 2

3. Mr. B opens his eyes to painful stimuli; this means that he scores \_\_\_\_\_ on eye opening.

- A. 1
- B. 4
- C. 3
- D. 2

4. The rapid neurological assessment of Mr. B will include all the following, EXCEPT:

- A. Vital signs
- B. Facial movement
- C. Respiratory pattern
- D. Pupillary assessment

5. The reliable measure(s) for diagnosing renal failure is (are):

- A. Blood urea nitrogen (BUN)
- B. Creatinine
- C. BUN and creatinine
- D. BUN and intravenous pyelogram (IVP)

**Situation:** Ms. R. is admitted with a blood glucose level of 270mg/dl, blood pH = 6.9, serum bicarbonate = 11 mEq/L, presents with a fruity breath.

**Questions 6 – 7 relate to the above situation.**

6. The fruity breath on exhalation in Ms. R. is caused by the presence of:

- A. Acetone
- B. Acetoacetate
- C. beta-hydroxybutyrate
- D. A and B

7. Early in the treatment of Ms. R, it is vital to administer:

- A. Glucagon
- B. Glucose
- C. Insulin
- D. Sodium

**Situation:** Mr. A. is admitted to the ICU and has severe seizures, hypovolemic shock, renal insufficiency, reduced reflexes and insipid urine. He is scheduled to undergo several diagnostic investigations. Mr. A's serum sodium = 190 mEq/L, urine osmolality = 200 mOsm/kg, serum osmolality = 400 mOsm/L, urine specific gravity = 1.001 and is receiving vasopressin.

**Questions 8 –11 relate to the above situation.**

8. Mr. A's serum sodium of 190 mEq/L indicates a (an) \_\_\_\_\_ serum sodium.

(i) Subnormal

(ii) Elevated

(iii) Normal

(iv) Indifferent

A. i and iii

B. ii and iv

C. ii only

D. iii only

9. Mr. A.'s urine specific gravity is \_\_\_\_\_.

(i) Subnormal

(ii) Elevated

(iii) Normal

(iv) Indifferent

A. i and iv

B. ii and iv

C. ii only

D. i only

10. Mr. A.'s urine osmolality of 200 mOsm/kg indicates an (a) \_\_\_\_\_ osmolality.

(i) Subnormal

(ii) Elevated

(iii) Normal

(iv) Indifferent

A. ii only

B. i only

C. iii only

D. iii and iv



11. Since Mr. A is on vasopressin, you therefore have to closely observe him for \_\_\_\_\_.

(i) Vomiting

(ii) Nausea

(iii) Diarrhea

(iv) Constipation

A. i, ii, and iii

B. ii, iii, and iv

C. iii only

D. iv only

12. Muscle cramps are primarily caused by the shifting concentrations of this ion during

hemodialysis:

A. Phosphorus

B. Potassium

C. Magnesium

D. Sodium

13. During dialysis, ultra-filtration occurs when:

- A. Water is removed from blood because there is a pressure gradient between blood and dialysate.
- B. Phosphorus is removal from blood because dialysate is low on phosphorus.
- C. A higher concentration of sodium causes water to move from body compartments into the dialysate.
- D. A suction device is applied to the venous trap and the Harvard Clamp is applied to the arterial side of the blood set.

14. The most frequent cause of upper gastrointestinal [UGI] bleeding is:

- A. Esophageal varices
- B. Peptic ulcer disease
- C. Angiomata
- D. Gastritis

15. After initial stabilization and resuscitation of the patient, each of the following options should be considered in the management of UGI bleeding **EXCEPT**:

- A. Emergency surgery
- B. Stop acute bleeding
- C. Treat the underlying abnormality
- D. Prevent re-bleeding

16. An important risk factor for peptic ulcer hemorrhage includes:

- A. Gastric acid hypersecretion
- B. Corticosteroid use
- C. Cigarette smoking
- D. Non-steroidal anti-inflammatory drug use

17. For the patient with an UGI bleed and the endoscopic finding of a clean ulcer, the most appropriate management includes:

- A. Endoscopic hemostasis with multipolar or heater probe or injection treatment
- B. Endoscopic hemostasis with combination therapy
- C. Emergent surgery
- D. Medical therapy, early re-feeding, same day discharge if the patient's condition is stable

18. A sixty-six-year old man presents to the emergency department with a history of one episode of hematemesis and melena. Past history includes coronary artery disease, hypertension and abdominal aortic aneurysm repair. He is on one baby aspirin daily. An urgent upper endoscopy is negative.

What is the most appropriate next step?

- A. Abdominal CT scan with contrast
- B. Colonoscopy
- C. Angiography
- D. Red blood cell tagged technetium scan

19. A fifty-eight year old female patient presents to the emergency department with a 24-hour history of several bloody bowel movements. She denies any abdominal pain but complains of light headedness. She is found to be hypotensive and anemic. Resuscitative measures are instituted. What is the most appropriate next step?

- A. Nasogastric tube placement
- B. Anoscopic examination
- C. Colonoscopic examination
- D. Scintigraphy

20. A 65-year-old woman has a prior history of hospitalization for UGI bleeding from a duodenal ulcer. Which one of the following therapies is not useful for preventing recurrent ulcer hemorrhage?

- A. Bland diet
- B. H. pylori eradication
- C. Discontinuation of non-steroidal anti-inflammatory drugs [NSAID] intake
- D. Ulcer surgery

Match item(s) in column B with column A, select response (s) as appropriate, e.g. 22. F.

Column A	Column B
21. Spironolactone	A. Converts plasminogen to plasmin
22. Increased intracranial pressure	B. Atrial fibrillation
23. Thyroid storm	C. 20mmHg
24. Aspirin	D. Declining level of consciousness
	E. Hyperkalemia
	F. Parasympathetic nervous system activation

**TOTAL 25 MARKS**