

**Technical Graduates Selection Examination  
Paper III: Subject Specialization (Medicine)**

**Time – 2 ½ hours**

**Section A: Multiple choice Questions**

**Circle the ONE most correct or appropriate answer.**

**(1 mark each)**

- 1) The average blood volume in an adult person is:
  - (a) 90 ml/kg body weight.
  - (b) 70 ml/kg body weight
  - (c) 60 ml/kg body weight
  - (d) 40 ml/kg body weight
  
- 2) In cyanosis, more than
  - (a) 4 g/100ml of hemoglobin is desaturated
  - (b) 5 g/100 ml of hemoglobin is desaturated
  - (c) 3.5 g/100ml of hemoglobin is desaturated
  - (d) 2 g/100 ml of hemoglobin is desaturated
  
- 3) The effect of using narrow cuff on an obese patient to measure blood pressure is:
  - (a) It will under read the pressure
  - (b) It will over read the pressure
  - (c) It will correctly read the pressure
  - (d) None of the above
  
- 4) Collapsing pulse is present in the following conditions except:
  - (a) aortic incompetence
  - (b) hyper dynamic circulation
  - (c) mitral incompetence
  - (d) A-V fistula
  
- 5) In the human body, metabolism of 10 grams of protein will produce approximately:
  - (a) 1 Kcal
  - (b) 41 Kcal
  - (c) 410 Kcal
  - (d) 4100 Kcal
  
- 6) Glucose reabsorption occurs in the:
  - (a) Proximal tubule
  - (b) Loop of Henle
  - (c) Distal tubule
  - (d) Cortical collecting duct

- 7) The tidal volume in a normal man at rest is about:
- (a) 500 ml
  - (b) 1200 ml
  - (c) 2500 ml
  - (d) 3000 ml
- 8) Which of the following has the greatest effect on the ability of the blood to transport oxygen?
- (a) capacity of the blood to dissolve oxygen
  - (b) amount of hemoglobin in the blood
  - (c) pH of the plasma
  - (d) carbon dioxide content of the blood
- 9) Which of the following has the slowest conduction velocity?
- (a) alpha fibers
  - (b) beta fibers
  - (c) gamma fibers
  - (d) C fibers
- 10) In an average person weighing 70 kg, the total oxygen consumption per minute is
- (a) 25 ml/min
  - (b) 100 ml/min
  - (c) 250 ml/min
  - (d) 500 ml/min
- 11) DIC is triggered by:
- (a) clotting factor deficiency
  - (b) warfarin therapy
  - (c) activation of coagulation and fibrinolytic system
  - (d) thrombocytopenia
- 12) Immediate treatment of hypovolemic shock is by:
- (a) dopamine infusion
  - (b) blood transfusion
  - (c) 5% dextrose
  - (d) Normal saline/Ringer's lactate
- 13) Children are more prone to hypothermia because of:
- (a) larger body surface area
  - (b) larger head to body ratio
  - (c) poorly developed thermo-regulatory system
  - (d) lower basal metabolic rate

- 14) Drug of choice for the treatment of anaphylactic shock is:
- (a) Inj. Promethazine
  - (b) Inj. Hydrocortisone
  - (c) Inj. Adrenaline
  - (d) Inj. Dopamine
- 15) Acute epiglottitis is managed by:
- (a) emergency tracheostomy
  - (b) endotracheal intubation
  - (c) oropharyngeal airway with oxygen by face mask
  - (d) conservative with antibiotics
- 16) In cardiac arrest, the first thing to do is:
- (a) perform CPR
  - (b) give intracardiac adrenaline
  - (c) give intravenous atropine
  - (d) give intravenous dopamine
- 17) In PIH, patient's have:
- (a) increased circulatory volume
  - (b) reduced circulatory volume with increased body weight
  - (c) reduced circulatory volume with reduced body weight
  - (d) normal circulatory volume
- 18) The most common cause of death in patients with burns is due to:
- (a) electrolyte imbalance
  - (b) septicaemia
  - (c) disseminated intravascular coagulation
  - (d) shock
- 19) The most common cause of death from head injury is due to:
- (a) infection
  - (b) brain damage
  - (c) increased intracranial pressure
  - (d) hypoxia
- 20) Among the following, which is the most harmful procedure to the patient?
- (a) MRI
  - (b) X-Ray
  - (c) CT scan
  - (d) Ultrasound scan

- 21) Common complication of intravenous fluid therapy:
- (a) air embolism syndrome
  - (b) infection
  - (c) fluid imbalance
  - (d) hypothermia
- 22) Cancer of the cervix is most commonly associated with:
- (a) multiple sexual partners
  - (b) hygiene
  - (c) genetic
  - (d) multiple x-ray exposures
- 23) The most effective form of nutritional therapy is:
- (a) Total Parental Nutrition
  - (b) Oral feeding
  - (c) Supplementary parenteral feeding
  - (d) Gastric feeding by tube
- 24) In which of the following conditions is carbon dioxide retention most likely to occur:
- (a) climbing a high mountain
  - (b) ventilatory failure
  - (c) carbon monoxide poisoning
  - (d) hysterical hyperventilation
- 25) Heparin therapy is routinely checked using:
- (a) APTT
  - (b) INR
  - (c) PT
  - (d) BT
- 26) Drug of choice for the treatment of bradycardia due to overdose of beta-blocker is:
- (a) adrenaline
  - (b) glucagon
  - (c) ephedrine
  - (d) mephentermine
- 27) The following are the common side effects of ACE inhibitors except:
- (a) cough
  - (b) bronchospasm
  - (c) hypotension
  - (d) renal failure

- 28) Calcium channel blockers act at:-
- (a) T-channel
  - (b) L- channel
  - (c) B- channel
  - (d) delta channel
- 29) Which one of the following is a cyclo-oxygenase inhibitor?
- (a) Acetaminophen
  - (b) Aspirin
  - (c) Tramadol
  - (d) Ondansetron
- 30) In cardiac tamponade, which one of the following is not a component of Beck's triad:
- (a) venous pressure elevation
  - (b) decline in arterial pressure
  - (c) muffled heart sound
  - (d) high voltage ECG

**Short answer questions:**  
Answer all the questions.

(5marks each)

1. What are the causes of postpartum haemorrhage? Outline the management of one of the causes.
2. List the major classes of diuretics and explain how each operates to increase urine output.
3. What are the causes of acute upper gastrointestinal bleeding and how will you investigate and manage such a case?
4. Write down the principles of management of diabetic ketoacidosis.

**Section B: Case studies**

**(50 marks)**

**Given below are two case studies. Read the cases carefully and answer the questions given after the case. You need to attempt only one case study.**

**Case 1.**

An eight year old boy was hit on the right side of the head with a khuru (dart). He was taken to the local hospital where he received treatment for the wound on the scalp and was kept under observation for 24 hours. The boy was discharged after 24 hours as he did not develop any complication. After 3 to 4 days at home, the child became irritable and complained of fever, headache and vomiting. In spite of the complaints, the parents did not take the child to hospital again. By about the 9<sup>th</sup> day the boy could not move his left limbs and his mental function was deteriorating. The boy was then finally brought to hospital by the parents.

1. What is the probable diagnosis?
2. How will you investigate such a case?
3. What is your opinion regarding the initial management of the boy?
4. How will you manage this boy?

**Case 2.**

An obese lady presents to you in the OPD chamber with the following results  
(Normal values are given in brackets)

Bilirubin	186 umol/L	(3-18)
Aspartate transaminase	120 IU/L	(5-30)
Albumin	35 G/L	(35-50)
Calcium(tot)	2.14 mmol/L	(2.25-2.6)
Alkaline phosphate	600 IU/L	(17-100)
Gamma glutamyl transpeptidase	25 IU/L	(10-55)
Urine positive for conjugated bilirubin		

1. From the results of LFT, what conclusions can you draw?
2. What is the patient suffering from? Give reasons for your answer.
3. What is the probable etiology of her illness?
4. How will you manage this patient?