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# UNIVERSITI MALAYSIA SARAWAK

## Faculty of Medicine and Health Sciences

### FIRST PROFESSIONAL EXAMINATION MD Degree

Session 2005/2006

### MULTIPLE CHOICE QUESTIONS (MCQs)

April 2006

Time: 1 hour 40 minutes

Date : Wednesday, 19 April 2006  
Time : 9:00 a.m. – 10:40 a.m.  
Venue : FPSK, UNIMAS, Lot 77, Kuching

**NO PAPER OF ANY KIND MAY BE BROUGHT INTO THE EXAMINATION ROOM**

#### **INSTRUCTIONS TO CANDIDATE:**

Read these instructions carefully before answering any questions.

1. There are **FORTY (40) True/False Multiple Choice Questions** in this booklet.
2. Answer **ALL QUESTIONS**. [2.5 minutes duration each question.]
3. Answer on **COMPUTERISED ANSWER SHEETS** provided. Enter **ALL THE REQUIRED STUDENT DETAILS** on the computerised answer sheet provided in **DARK PENCIL (2B)**.
4. Rub out all errors thoroughly.  
The correct answer gains one mark, the wrong answer loses half mark and a 'don't know' (leave blank) response neither gains nor loses.  
Failure to mark the answer sheet in the correct way may lead to a 'don't know' response being recorded.  
**No part** of this examination booklet should be taken away from the examination room.  
Please fill up your attendance sheet.

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*This examination paper contains 8 pages.*

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**MCQs (True [T]/False [F])**

1. **The following changes occur in spermatozoa during capacitation:**
  - A. The glycoprotein coat is removed.
  - B. The tail increases in size.
  - C. The tail mobility increases.
  - D. The seminal proteins are removed from the acrosome.
  - E. The cytoplasm increases in amount.
  
2. **The fluid nature of a biological membrane is dependent on the**
  - A. length of the hydrophobic tail.
  - B. diameter of the hydrophilic head.
  - C. number of cholesterol molecules in the hydrophobic tail.
  - D. number of hydrophobic tails in the membrane.
  - E. type of carbohydrate molecule on the hydrophilic head.
  
3. **A typical vertebra is**
  - A. composed of a body and a neural arch.
  - B. developed from four adjacent sclerotomes.
  - C. related to a corresponding spinal nerve.
  - D. formed by three primary ossification centres.
  - E. present in the sacrum.
  
4. **The tympanic membrane**
  - A. is placed vertically between the external and middle ear.
  - B. consists of the umbo formed by the handle of malleus.
  - C. is related to the chorda tympani nerve in the pars flaccida.
  - D. is examined by pulling the auricle upward and backward in adult.
  - E. is lined by stratified squamous epithelium on both sides.
  
5. **Regarding the venous drainage of the lower limb:**
  - A. It comprises superficial and deep sets.
  - B. Short saphenous vein communicates with long saphenous vein.
  - C. Long saphenous vein drains into superficial femoral vein.
  - D. The main problem of the varicose veins is cosmetic.
  - E. The popliteal vein is superficial to the deep fascia of the leg.

**MCQs (True [T]/False [F])**

6. The neuromuscular diseases and the site of lesions are correctly matched:

- A. Poliomyelitis - Anterior horn of grey matter of spinal cord.
- B. Myasthenia gravis - Myofibrils.
- C. Tetanus - Neuromuscular junctions.
- D. Leprosy - Nerve fibres.
- E. Duchenne muscular dystrophy - Muscle Fibres.

7. The following drugs are acetylcholinesterase inhibitors:

- A. Prednisolone.
- B. Pyridostigmine.
- C. Azathioprine.
- D. Edrophonium.
- E. Neostigmine.

8. Ventilation during exercise is stimulated by

- A. an increase in arterial pCO<sub>2</sub>.
- B. inputs from mechanoreceptors of the joints.
- C. oscillatory changes in arterial pO<sub>2</sub>.
- D. an increase of lung compliance.
- E. conditioned anticipatory response.

9. Characteristic microscopic features of tuberculous granuloma include:

- A. Hard tubercles with central caseation necrosis.
- B. Plump eosinophilic epithelioid cells as modified macrophages.
- C. A surrounding zone of lymphocytes.
- D. Presence of Langhan's giant cells.
- E. Presence of bacilli in the lung tissue stained by H&E.

10. The following pathogen is correctly matched with its infection:

- A. *Streptococcus pyogenes* - Pharyngitis.
- B. Epstein-Barr Virus - Infectious mononucleosis.
- C. *Corynebacterium diphtheriae* - Whooping cough.
- D. *Legionella pneumophila* - Melioidosis.
- E. *Haemophilus influenzae* - Bronchopneumonia.

**MCQs (True [T]/False [F])**

**11. Regarding carcinogenesis:**

- A. It constitutes multiple events that result in cell transformation.
- B. Permanent genetic alterations initiate neoplastic potential in a cell.
- C. Transformed cells proliferate more rapidly than the normal counterparts.
- D. Tumour cells become less sensitive to growth inhibitory signals.
- E. Tumour mass contains more aggressive subclones with progressive growth.

**12. The following statements about agonists and antagonists are true:**

- A. An antagonist has no affinity for the receptor.
- B. An agonist produces a smaller effect than an antagonist.
- C. A reversible antagonist can either produce an effect or no effect.
- D. An irreversible antagonist cannot dissociate from the receptor after binding.
- E. A partial agonist produces a larger effect than an antagonist.

**13. The pericardium**

- A. is attached to the sternum.
- B. has an oblique sinus.
- C. is innervated by the vagus nerve.
- D. develops from the septum transversum.
- E. has a cavity between two serous layers.

**14. Sympathetic stimulation**

- A. increases the heart rate.
- B. causes the release of nor adrenaline.
- C. increases cardiac output.
- D. decreases venous return.
- E. dilates blood vessels of the skin.

**15. Adrenaline**

- A. effects can be blocked by propranolol.
- B. reduces the blood pressure.
- C. can cause mydriasis.
- D. causes contraction of the intestinal smooth muscle.
- E. can be used to treat congestive cardiac failure.

**MCQs (True [T]/False [F])**

16. The following diuretic(s) act by preventing entry of sodium from urine into the renal tubular cells:
- A. Acetazolamide.
  - B. Mannitol.
  - C. Frusemide.
  - D. Amiloride.
  - E. Spironolactone.
17. A rightward shift of the oxygen-binding (oxygen-dissociation) curve occurs when
- A. pH decreases.
  - B. carbon dioxide levels decrease.
  - C. temperature decreases.
  - D. foetal haemoglobin is mixed with adult haemoglobin.
  - E. 2,3-bisphosphoglycerate (2,3-DPG) levels increase.
18. During a specific response to infection,
- A. viral infected cells stimulate a CD8 T cytotoxic response.
  - B. macrophages present antigen to CD4 T helper cells.
  - C. activated lymphocyte clones proliferate.
  - D. natural killer (NK) cells recognize antigen in the MHC class 1 groove.
  - E. Interferon- $\gamma$  is secreted by the T<sub>H</sub>1 lymphocyte subset.
19. The following are causes of hypochromic microcytic anaemia:
- A. Iron deficiency.
  - B. Vitamin B<sub>12</sub> deficiency.
  - C. Autoimmune haemolytic anaemia.
  - D. Beta thalassaemia minor.
  - E. Folate deficiency.
20. Difficulties associated with the use of the antiepileptic drug phenytoin includes:
- A. Non-saturable metabolism.
  - B. Narrow therapeutic range.
  - C. Inter-patient variation in therapeutic range.
  - D. Side effects affecting facial appearance.
  - E. Induction of metabolism of other drugs.

**MCQs (True [T]/False [F]).**

**21. Neural tube defects**

- A. are related to folic acid deficiency.
- B. are due to failure of closure of the neuropores.
- C. cause meningocele at the lumbar region.
- D. are more frequent in males.
- E. are associated with ossification defects of the vertebral column.

**22. The functions of basal ganglia include:**

- A. Short-term memory.
- B. Subconscious learned movements.
- C. Slow wave sleep.
- D. Initiation, control and cessation of regularly made movements.
- E. No change in time and scale of intensity of movements.

**23. In the pharyngeal phase of swallowing,**

- A. the soft palate is pulled upwards.
- B. the glottis is closed.
- C. the upper oesophageal sphincter is relaxed.
- D. there is no respiratory interruption.
- E. the motor impulses originate from swallowing centre of brain stem.

**24. The opening into the lesser sac of the peritoneum**

- A. is bounded by caudate lobe of the liver superiorly.
- B. is bounded by portal vein anteriorly.
- C. is bounded by first part of duodenum inferiorly.
- D. connects the hepatorenal pouch with the omental bursa.
- E. prevents internal herniation.

**25. The peritoneal cavity**

- A. develops from the coelomic cavity.
- B. is divided into greater and lesser sacs.
- C. is lowest in the recto-uterine pouch while standing erect.
- D. normally contains a thin film of fluid.
- E. enlarges during respiration.

**MCQs (True [T]/False [F])**

**26. The oral cavity**

- A. is bounded posteriorly by the palatoglossal arches.
- B. communicates freely with the nasal cavity.
- C. is related to the tonsil laterally.
- D. develops partly from the stomodaeum.
- E. receives the openings of the parotid ducts.

**27. The foregut**

- A. includes the oral cavity, pharynx and oesophagus.
- B. is limited posteriorly by the opening of the common bile duct.
- C. gives rise to bronchial tree.
- D. is derived from the neural crest.
- E. herniates physiologically into the umbilicus.

**28. The oesophagus**

- A. is about 25 cm in length in the adult.
- B. permits food to pass through it in about 5 or 6 seconds.
- C. is lined by the stratified squamous epithelium.
- D. possesses a structural cardiac sphincter in its lower end.
- E. is supplied by the left gastric artery.

**29. The tributaries of the portal vein include:**

- A. Superior mesenteric vein.
- B. Inferior mesenteric vein.
- C. Splenic vein.
- D. Left gastric vein.
- E. Hepatic veins.

**30. Liver tissue has**

- A. a dual blood supply.
- B. a capacity to perform bile concentration.
- C. ability to perform detoxification.
- D. ability to excrete bilirubin.
- E. ability to function even after partial hepatectomy.

**MCQs (True [T]/False [F])**

**31. Regarding the peritoneal covering of the liver:**

- A. Falciform ligament is attached to its inferior border.
- B. Left triangular ligament connects its superior surface to diaphragm.
- C. Right triangular ligament is present on its posterior surface.
- D. Coronary ligament encloses the bare area.
- E. Lesser omentum is attached to the base of gall bladder fossa.

**32. The rectum**

- A. begins at the level of the first sacral vertebra.
- B. has three lateral curvatures.
- C. has transverse folds internally.
- D. is supplied by superior rectal artery.
- E. is related to anococcygeal ligament posteriorly.

**33. The adrenal gland**

- A. is related to the hepatorenal pouch on the right side.
- B. forms the stomach bed on the left side.
- C. is enclosed in a separate compartment of renal fascia.
- D. is supplied by three suprarenal arteries.
- E. is drained by three suprarenal veins.

**34. Calcitonin;**

- A. is a hormone secreted by follicular cells of the thyroid gland.
- B. maintains the blood calcium level along with parathormone.
- C. increases calcium level in the blood by acting on bones.
- D. inhibits the reabsorption of calcium in renal tubules.
- E. prevents the absorption of calcium from the intestine.

**35. In between meals, the blood glucose level is maintained through**

- A. lipolysis.
- B. glycogenolysis.
- C. gluconeogenesis.
- D. glycolysis.
- E. glycogenesis.



**MCQs (True [T]/False [F])**

**36. The following are arthropod-borne diseases:**

- A. Filariasis.
- B. Ascariasis.
- C. Malaria.
- D. Schistosomiasis.
- E. Giardiasis.

**37. The scrotum is**

- A. developed from the genital tubercle.
- B. covered by a layer of striated muscle.
- C. connected to the peritoneal cavity through the saccus vaginalis.
- D. present in female hermaphrodite.
- E. drained by the superficial inguinal lymph nodes.

**38. The common congenital anomalies of the urogenital system include:**

- A. Epispadias.
- B. Imperforate hymen.
- C. Persistent urogenital membrane.
- D. Cryptorchidism.
- E. Klinefelter's syndrome.

**39. The action of estrogen on breast includes:**

- A. Increased deposition of adipose tissue during puberty.
- B. Lobulo-alveolar development.
- C. Stimulation of lactogenic action of prolactin.
- D. Increasing the number of progesterone receptors.
- E. Increasing the contractility of myoepithelial cells.

**40. The followings changes in the breast are associated with an increased risk of breast cancer:**

- A. Apocrine metaplasia.
- B. Sclerosing adenosis.
- C. Fibrosis.
- D. Atypical epithelial hyperplasia.
- E. Florid duct epithelial hyperplasia.