



# THE COPPERBELT UNIVERSITY

## SCHOOL OF MEDICINE

End-of-Term 2 Test: March 2017

Course: MBS230

### CLINICAL PHARMACOLOGY

**STUDENT NUMBER:** .....

**STUDENT NAME:** .....

**TIME:** Allocated time is 1 hour and 15 minutes

#### **INSTRUCTIONS:**

1. Do not write or, mark true or false against each item. Any unclear mark will be deemed wrong.
2. Write your student number on each answer sheet.
3. Thirty (30) questions are of the true/false type. Circle **T = True** or **F = False** on the answer sheet provided.
4. If you wish to alter an answer indicate clearly on the sheet which answer you wish to be considered.

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**IMPORTANT:** *Incorrect answers are penalised, by a negative half mark (-0.5). If you do not know the answer, it is better to leave the question unanswered.*

## Multiple Choice Questions

Marks Allocation = 100%

Time allocated is 1 hour and 15 minutes

- 1) The following are amide local anaesthetic agents:
  - a) benzocaine
  - b) prilocaine
  - c) bupivacaine
  - d) cocaine
  - e) lidocaine
- 2) The following are known adverse reactions of local anaesthetics:
  - a) Anxiety
  - b) Restlessness
  - c) Headache
  - d) Myocardial infarction
  - e) Hypersensitivity reactions
- 3) The following local anaesthetics are used in ophthalmology:
  - a) bupivacaine
  - b) oxybuprocaine
  - c) benzocaine
  - d) tetracaine
  - e) proxymetacaine
- 4) The following are known effects of sympathetic stimulation:
  - a) Brochodilatation
  - b) Sinus bradycardia
  - c) Increased GIT motility
  - d) Pupil constriction
  - e) Micturition
- 5) The following are known effects of indirect sympathomimetic agents:
  - a) Pupil constriction
  - b) Sweating
  - c) Reduced GIT motility
  - d) Drowsiness
  - e) Double vision
- 6) The sympathetic outflow are conducted by the following nerves:
  - a) Cranial nerve (I)
  - b) Cranial nerve (II)
  - c) Thoracic nerve 1 (T1)
  - d) Sacral nerve 3 (S3)
  - e) Sacral nerve 4 (S4)



**7) About muscarinic receptors:**

- a)  $M_1$  receptors are found in the heart muscles
- b)  $M_2$  receptors are found in the stomach
- c)  $M_3$  receptors are found in glands
- d)  $M_2$  receptors are also skeletal muscles
- e)  $M_1$  receptors are also found in the uterus

**8) About muscarinic receptor stimulation, there is:**

- a) accommodation for near vision
- b) secretion of thick saliva
- c) bronchiolar dilatation
- d) sinus tachycardia
- e) constipation

**9) Ganglion receptors are blocked by:**

- a) atropine
- b) tubocurarine
- c) suxamethonium
- d) magnesium
- e) hemicholinium

**10) The following drugs can cause sinus tachycardia:**

- a) cocaine
- b) propranolol
- c) ephedrine
- d) carbachol
- e) pilocarpine

**11) Beta-adrenoceptor antagonists:**

- a) Increase cardiac tissue cyclic adenosine monophosphate (cAMP)
- b) Competitively antagonize the  $\beta$ -receptor mediated effects of adrenaline and noradrenaline
- c) Non-competitively antagonize several of the actions of thyroxine
- d) Decrease peripheral vascular resistance
- e) Reduce renin secretion

**12) Beta-adrenoceptor blockers:**

- a) May worsen symptoms by impairing left ventricular function
- b) Are used to control heart rate in atrial fibrillation
- c) All block  $\beta_1$ -receptors
- d) May be of use to manage cocaine overdose
- e) May cause exercise-induced hypoglycaemia

**13) Noradrenaline (norepinephrine):**

- a) Is principally an  $\alpha$ -agonist
- b) Has some  $\beta$ -agonist action
- c) May cause a reflex tachycardia
- d) Is synthesized primarily in the adrenal cortex
- e) Is broken down into various metabolites that include adrenaline

**14) Adrenaline (epinephrine):**

- a) Is an  $\alpha_1$ -agonist
- b) Is a  $\beta_1$ -agonist
- c) Is a GABA (gamma-aminobutyric acid) agonist
- d) Is synthesized by the adrenal medulla
- e) Is antagonized in patients taking  $\beta$ -blockers

**15) Atropine:**

- a) Blocks the effect of the vagus nerve at both the sinoatrial and atrioventricular nodes
- b) Side effects include excess salivation
- c) May cause an acute confusion state, particularly in the elderly
- d) Is given as intravenous bolus to treat sinus tachycardia
- e) Has no maximum recommended dose

**16) Digoxin toxicity:**

- a) Is exacerbated by hypokalaemia
- b) Causes blurred vision, with visual disturbances
- c) Causes ST elevation in ECG
- d) Is usually responsive to haemodialysis
- e) Can be treated with potassium supplements

**17) About parasympathetic neuro-transmitter:**

- a) Action potential at the motor nerve terminal causes influx of  $\text{Ca}^{2+}$  ions and release acetylcholine
- b) The muscarinic effects of acetylcholine are blocked by anticholinesterase agents
- c) Cholinergic crisis at the motor endplates is caused by excess acetylcholine and a depolarization block
- d) Anticholinesterase agents reverse all neuromuscular blocking drugs
- e) Competitive neuromuscular drugs do not initiate  $\text{Na}^+$  ion channel opening and cause muscle relaxation

**18) About suxamethonium:**

- a) Is hydrolysed by acetylcholinesterase
- b) Is oxidised by plasma pseudocholinesterase
- c) Is hydrolysed by plasma pseudocholinesterase
- d) Has half-life of 2 - 6 minutes
- e) Is a competitive antagonist at neuromuscular junction

- 19) The following are neuromuscular blocking drugs:
- a) pancuronium
  - b) neostigmine
  - c) edrophonium
  - d) vecuronium
  - e) suxamethonium
- 20) The following are anti-muscarinic effects:
- a) Sweating
  - b) Blurred vision
  - c) Pupil constriction
  - d) Bronchial constriction
  - e) Increased salivation
- 21) About light organophosphate poisoning:
- a) Sweating
  - b) Miosis
  - c) Vomiting and diarrhoea
  - d) Marked bradycardia
  - e) Hypotension
- 22) The following are recognised common adverse reactions of  $\beta$ -blockers:
- a) Anaphylaxis
  - b) Cold hands
  - c) Urticaria rash
  - d) Fatigue
  - e) Heart failure
- 23) The following are features of lupus syndrome:
- a) Fever
  - b) Urine retention
  - c) Urticaria rash
  - d) Arthralgia
  - e) Generalised lymphadenopathy
- 24) The following are vasodilator anti-hypertensive drugs:
- a) nifedipine
  - b) methyl dopa
  - c) minoxidil
  - d) propranolol
  - e) nitroprusside



25) The following is/are true about methyl dopa:

- a) Is a vasodilator
- b) May cause drowsiness
- c) May cause impotence
- d) May cause broncho-spasms
- e) May cause gastro-intestinal disturbance

26) The following agents are used to reverse competitive muscle relaxants:

- a) pyridostigmine
- b) vecuronium
- c) atropine
- d) atracurium
- e) neostigmine

27) The following drugs may be used in heart failure:

- a) nifedipine
- b) ACE inhibitors
- c) aspirin
- d) digoxin
- e)  $\beta$ -blockers

28) The following is/are true about ACE inhibitors:

- a) Increases pre-load
- b) Increases afterload
- c) May cause dry cough
- d) Increases aldosterone secretion
- e) May cause hyperkalaemia

29) The following is/are true about digoxin:

- a) Increases the heart rate
- b) Facilitates atrio-ventricular conduction
- c) Reduces the ventricular rate in atrial fibrillation
- d) Toxic doses cause depolarisation
- e) Toxic doses causes oscillatory depolarising afterpotential

30) The following are recognised adverse reactions of digoxin:

- a) Confusion
- b) Psychosis
- c) arrhythmias
- d) Anorexia
- e) Diarrhoea

>>>>>>>> END OF TEST <<<<<<<<<