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**SINGAPORE PHARMACY COUNCIL**

**COMPETENCY EXAMINATION**

**DATE:**

**TIME ALLOWED: 2 HOURS**

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**INSTRUCTIONS TO CANDIDATES**

1. This paper consists of 100 questions and is printed on XX pages, including this page.
2. Candidates must attempt ALL questions in this paper.
3. Candidates are to return the question paper with their answer books.

**DO NOT TURN OVER THIS PAGE UNTIL YOU ARE TOLD TO DO SO.**

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- Q1 What is the volume of mannitol 20% injection that would correspond to a dose of 0.5 g/kg for a patient weighing 70 kg?
- A 0.93 mL
  - B 1.75 mL
  - C 92.3 mL
  - D 100 mL
  - E 175 mL
- Q2 Mr Yuen, an adult patient with a history of asthma, was previously well controlled with 100 mcg twice daily of beclomethasone and 200 mcg of salbutamol (as needed), administered via metered-dose inhalers (MDI). In the last month, he has had two acute asthma attacks. Which of the following is the **MOST APPROPRIATE** approach to optimising Mr Yuen's therapy?
- A Increase the dose of beclomethasone to 400 mcg twice daily
  - B Change the dose of salbutamol to 100 mcg 4 times daily
  - C Add oral prednisolone 5 mg once daily
  - D Add MDI ipratropium 40 mcg 3 times daily
  - E Add oral theophylline (sustained-release) 125 mg twice daily
- Q3 A man approaches you claiming to be a relative of the patient you had just counselled several minutes ago. He wishes to know more about the medical condition of the patient. What would be your **MOST APPROPRIATE** response?
- A Provide him with the information
  - B Ascertain that the man's relationship to the patient is genuine and provide him with the information
  - C Provide only information pertaining to the patient's medications
  - D Ascertain that the man's relationship to the patient is genuine and provide only the information pertaining to the medications
  - E Decline to answer any of his questions but advise that he should check with the patient directly

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- Q4 Which of the following statements regarding adverse drug reaction (ADR) reporting is **TRUE**?
- A All suspected reactions involving a newly launched drug, including minor ones, should be reported.
  - B Only ADRs involving specific patient subgroups (e.g. pregnancy and lactation, cases of drug abuse) need to be reported.
  - C For established or well-known drugs, all expected ADRs should be reported.
  - D An ADR arising from an overdose or medication error should not be reported to the Health Sciences Authority.
  - E There is no need to make an ADR report if the incidence of a given reaction has been observed to be rising.
- Q5 How long should women of child bearing age take precautions against getting pregnant after stopping mefloquine?
- A 1 month
  - B 2 months
  - C 3 months
  - D 4 months
  - E 5 months
- Q6 Which of the following statements regarding macrolides are **TRUE**?
- I Macrolides can be bacteriostatic or bactericidal, depending on the concentration and microorganism.
  - II Macrolides work through inhibition of bacterial protein synthesis.
  - III Macrolides are not effective against mycoplasma infections.
  - IV Azithromycin is a macrolide antibiotic.
- A I and II
  - B II and III
  - C I, II and III
  - D I, II and IV
  - E I, II, III and IV
- Q7 Which of the following oral hypoglycaemic drugs is effective in lowering insulin resistance?
- A Glipizide
  - B Metformin
  - C Actrapid
  - D Acarbose
  - E Not A, B, C or D

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Q8 Atopic dermatitis can be defined as itchy skin with:

- I History of dry skin within the past year
- II Flexural eczema
- III Personal history of other atopic diseases

- A I, II and III
- B I and II
- C II and III
- D I only
- E III only

Q9 The anticoagulant effect of warfarin could be increased by co-administration of :

- A Atenolol
- B Ciprofloxacin
- C Acarbose
- D Pravastatin
- E Amlodipine

Q10 The following are phosphate binders **EXCEPT**:

- A Sevelamer carbonate
- B Calcium carbonate
- C Calcipotriol
- D Aluminium hydroxide
- E Lanthanum carbonate

Q11 When using intranasal corticosteroids, a patient should experience maximal effect

- A Immediately
- B Within half hour
- C Within 2 hours
- D In 1 to 2 weeks
- E In 2 to 3 days

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Q12 Which of the following statements regarding beta-carotene are **CORRECT**?

- I Beta-carotene can cause red discolouration of urine and tears.
  - II The proportion of beta-carotene being converted to vitamin A increases with the intake of beta-carotene.
  - III The Age Related Eye Disease Study found that taking zinc, vitamin C, vitamin E, beta-carotene and copper could slow down progression of macular degeneration.
  - IV Beta-carotene is recommended to be taken with meals containing adequate proteins to ensure absorption.
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- A I and II
  - B II and III
  - C I, II and III
  - D II, III and IV
  - E I, II, III and IV

Q13 Mr Kim, a 56-year-old man with mixed hyperlipidemia, presents to your pharmacy for a repeat prescription of simvastatin and gemfibrozil. Four weeks ago, his cardiologist initiated simvastatin 40 mg once daily and gemfibrozil 600 mg twice daily. On questioning, Mr Kim describes constant muscle pains in his hips and shoulders during the past 2 weeks.

His liver function tests from this morning are:

ALT : 245 units/L (7-36 units/L)  
AST : 275 units/L (15-33 units/L)  
Creatinine kinase : 650 units/L (38-164 units/L)

His baseline liver function tests 4 weeks ago were within normal limits. Which of the following is the **BEST** therapy for Mr Kim?

- A Repeat a set of liver function tests in one week's time.
- B Recommend that he takes paracetamol 1 g 4 times daily as needed for muscle pain.
- C Reduce the dose of simvastatin to 20 mg once daily and gemfibrozil to 600 mg once daily.
- D Continue taking gemfibrozil but discontinue simvastatin.
- E Recommend that he discontinues both simvastatin and gemfibrozil.

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**Questions 14 to 17 are related to the following case.**

Mr Ang, a 50-year-old patient, recently diagnosed with Type II diabetes mellitus, has received the following laboratory results:

Glycosylated haemoglobin (HbA1c) : 8.3%  
Body mass index (BMI) : 26.9 kg/m<sup>2</sup> (18.5-23.9 kg/m<sup>2</sup>)  
Serum creatinine : 85 µmol/L (60-105 µmol/L)  
Liver function tests : Normal

- Q14 What would be the **MOST APPROPRIATE** anti-diabetic agent to treat the Type 2 diabetes mellitus after trying diet and exercise management?
- A Insulin
  - B Glimepiride
  - C Metformin
  - D Saxagliptin
  - E Glipizide

Three months later, after starting with a medium dose of the anti-diabetic agent of your choice above, a repeated blood test revealed the following results:

Glycosylated haemoglobin (HbA1c) : 7.8%  
Body mass index (BMI) : 25.9 kg/m<sup>2</sup> (18.5-23.9 kg/m<sup>2</sup>)  
Serum creatinine : 120 µmol/L (60-105 µmol/L)  
Liver function tests : Normal  
Urinary protein : 1 g/day  
Blood Pressure : 110/75

- Q15 What would you advise the doctor as the next step to optimise the diabetic control?
- A Keep the current dose of anti-diabetic agent
  - B Increase the dose of current anti-diabetic agent
  - C Discontinue the current anti-diabetic agent
  - D Add another anti-diabetic agent
  - E Add orlistat
- Q16 Which of the following diabetic complications is the patient also suffering from?
- A Diabetic coma
  - B Diabetic ketoacidosis
  - C Diabetic nephropathy
  - D Diabetic neuropathy
  - E Diabetic retinopathy

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Q17 Which of the following drug regimens is the best for this patient?

- A Valsartan 160 mg OM
- B Enalapril 10 mg mg twice daily
- C Losartan 100 mg OM
- D Lisinopril 5 mg OM
- E Aliskiren 150 mg OM

**End of case study**

SAMPLE

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## ANSWERS

1. E
2. A
3. E
4. A
5. C
6. D
7. B
8. A
9. B
10. C
11. D
12. B
13. E
14. C
15. D
16. C
17. D

SAMPLE