

REGISTRATION ASSESSMENT SITTINGS 2018

Part 2 example questions

Notes

1. For questions 1-20 there are five options, **A, B, C, D** and **E**. For questions 21-30 there are eight options, **A, B, C, D, E, F, G** and **H**. Choose only one of the options as your answer for each question.
2. The answers are on page 19.
3. In the registration assessment, where you see this icon,  you may find the resource pack provided useful.
4. No electronic calculating devices can be used in part 2 of the registration assessment.
5. These questions are examples and do **not** cover the entire registration assessment framework.
6. **More information on the registration assessment, including the answer sheets and how to complete these, is available in the pre-registration trainee pharmacist manual.**

Directions for questions 1 to 20. Each of the questions or incomplete statements in this section is followed by five suggested answers. Select the single best answer in each case.

1. A 68-year-old man is experiencing an acute attack of gout. He had an MI 3 years ago and has mild osteoarthritis, but is otherwise well. He is taking the following medication:
- aspirin 75 mg once daily
 - atorvastatin 40 mg once daily
 - ramipril 10 mg once daily
 - co-codamol 30/500 mg two tablets up to four times a day as required

He has no known drug allergies.

What is the most suitable drug treatment for his acute attack of gout?

- A allopurinol
 - B colchicine
 - C diclofenac
 - D etoricoxib
 - E febuxostat
2. A 54-year-old woman was commenced on pioglitazone 30 mg once daily by her GP one month ago, alongside metformin 500 mg three times a day that she has been taking for the past 2 years. When collecting her repeat prescription she complains of having dark urine, nausea and fatigue for the last 2 weeks. She wonders if her new tablet is to blame.

What is the most appropriate advice to give to this patient?

- A she is experiencing a side-effect of pioglitazone, and whilst safe to continue taking it, she may wish to see her GP for an alternative
- B she should see her GP as the dose of pioglitazone may need to be increased
- C she should see her GP as the dose of pioglitazone may need to be reduced
- D stop taking pioglitazone straight away and see her GP as soon as possible
- E the symptoms described are not known to be caused by pioglitazone

3. A 42-year-old woman comes into the pharmacy seeking advice about her left eye. She first noticed her symptoms yesterday morning. She reports no pain or change in vision. She has no medical conditions and is not on any regular medication.



The photograph of her eye would be shown in the resource pack in the actual assessment but is shown below in this example.



What is the most likely cause of this woman's symptoms?

- A acute angle-closure glaucoma
- B allergic conjunctivitis
- C bacterial conjunctivitis
- D blepharitis
- E subconjunctival haemorrhage

4. A man is receiving MST Continus (morphine sulfate m/r) tablets 60 mg every 12 hours. In addition, he is taking morphine sulfate oral solution 10 mg/5 mL, 7.5 mL four times a day. Although his pain is controlled on this regimen, he is now unable to take medicines by mouth. He is converting to fentanyl transdermal patches. The information below is from the BNF.

72-hour Fentanyl patches are *approximately* equivalent to the following 24-hour doses of oral morphine

morphine salt 30 mg daily	≡ fentanyl '12' patch
morphine salt 60 mg daily	≡ fentanyl '25' patch
morphine salt 120 mg daily	≡ fentanyl '50' patch
morphine salt 180 mg daily	≡ fentanyl '75' patch
morphine salt 240 mg daily	≡ fentanyl '100' patch

Joint Formulary Committee. *British National Formulary* (online) London: BMJ Group and Pharmaceutical Press <<http://www.medicinescomplete.com>> [Accessed on 04 October 2017]

What dose of fentanyl transdermal patch is approximately equivalent to the daily dose of morphine sulfate taken by this patient?

- A fentanyl '12' patch every 72 hours
- B fentanyl '25' patch every 72 hours
- C fentanyl '50' patch every 72 hours
- D fentanyl '75' patch every 72 hours
- E fentanyl '100' patch every 72 hours

Questions 5 to 7 relate to a 78-year-old man with COPD and ischaemic heart disease. He is admitted to hospital from home with a lower respiratory tract infection. He began taking antibiotics the day before admission. His blood pressure on admission is 98/58 mmHg. He has no known drug allergies and his current medication is listed below on his hospital inpatient prescription chart.

Drug name	Dose	Route	Frequency
clarithromycin	500 mg	oral	12-hourly
Relvar Ellipta (fluticasone furoate 92 micrograms/vilanterol 22 micrograms/ inhalation)	1 puff	inhaled	daily
isosorbide mononitrate m/r	60 mg	oral	daily
ramipril	10 mg	oral	daily
aspirin	75 mg	oral	daily
Clexane (enoxaparin sodium)	40 mg	sc	daily
salbutamol 100 micrograms/inhalation	2 puffs	inhaled	prn

5. Microbiology results are not yet available but an atypical pathogen is not suspected.

What is the most likely cause of this man's respiratory tract infection?

- A *Chlamydia psittaci*
- B *Legionella pneumophila*
- C *Mycoplasma pneumoniae*
- D *Pneumocystis jirovecii*
- E *Streptococcus pneumoniae*

6. Which of the following drugs is it most important to withhold temporarily in view of his current blood pressure?

- A aspirin
- B Clexane
- C ramipril
- D Relvar Ellipta
- E salbutamol

7. During his admission, he complains that for several weeks now he has had a sore mouth.

Which of the following drugs is the most likely cause of his sore mouth?

- A aspirin
- B isosorbide mononitrate
- C ramipril
- D Relvar Ellipta
- E salbutamol

8. Psorin ointment contains the following active ingredients:

- salicylic acid 1.6%
- coal tar 1%
- dithranol 0.11%

Which of the following gives the correct weights of active ingredients required to make 350 g of the ointment?

- A 56 g salicylic acid; 35 g coal tar; 3.85 g dithranol
- B 56 g salicylic acid; 3.5 g coal tar; 38.5 g dithranol
- C 5.6 g salicylic acid; 3.5 g coal tar; 0.385 g dithranol
- D 5.6 g salicylic acid; 3.5 g coal tar; 3.85 g dithranol
- E 0.56 g salicylic acid; 0.35 g coal tar; 0.385 g dithranol

9. A 59-year-old man presents his prescription for oxycodone 40 mg m/r tablets.

What is the maximum recommended duration of supply on a single prescription for this medicine?

- A 7 days
- B 28 days
- C 30 days
- D 3 months
- E 6 months

Question 10 relates to a 69-year-old man whose most recent biochemistry results are shown below. He previously had normal biochemistry results.

Test	Result	Units	Reference Range
Serum sodium	139	mmol/L	137 - 145
Serum potassium	5.1	mmol/L	3.5 - 5.1
Serum urea	6.2	mmol/L	2.5 - 7.5
Serum creatinine	132	micromol/L	46 - 92
Estimated GFR	41	mL/min/1.73 m ²	>60

He had an elective hip replacement two weeks ago and has a history of hypertension which is treated with amlodipine 5 mg daily and lisinopril 10 mg daily. There have been complications after surgery due to an infection.

10. Which of the following drugs started in hospital is the most likely cause of his abnormal biochemistry results?

- A co-codamol
- B Clexane (enoxaparin sodium)
- C flucloxacillin
- D fusidic acid
- E naproxen

11. You receive a prescription for haloperidol depot injections for one of your patients. Your PMR system shows that the patient usually takes haloperidol tablets.

What is the most likely reason in this patient that the haloperidol has been changed from tablets to a depot injection?

- A to improve adherence
- B to improve efficacy
- C to provide a more rapid response
- D to reduce the risk of extrapyramidal side-effects
- E to reduce the risk of neuroleptic malignant syndrome

- 12.** A 3-year-old child with no long term medical conditions requires paracetamol for the treatment of pyrexia associated with flu-like symptoms.

What is the most appropriate dose of paracetamol to be administered every six hours?

- A 60 mg
 - B 120 mg
 - C 180 mg
 - D 240 mg
 - E 360 mg
- 13.** A patient with type 2 diabetes needs to commence insulin treatment and would like to use an insulin preparation that is injected subcutaneously twice daily with meals.

Which of the following is the most suitable insulin preparation for this regimen?

- A Actrapid (soluble insulin)
- B Apidra (insulin glulisine)
- C Humalog Mix25 (biphasic insulin lispro)
- D Lantus (insulin glargine)
- E NovoRapid (insulin aspart)

- 14.** A patient receives amikacin 500 mg by intramuscular injection three times daily for a soft tissue infection (target range for amikacin: peak <30 mg/L, trough <10 mg/L). Three days later a peak amikacin level of 27 mg/L is reported, with a trough concentration of 12 mg/L.

Which of the following is an appropriate method of dose rationalisation?

- A** decrease the dose and decrease the dosage interval
 - B** increase the dose and increase the dosage interval
 - C** increase the dose and maintain the same dosage interval
 - D** maintain the same dose and increase the dosage interval
 - E** maintain the same dose and decrease the dosage interval
- 15.** You want to obtain guidance on the record keeping requirements for the management and monitoring of vaccine stocks in a pharmacy.

Which of the following is the most appropriate reference source to consult for this information?

- A** British National Formulary
- B** British Pharmacopoeia
- C** Immunisation against infectious disease (known as the Green Book)
- D** Martindale: The Complete Drug Reference
- E** Rules and Guidance for Pharmaceutical Manufacturers and Distributors (known as the Orange Guide)

16. A 76-year-old man is taking the following medicines:

- atorvastatin 40 mg once daily
- dipyridamole m/r 200 mg twice daily
- esomeprazole 40 mg once daily
- metformin m/r 500 mg twice daily
- ramipril 2.5 mg once daily

He has a history of type 2 diabetes and had a transient ischaemic attack two years ago. He has just been diagnosed with AF and is to commence rivaroxaban 20 mg once daily.

Which of his existing medicines should be stopped due to the commencement of rivaroxaban?

- A** atorvastatin
 - B** dipyridamole
 - C** esomeprazole
 - D** metformin
 - E** ramipril
- 17.** A 45-year-old black man of African family origin has been diagnosed with hypertension. His BP is 160/100 mmHg. He is starting antihypertensive therapy. He does not have any other medical conditions and has no known allergies.

What is the most appropriate first-line anti-hypertensive for this man?

- A** amlodipine
- B** bisoprolol
- C** candesartan
- D** indapamide
- E** ramipril

- 18.** You are to take on the role of the Responsible Pharmacist in the pharmacy you will be working in.

What is the minimum period of time that the pharmacy record has to be kept?

- A** 1 year
- B** 2 years
- C** 5 years
- D** 7 years
- E** 10 years

Questions 19 and 20 relate to a 36-year-old woman who has been experiencing very heavy, painful periods since the birth of her first child. Her GP has prescribed tranexamic acid 500 mg tablets. She presents in the pharmacy with her new prescription.



The SPC for tranexamic acid 500 mg tablets would be provided in the resource pack in the actual assessment. It can be accessed here

<https://www.medicines.org.uk/emc/medicine/24325>

- 19.** The instructions on the prescription are to take 'as directed' and the patient cannot remember the maximum dosage her GP advised.



What is the maximum recommended dosage of tranexamic acid that should be taken during one menstrual cycle?

- A 3 g
 - B 4 g
 - C 12 g
 - D 16 g
 - E 21 g
- 20.** She returns to the pharmacy 6 weeks later and explains that she is experiencing disturbances in her vision particularly with colours.



What is the most appropriate advice to give to the patient?

- A she is experiencing a side effect of tranexamic acid but it is safe to continue
- B she is experiencing a side effect of tranexamic acid but this should resolve with continued treatment
- C she should reduce her dose of tranexamic acid to minimise the problem
- D she should stop taking tranexamic acid and see her GP for further advice
- E the symptoms described are not known to be caused by tranexamic acid

Directions for questions 21 to 30. For each question in this section select one answer from the list of eight options above it. Each option may be used once, more than once, or not at all.

Drug interactions

- A bleeding risk increased
- B bradycardia
- C diarrhoea
- D hypertensive crisis
- E myopathy
- F QT interval prolongation
- G reduced eGFR
- H thrombosis

For the patients described, select the most likely possible consequence of the drug interaction from the list above.

21. A 49-year-old woman has bipolar disorder and has taken lithium carbonate 800 mg daily for five years. She has been newly prescribed ramipril 2.5 mg daily for hypertension.

22. An 83-year-old woman is on the following medication:

- isosorbide mononitrate 50 mg m/r daily
- aspirin 75 mg daily
- amlodipine 10 mg daily

She has been newly prescribed simvastatin 40 mg at night.

23. A 64-year-old man uses escitalopram 20 mg daily for generalised anxiety disorder. He had a transient ischaemic attack 12 years ago and has recently been diagnosed with non-valvular atrial fibrillation. He has been newly prescribed dabigatran etexilate 150 mg twice daily.

24. A 37-year-old man is currently taking methadone 1 mg/mL oral solution 90 mg daily for opioid addiction. He has been diagnosed with depression by his GP who has prescribed citalopram 20 mg daily. The man has no other relevant medical history and has no known allergies.

Clexane (enoxaparin sodium injection)

- A** Clexane injection 20 mg sc once daily
- B** Clexane injection 40 mg sc once daily
- C** Clexane injection 60 mg sc once daily
- D** Clexane injection 120 mg sc once daily
- E** Clexane injection 75 mg sc twice daily
- F** Clexane injection 90 mg sc twice daily
- G** Clexane injection 100 mg sc twice daily
- H** Clexane injection 120 mg sc twice daily

For each of the patients described, you have been asked to recommend a Clexane regimen. The patients have no known drug allergies or contraindications to Clexane. Select the most appropriate regimen from the options above.

- 25.** A 75-year-old man weighs 120 kg and has a CrCl of 45 mL/min. He has had acute chest pain and persistent ST-segment elevation for 30 minutes and has been prescribed the following oral antiplatelet therapy:

- aspirin 300 mg once daily [stat dose], then reducing to 75 mg once daily
- ticagrelor 180 mg once daily [stat dose], then reducing to 90 mg twice daily

He is to be prescribed the first two subcutaneous doses of Clexane.



The SPC for Clexane Forte Syringes would be provided in the resource pack in the actual assessment. It can be accessed here

<https://www.medicines.org.uk/emc/medicine/10054>

- 26.** A 35-year-old woman weighs 80 kg and has a CrCl of 84 mL/min. She presents with dyspnoea and tachypnoea. She gave birth to a baby boy 7 days ago and is not breastfeeding. She is taking the following medicines:

- levothyroxine sodium 50 micrograms once daily
- paracetamol 1 g every six hours when required

The consultant diagnoses a PE and has requested Clexane.



The SPC for Clexane Forte Syringes would be provided in the resource pack in the actual assessment. It can be accessed here

<https://www.medicines.org.uk/emc/medicine/10054>

27. A 70-year-old man weighs 60 kg and has a past medical history of benign prostatic hypertrophy, congestive cardiac failure and hypertension. He has been admitted to hospital with moderate-severity community-acquired pneumonia and is expected to have ongoing reduced mobility relative to his normal state. He is currently on the following medication:

- bisoprolol 3.75 mg once daily
- bumetanide 1 mg once daily
- doxycycline 100 mg twice daily for 7 days
- finasteride 5 mg once daily
- perindopril 4 mg once daily

He has a CrCl of 25 mL/min and is to be prescribed Clexane for venous thromboembolism (VTE) prophylaxis.



The SPC for Clexane Forte Syringes would be provided in the resource pack in the actual assessment. It can be accessed here

<https://www.medicines.org.uk/emc/medicine/10054>

Electrolyte abnormalities

- A hypercalcaemia
- B hyperkalaemia
- C hypermagnesaemia
- D hypernatraemia
- E hypocalcaemia
- F hypokalaemia
- G hypomagnesaemia
- H hyponatraemia

For the patients described, select from the list above, the single most likely drug-induced cause of the patient's symptoms.

- 28. A 66-year-old woman is reviewed in A&E following a two day history of increasing drowsiness, nausea and confusion. She was diagnosed with moderate depression three weeks previously and was commenced on fluoxetine 40 mg daily.
- 29. A 78-year-old man has been admitted to hospital with worsening heart failure. His symptoms of heart failure have improved following treatment with IV furosemide but he is now complaining of fatigue, dizziness and muscle spasms.

His current medication is shown below

Drug name	Dose	Route	Frequency
furosemide	40 mg	iv	bd
bendroflumethiazide	2.5 mg	oral	daily
isosorbide mononitrate m/r	60 mg	oral	daily
bisoprolol	5 mg	oral	daily
aspirin	75 mg	oral	daily
Clexane (enoxaparin sodium)	40 mg	sc	daily
digoxin	125 micrograms	oral	daily

Respiratory medicines

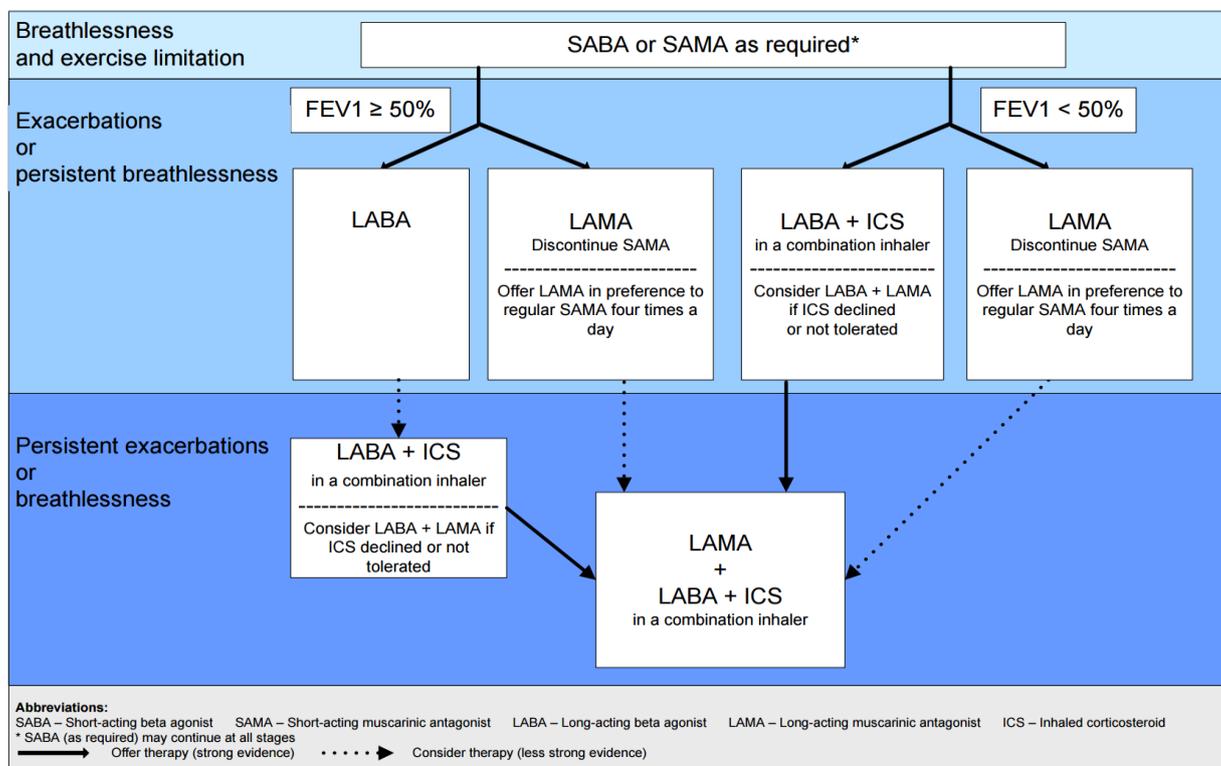
- A Clenil Modulite metered dose inhaler (beclometasone dipropionate 100 micrograms/metered inhalation)
- B fluticasone propionate metered dose inhaler (250 micrograms/metered inhalation)
- C salbutamol metered dose inhaler (100 micrograms/metered inhalation)
- D Seretide 250 Accuhaler (fluticasone propionate 250 micrograms and salmeterol xinafoate 50 micrograms/blister)
- E sodium cromoglicate metered dose inhaler (5 mg/metered inhalation)
- F Symbicort 400/12 Turbohaler (budesonide 400 micrograms and formoterol fumarate 12 micrograms/metered inhalation)
- G terbutaline sulfate Turbohaler (500 micrograms/dose)
- H tiotropium bromide capsules for inhalation (18 micrograms/capsule)

For the patient described, select the most appropriate treatment from the list above.

30. A 65-year-old man who has COPD and persistent breathlessness is now finding it difficult to walk to the local shops. He is a lifelong smoker and currently smokes 25 cigarettes a day. He was using an ipratropium metered dose inhaler (20 micrograms/metered inhalation) as required but this is being discontinued by his GP since it no longer controls his symptoms. His FEV₁ is greater than 50% predicted.



Guidelines for the use of inhaled therapies in COPD would be provided in the resource pack in the actual assessment but are shown here in this example.



National Institute for Health and Care Excellence (2010). Management of chronic obstructive pulmonary disease in adults in primary and secondary care. London: NICE

Answers

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

Question	Answer
16.	B
17.	A
18.	C
19.	D
20.	D
21.	G
22.	E
23.	A
24.	F
25.	E
26.	D
27.	A
28.	H
29.	F
30.	H