The Society of Apothecaries of London
Diploma in HIV Medicine (Dip HIV Med)
Administrative Guidance for Candidates

EXAMINATION TIMETABLE: 2010

Closing date for entries	Wednesday 28 July
Written paper	Wednesday 22 September
OSCE	Wednesday 13 and Thursday 14 October*

* The OSCEs are provisionally scheduled to be held over two days in order to accommodate the maximum number of candidates. Candidates will be required to attend on both OSCE days, **unless notified otherwise in the examination admission document issued after the closing date for entries.**

APPLICATIONS

1. To avoid disappointment, candidates are advised to apply for the examination well in advance of the closing date for entries. The closing date is the **final** date that a completed application can be considered for entry to the examination **but there is no guarantee that places will still be available at this date**.

WAITING LIST

2. The Society operates a waiting list system once all places for the examination have been filled. Candidates will be notified in writing as soon as a place becomes available, candidates will then have two weeks to respond and advise whether they wish to accept the place. Please note that should candidates not respond in this time the place will be offered to the next person on the waiting list.

EXAMINATION FEE

3. The examination entry and re-entry fee is currently £495. Candidates who withdraw from the examination after the closing date will trigger a forfeit fee as detailed below.

WITHDRAWING FROM THE EXAMINATION

4. Candidates who wish to withdraw from the examination must notify the Society in writing. The following withdrawal penalties will be applied:

If the date of receipt of notification of withdrawal falls…	**The penalty incurred will be…**
Before the application deadline stated on page 1.	No penalty
8-6 weeks before the start of the examination (i.e. in the two weeks after the application deadline)	£75
Within 6 weeks of the start of the examination	£150

PAYMENTS

5. Payments can be made via:

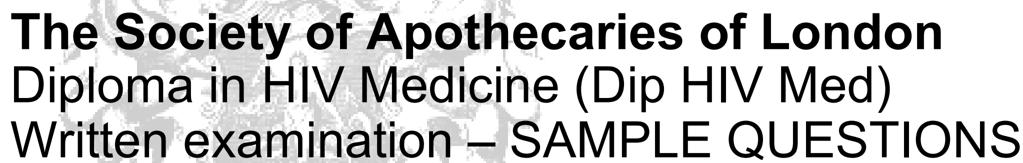
Cheque	Made payable to 'The Society of Apothecaries'. Please write your name, address and the diploma name on the back.
PayPal™	Via the Society website: www.apothecaries.org
Direct transfer	Details on application

Candidates from overseas should ensure that their cheques yield the correct fee in Sterling AFTER deduction of bank charges. Only bankers' drafts drawn on a UK bank are accepted. Bankers' drafts should be valid for at least three months after the examination date.

SAMPLE QUESTIONS

6. Sample questions indicating the range and depth of topics which might be encountered are given in this guidance.

Diploma code: 10



The Society of Apothecaries of London
Diploma in HIV Medicine (Dip HIV Med)
Written examination – SAMPLE QUESTIONS

Convenor: Dr M J Fisher BSc, FRCP
Deputy Convenor: Dr D Asboe FRCP, Dip G-U Med

Examiners:
Dr E Allason-Jones MD, FRCP
Prof J Anderson PhD, MB BS, FRCP
Dr S Bhagani BSc (Hons), MB, ChB, FRCP
Prof C Bunker MA, MD, FRCP
Dr D R Chadwick BA, MB BChir, PhD, FRCP
Dr D R Churchill BA, MB BS, FRCP, DTM&H
Dr A deRuiter MB BS, FRCP
Dr J K Dhar MD, FRCP, DTM&H
Dr S G Edwards FRCP, DTM&H
Dr A R Freedman MA, MD, FRCP
Prof B G Gazzard MA, MD, FRCP
Dr M M Gompels BSc, MB BS, MD, FRCP, FRCPath (Imm)
Dr D A Hawkins FRCP
Prof M A Johnson MD, FRCP
Dr R Kulasegaram LRCP MRCS, FRCP
Dr C L S Leen MD, FRCP
Dr N E Mackie MB BS, MRCP, Dip G-U Med, DFFP
Dr E L C Ong MB BS, MSc, DTMH, FRCP (Lond), FRCP (Ireland)
Dr M R Pakianathan MB ChB, FRCP, FRCPE, DFFP
Dr R J Patel MB ChB, FRCP
Dr A L Pozniak MD, FRCP
Dr A J Robinson MBBS, FRCP
Prof J D C Ross MD, MB ChB, FRCP
Dr S Taylor MB ChB, FRCP, PhD
Dr M Tenant Flowers BSc, MB BChir, MSc (Med Ed), FRCPI
Dr A P Ustianowski MB BS, PhD, FRCP, DTM&H
Dr J C Walsh MB BS, MRCP
Dr E L Wilkins FRCP, FRCPath, DTM&H
Dr I G Williams FRCP

Instructions to candidates

- Time allowed for this paper: 2½ hours, 10.00 am - 12.30 pm
- Please write your candidate number on the top of every page **and** in the box below
- **ALL QUESTIONS TO BE ANSWERED**
- **DO NOT WRITE OUTSIDE THE BOXED AREA**
- Brief notes only are required and answers should be written in bullet point form on the question sheets
- Where a certain number of answers are specified, any additional points will not be considered.
- The size of the boxes gives an indication of the length of answer required
- If you need to make any notes, use the rough paper provided
- The following overall allocation of time is recommended:
  - Questions 1-10 (Data Interpretation) - 1 hour
  - Questions 11-20 (Structured Answers) - 1½ hours

Please note:

- Candidates are forbidden to bring books, papers, calculators, mobile phones or any other electronic aid into the examination rooms.
- It is strictly forbidden for candidates to talk to, or to attempt in any other way to communicate with each other whilst a written examination is in progress.

Candidate number:

Data interpretation questions

1. **BHIVA Guidelines**

A 24-year old HIV positive Zambian woman has had the following results over the last year. She is not taking antiretroviral therapy and is well

	CD4 cells x10^6/l	**CD4 %**	**HIV viral load copies/ml**
January	550	33	568
June	450	28	10, 459
December	400	29	1, 350

a. Should she be started on antiretroviral therapy now?

[2 marks]

No

b. What factors have influenced your decision?

[1 mark]

CD4 count and falling slowly but still >350, % stable, viral load unstable but low

A 21-year-old HIV positive Italian man on a methadone detoxification programme attends clinic. He feels tired sometimes and has hairy leukoplakia. His results over the previous year are as follows:

	CD4 cells x10^6/l	**CD4 %**	**HIV viral load copies/ml**
January	300	21	6, 783
June	240	17	19, 852
December	190	15	31, 333

c. Should he be started on antiretroviral therapy now?

[2 marks]

Yes

d. List 2 factors which have influenced your decision.

[2 marks]

Up to 1 mark each for any 2 of:

CD4 count below 200	1 mark
Symptomatic HIV	1 mark
Increasing viral load	½ mark
Low CD4%	½ mark

CONTINUED…

(1.Cont…)

A 34 year old man, with stable, cutaneous, biopsy-proven Kaposi's Sarcoma, has the following blood results:

	CD4 cells x10^6/l	**CD4 %**	**HIV viral load copies/ml**
January	400	28	100, 783
February	200	27	200, 191

e. Should he be started on antiretroviral therapy now?

[2 marks]

Yes

f. What factors have influenced your decision?

[1 mark]

AIDS diagnosis (other surrogate markers irrelevant)

2. **Pneumocystis jerovecii pneumonia (PCP)**

A 28-year-old woman presents to casualty with a 4-week history of breathlessness and dry cough. She tells the staff that she was diagnosed as HIV positive 4 years earlier but has sought no treatment. Blood tests indicate the following:

Pa O_2	6.9 kPa (at rest, on air)
Pa CO_2	4.3 kPa
PH	7.44 mmol/L
Hb	11.3 g/dl
MCV	88 fl

Total white cell count 5.3 neutrophils 4.5 lymphocytes 0.2 monocytes 0.5

a. Pneumocystis jerovecii pneumonia (PCP) is felt to be the likeliest diagnosis. Justify this from the laboratory data given above.

[1 mark]

Hypoxia (½) in patient with low total lymphocyte (½) count, normal total white cell count and known HIV positive

b. What is your therapy management?

[3 marks]

High dose (½) **Cotrimoxazole** (½)
Oxygen (1)
Systemic (½) **steroids** (½)

c. She is started on first line treatment. Within 3 days her haemoglobin has fallen to 8.0 g/dl and she has developed a rash. A decision is made to switch therapy to intravenous Pentamidine. List 3 side-effects that need to be considered when using this drug.

[3 marks]

1 mark each for any 3 of:

hypo or hyperglycaemia	**hypotension**
pancreatitis	**arrhythmias**
acute renal failure	**blood dyscrasias**

d. 5 days later her blood gases are worsening and she is starting to tire. List 2 available therapeutic options.

[2 marks]

1 mark each for any 2 of:

CPAP
ventilation
alternative anti pneumocystis regimen
empiric treatment for other opportunistic pathogens

CONTINUES…

(2.Cont…)

e. Following intubation, bronchoscopy confirms PCP. Suggest a possible specific further treatment.

[1 mark]

Any of:	
Primaquine and Clindamycin	**Atovaquone**
Trimetrexate	**Eflornithine**
Taxol	**Caspofungin**

Structured Answer Questions

3. **Interleukin 2 (IL2)**

a. What is the role of IL2 in the immune system?

[2 marks]

IL2 is a T cell cytokine (½) **which induces the proliferation** (½) **and maturation** (½) **of T and B cells** (½) **as part of a T helper type 1 response**

b. When administered to patients with HIV infection, what effect does it have on plasma HIV RNA levels and CD4 cell counts?

[2 marks]

Either no change or a transient rise in plasma HIV RNA levels **(1)**

An increase in CD4 cell count **(1)**

c. What potential role could IL2 have in the treatment of HIV infection?

[3 marks]

As an immunotherapeutic agent which could potentially: (1 mark each for any 3 of)

Increase the CD4 count in those with poor CD4 response to HAART, thereby reducing opportunistic complications **(1)**

Increase the CD4 count in those with CD4 counts>300, thereby reducing opportunistic complications **(1)**

Delay the need for treatment initiation **(1)**

Facilitate treatment interruption **(1)**

d. Name 3 common side effects of IL2 therapy.

[3 marks]

1 mark each for any 3 of:

Fever
Malaise
Myalgia
Headache
Fatigue
Sweats
Oedema

4. **Impact of HIV on Hepatitis C Virus (HCV)**

a. List 3 ways that HIV co-infection impacts on the natural history of HCV.

[3 marks]

1 mark each for any 3 of:

accelerated development of liver fibrosis
accelerated development of cirrhosis
increased risk of hepatocellular carcinoma
increased death rate
increased HCV viral load
reduced spontaneous clearance of HCV

b. What is the current treatment standard of care for HCV infection?

[1 mark]

pegylated interferon (½) **plus ribavirin** (½)

c. Give 2 possible interactions with specific antiretroviral agents.

[2 marks]

1 mark each for any 2 of

Ribavirin and AZT: anaemia (1)
Ribavirin and AZT, d4T, ddC: reduced phosphorylation/decreased efficacy (1)
Ribavirin and ddI : increased ddI levels and therefore toxicity (1)

d. List 2 factors associated with improved virological response to anti-HCV therapy in a patient with HIV.

[2 marks]

1 mark each for any 2 of:

HCV genotype 2 or 3
lower HCV viral load
minimal or no liver fibrosis on histology
higher (weight based) doses of ribavirin
greater adherence to interferon/ribavirin
longer duration of therapy (for genotype 2 or 3)

e. Give 2 indications for initiating anti-HCV therapy in HIV co-infected patients.

[2 marks]

1 mark each for any 2 of:

Significant fibrosis on liver biopsy (1)
CD4 >500 cells/μl (on or off antiretrovirals) (1)
high HCV viral load and genotype 2 or 3 (1)

Candidate number:

This station lasts 5 minutes. Read the history and answer the question below:

A 51-year-old man with HIV infection has been under the care of your department since his diagnosis in 1991. He commenced antiretroviral therapy in 1997 after his CD4 count had dropped to 270 cells/mm^3, with stavudine (d4T), didanosine (ddI), and nevirapine. Since that time he has made excellent progress and his viral load assay has been undetectable (<50 copies/ml) for 3 years whilst his CD4 count has continued to increase.

He recently attended for his routine bloods on his way to work 2 weeks prior to his appointment. The laboratory rang the department that afternoon to say that his serum lactate was 4.6 mmol/l (normal range 0.6 – 2.0). He was contacted by one of the team and informed that he had lactic acidosis secondary to his antiretroviral therapy and was advised to discontinue his drugs immediately.

List 5 errors in the management of this patient which have contributed to this outcome. Assume that no action has taken place unless it is stated in the history.

	Up to 2 marks each for any 5 of these answers	**Marks**
1	d4T and ddI are no longer recommended for initial therapy due to increased risk of toxicity.	
2	There is no indication for routine lactate measurement in asymptomatic patients.	
3	The raised lactate may be secondary to other causes, including exercise or inappropriate specimen handling.	
4	A diagnosis of lactic acidosis cannot be made without performing arterial blood gases or calculating an anion gap.	
5	The specimen should be repeated before making any decision regarding his antiretroviral therapy.	
6	If lactic acidosis is suspected the patient should be asked to return and be assessed clinically	
7	Discontinuation of therapy is not advised in an asymptomatic patient with a lactate of less than 5.	
8	Discontinuation of therapy may be better performed sequentially due to the differing half-lives between the agents he is receiving.	
9	Other investigations such as LFTs, renal function and creatinine kinase should have been checked.	
	TOTAL MARK:	**/ 10**

Instructions to candidates

Station: **Pre-test HIV counsel a black African woman with TB**
This station lasts 10 minutes. This is Pricilla Mututwa. She has attended your clinic asking for an "AIDS test". Read the history below and discuss with the patient the issues involved. There is no need to write anything down. **Patient History:** Mrs Pricilla Mututwa is 32 years old and is the wife of a postgraduate student at the university. She has recently been seen in the out-patient chest unit where a diagnosis of TB has been made. She has had her TB diagnosis explained to her and has been started on a 4-drug anti-TB regimen. She was advised to consider an HIV test by the Respiratory Registrar. She has subsequently been sent up to your unit for this to be done.

Instructions to examiners

Station: **Pre-test HIV counsel a black African woman with TB**

The candidates have received the following information:

This station lasts 10 minutes.

This is Pricilla Mututwa. She has attended your clinic asking for an "AIDS test". Read the history below and discuss with the patient the issues involved. There is no need to write anything down.

Patient History:

Mrs Pricilla Mututwa is 32 years old and is the wife of a postgraduate student at the university. She has recently been seen in the out-patient chest unit where a diagnosis of TB has been made. She has had her TB diagnosis explained to her and has been started on a 4-drug anti-TB regimen. She was advised to consider an HIV test by the Respiratory Registrar. She has subsequently been sent up to your unit for this to be done.

Examiners:

This station lasts 10 minutes.

Invite the candidate to take a seat, check the candidate's number and write it on the marking page. Introduce Mrs Mututwa, tell the candidate to read the instructions and start when ready. If nothing happens within 1 ½ minutes prompt the candidate. Check that the task is understood. If not, explain it verbally without giving any more information than is on the sheet.

Once the conversation has started take a back seat. Allocate marks to the candidate's counselling in accordance with the topics and marks shown overleaf. When the bell goes allow just a couple of seconds for the candidate to finish a sentence but then stop the discussion. Do NOT allow the conversation to continue any longer.

The candidate may decide that the counselling is complete before the bell goes. Candidates may wait inside or outside the cubicle and if they stay in they may wish to re-visit some of their answers - which they can do provided the patient remains in role

Mark sheet	Examiner	
Station: **Pre-test HIV counsel a black African woman with TB**	Candidate number:	

	Items	Marks			
1	Ascertain woman's country of origin			**½**	**0**
2	Ascertain woman's family and social situation with particular relevance to partnership status - current and past children and their health		**1**		**0**
3	Is she currently pregnant?			**½**	**0**
4	Support available for the woman in UK (friends, family)		1		**0**
5	Ascertain woman's knowledge and understanding of HIV/AIDS		1		**0**
6	Check if the woman has ever had an HIV test			**½**	**0**
7	Clarify points of fact on what HIV is and how it is transmitted		**1**		**0**
8	Explain what an HIV test involves		**1**		**0**
9	Outline benefits of taking HIV test		**1**		**0**
10	Outline disadvantages			**½**	**0**
11	Communication mark transferred from separate (yellow) skills sheet completed by the simulated patient – to include: – Introduction - candidate introduces her/himself, explains that s/he is going to discuss HIV testing – Seek questions from the woman.	**2**	**1**		**0**
	Global score: Excellent / Clear pass / Borderline pass / Borderline fail / Fail				
	TOTAL MARK:				**/ 10**

Instructions to simulated patients

Station: **Pre-test HIV counsel a black African woman with TB**
The candidate will be told by the examiner to read the task and the patient history. It is expected that the candidate will question you briefly and then explain in detail the issues around having an HIV test. You are Pricilla Mututwa. 1 week ago you attended the chest clinic for investigation of a chronic cough that you have had for nearly 2 months. You have been told by the Registrar this morning that you have TB and that you need to consider having an HIV test. You have been sent to the Department of HIV/ID to discuss this, have your questions answered and to have the test. **Additional information** – Your country of origin is Zimbabwe. You are married, with 2 children ages 7 and 5. The children are both well. – You live with your family in the UK in rented University accommodation and are currently not pregnant. You have no other family in the UK. – You belong to the local evangelical Church but have no close friends. – You are aware that HIV is a virus and if you catch it you might die. You know no-one personally who is currently infected. You have never been tested for HIV. Remember to interact as if you were a real patient. If the candidate says something you don't understand stop him/her and ask for clarification. Ask subsidiary questions if any arise naturally during the consultation. You may be asked if you have any questions. Do not make any questions up - simply reflect back – is there anything else doctor that you think I should know? At the end of this case fill in your assessment of the candidate’s skills on the communications skills sheet.