DHIV SAMPLE QUESTIONS

Questions will be consistent with relevant UK guidelines (e.g. British HIV Association guidelines). This may include reference to completed guidelines awaiting publication which are available on-line (eg www.bhiva.org), but not to guidelines which are out for consultation.

Explanation of Best of 5
In an attempt to simulate the challenge of making clinical decisions each question comprises:

a. A few lines of text explaining the clinical scenario (the stem) including, in some cases, investigation results;
b. A single line stating the question itself (the lead in); and
c. A list of 5 options (one preferred correct answer and 4 distractors).

The 5 options are all plausible and realistic and the 4 distractors are closely related to the preferred option but less correct. The task of the candidate is to identify which of the 5 options is most likely to be correct, given the particular circumstances set out in the clinical scenario. Therefore, there may appear to be more than one possible answer but only one that is the best or preferred option.

N.B. These are intended to illustrate the format, and are drawn from the past so may not reflect current guidelines. For an explanatory note about the guidelines used in the examination, refer to the Guide to the Diploma under "National Guidelines". These questions may not necessarily reflect the range of difficulty, which will vary.

Best of five

1.
A 37-year-old man is admitted to hospital in the UK with severe diarrhoea for 10 days. He reports 6kg of weight loss. On examination he is moderately dehydrated, has generalised lymphadenopathy and oral candida. He is diagnosed HIV-positive on admission. He reports a negative HIV test one year ago.

He is given intravenous fluids, ciprofloxacin and metronidazole. After 4 days his diarrhoea is 70% improved.

Results

Stool microscopy	cryptosporidium oocysts
HIV viral load	450,000 copies/ml
CD4 count	180 cells/μl

He asks you what stage of HIV infection he has.

What is the most appropriate response to his question?

A AIDS due to cryptosporidial diarrhoea
B AIDS due to low CD4 count
C AIDS due to weight loss and lymphadenopathy
D Primary HIV infection
E Symptomatic HIV infection

Answer: E (Symptomatic HIV infection)

Explanation
A Incorrect, cryptosporidial diarrhoea is only an AIDS defining illness if present for greater than 1 month
B Incorrect, CD4 count alone is not a criteria for AIDS within the UK
C Incorrect, weight loss greater than 10% defines AIDS
D Incorrect, timing of HIV infection may be up to 1 year previously and this is not the classical presentation of someone with primary infection (no fever)
E Correct, this is the BEST answer.

2.

You are seeing a 38-year-old woman who has been on treatment since 1992. By 2002 she had received multiple combinations, including unboosted protease inhibitors, non-nucleoside reverse transcriptase inhibitors and nucleoside reverse transcriptase inhibitors. Since then she has been maintained on zidovudine, abacavir and Kaletra™.

Results

Viral load	900 copies/ml
CD4 count	382 cells/μl
Trofile result	indeterminate

Genotypic resistance test

Reverse transcriptase	M184V, L74V, K103N, Y181C
Protease	V82A, L90M

Which 2 drugs would be most effective in a new combination?

A Darunavir and Etravirine
B Darunavir and Maraviroc
C Etravirine and Raltegravir
D Maraviroc and Etravirine
E Raltegravir and Darunavir

Answer: E (Raltegravir and Darunavir)

Explanation

A Incorrect, Y181C has a negative impact on susceptibility to etravirine, with a weighting of 2.5 on the Tibotec etravirine score
B Incorrect, tropism is undetermined therefore response to maraviroc cannot be predicted
C Incorrect, as per option A
D Incorrect, as per option A
E Correct, this is the BEST of the 5 options. The woman is integrase inhibitor naïve and so raltegravir is fully active. The 2 protease inhibitor mutations are not associated with darunavir resistance

3.

A 52-year-old, HIV-positive woman attends her routine clinic appointment. She has been on a combination of Kivexa™ and nevirapine for 8 months and has had an undetectable viral load for the last 6 months.

Baseline results (pre-treatment)

Resistance genotype	wildtype
HIV viral load	26 000 copies/ml
HLA B*5701	negative
Enhanced Trofile™	CCR5 phenotype

Current results

HIV viral load	less than 50 copies/ml
CD4 count	255 cells/μl

On enquiring whether she has any other problems she reports she has felt depressed and has been taking St John's wort for the preceding 12 weeks.

How would you best manage the potential interaction with her antiviral therapy?

A Check drug levels of nevirapine
B No change required
C Stop St John's wort
D Substitute maraviroc for nevirapine
E Switch nevirapine to darunavir, ritonavir

Answer: C (Stop St John's wort)

Explanation

A Incorrect: If nevirapine levels are satisfactory this may be reassuring but they only indicate what is happening at 1 time point.. There is no guarantee of the quality control of St John's wort and therefore over time what the drug exposure might be.
B Incorrect: St John's wort is an enzyme inducer and may lead to sub-therapeutic levels of nevirapine
C Correct: This is the BEST answer. St John's wort is an enzyme inducer and may lead to sub-therapeutic levels of nevirapine. Depression should be assessed and guidelines followed if drug treatment required, taking account of drug interactions
D Incorrect: There is a significant interaction with maraviroc, predicted to decrease maraviroc levels.
E Incorrect: There is a significant interaction with ritonavir and darunavir predicted to decrease levels of both drugs