



General Certificate of Education

Health and Social Care

8621/8623/8626/8627/8629

HC14 Diagnosis and Treatment

Mark Scheme

2010 examination - January series

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

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GCE Health and Social Care HC14 January 2010 Mark Scheme

The assessment of quality of written communication must be included in questions 2(b) and 4(b).

1

- ai) Ref to Nikke's problem being clarified AW (1) can explore her medical history (1) leading the G.P. to a (provisional) diagnosis (1) 3 marks

- a ii) Ref to the G.P. looking up Nikke's medical records (1) to see if there are previous or linked medical conditions (1) to access a database of symptoms of diseases and disorders/CDSS/prodigy AW (1) to provide a suggested diagnosis (1) communicate with other medical professionals/research (1) 4 marks

- bi) Ref to a **type** of thermometer e.g. digital/oral (1) placed in location e.g. forehead/mouth (1) remains in place long enough to record temperature/allow given time e.g. 30 seconds (1). Ignore actual readings. 3 marks

- bii) Ref to when healthy temperature is 'normal'/allow value e.g. 37.2°C (1) outside of this range indicates a possible problem (1) infection raises core body temperature/some disorders may lower it (1) 3 marks

- c) Any three of: visual examination AW/using a stethoscope/palpation/percussion/testing reflexes/taking blood pressure. 3 marks

- d) Ref to the blood sample being used for blood cell counts for conditions such as anaemia/leukaemia/infection (1) where red cells may be reduced in size/shape/or number/ haemoglobin level reduced/and/or white cell numbers increased/decreased (1) max 2

- Ref to blood sample being used for a biochemical test for conditions such as diabetes (1) where glucose levels in blood may vary (1) or kidney function (1) urate level/sodium/potassium/mineral or liver function (1) enzymes levels (1) or drug level in blood (1) max 2

Total 20 marks

2

- ai) Ref to both genders overall lung cancer most common/stomach cancer least common/comparison points of males – females for each site e.g. more stomach cancer in males than females/females more skin cancer than males/comparison points of some gender between regions e.g. more males in Region 2 with bowel cancer than Region 1.

Numerical comparisons made between genders/sites and/or regions e.g. similar numbers males with bladder cancer in both regions, similar numbers males with bladder and lymph cancer in Region 1. 4 x many females with stomach cancer in Region 2 cf Region 1.

Overall evidence of cancer – Region 1 Males 6004/Females 4569

Region 2 Males 7604/Females 6621

Allow reasons for differences

Mark Ranges

0 marks

No response worthy of credit e.g. answer simply restates the data.

1-3 marks

Answers make straightforward 1-6 gender/region comparisons. Similarities not recognised. No attempt to manipulate data in more detail. Responses may be vague and repetitive. For three marks must include most/least comparisons as well as others cf points of more and less.

4-6 marks

More detailed responses covering gender/region 6 or more comparisons including most/least points and 1-3 attempts to gain more analytical detail, manipulate the data numerically and recognising similarities in data items. For 6 marks must have at least three more detailed points and/or similarities.

7-9 marks

Detailed answers covering 9 or more points as above but with 4 or more data manipulations. For 9 marks must use all cancer site information.

9 marks

- a ii) Any 3 of: regions may be of different sizes/populations/Region 2 larger/Region 1 smaller (1) age profiles may be different/more older people in Region 2 (1) significant lifestyle differences/examples in the regions such as poor diet Region 2 (1) environmental differences in the regions (1) Allow disproportionate gender ratios (1) better health education Region 1 or vice versa (1) max 3

3 marks

- 2b) Answers are likely to describe radiotherapy as the use of radioactive/ionising radiation/gamma radiation, externally from a machine outside the body, firing a beam of high intensity rays, or internally as implanted pellets, inserted using a needle, to destroy AW cancer cells.

Discussion of the benefits are likely to include that used externally radiotherapy can target a localised cancer/minimal damage to surrounding cells – tissues/ a specific area e.g. brain/skin and that it is useful/effective when combined with surgery. The drawbacks are side effects as radiotherapy damages healthy cells

and can cause hair loss/fatigue and nausea/redness. Benefits can be major e.g. save a life, while side effects, while unpleasant and debilitating are relatively much less significant i.e. not life threatening.

Mark ranges

0 No response worthy of credit.

1-3 marks

Answers will show some relevant knowledge of how radiotherapy can be used but will lack some coherence and/or technical detail. Benefits and side effects will be stated rather than explained.

Candidates who deploy appropriate knowledge and understanding and display higher QWC skills should be rewarded at the top of the mark band.

4-6 marks

Answers describing how radiotherapy can be used to treat cancer will be in some detail with some omissions. Benefits and side effects will be briefly explained.

Candidates who deploy appropriate knowledge and understanding and display higher QWC skills should be rewarded at the top of the mark band.

7-8 marks

Answers will describe coherently and in good technical detail how radiotherapy can be used to treat cancer.

Candidates who deploy appropriate knowledge and understanding and display higher QWC skills should be rewarded at the top of the mark band.

8 marks

Total 20 marks

3

- ai) Ref to non-prescription drugs being **over the counter** (1) safe for purchase/not as strong as prescription drugs (1) without medical supervision (1) max 2
2 marks
- a ii) Any 2 of: chemical may be damaged by digestion AW/may take too long to be absorbed – needed quickly (1) drug needs to be applied locally not generally (1) unable to swallow – not conscious (1)
2 marks
- a iii) Any 3 of: injection/spray/creams/suppositories/pessaries/drops/inhalation
3 marks
- a iv) Ref to the brand name (1) generic name (1)
2 marks
- a v) Any 2 of: Sam could take bed rest/drink plenty of fluids/keep warm.
2 marks
- b) Ref to MRI as: the use of strong magnetic fields/and radio waves/rather than radioactivity/ to make very clear internal body images/person placed in a large horizontal cylinder/electromagnet/current causes magnetic field/causes protons – charged particles in hydrogen atoms/to line up parallel to each other/strong pulse of radio waves/causes loss of alignment AW/particles cause radio signals/as they realign/receiver detects these to create the images/as cross section – slice/combined for 3D picture/by computer/good for use with joints and brain/no harm to body/but claustrophobic to users/not with metal implants.

Mark Range

0 marks

No response worthy of credit.

1-3 marks

Answers are vague and repetitive covering up to three of the above points.

Generally lacking structure, there will be errors in spelling, punctuation and

grammar. For 3 marks candidates must attempt to cover both how MRI is used as well as scientific principles.

4-6 marks

Answers are organised but may lack detail in covering four to six points. There

may be some lack of precision and some errors in spelling, punctuation and

grammar. For 6 marks answers must cover six points in accurate detail.

7-9 marks

Answers cover seven or more points logically and in clear detail. Spelling

punctuation and grammar are very good throughout. For nine marks answers

must cover at least nine of the points accurately.

9 marks

Total 20 marks

4

- ai) Transplant surgery: removing diseased/dysfunctional organs AW (1) replace with healthy organ from **a donor** (1) following close **genetic** matching (1) using immune suppressant drugs AW (1) max 3 plus example – Kidney/heart/liver/corneal transplant (1)
4 marks
- aii) Aseptic techniques: microbe free AW practices (1) to avoid wound contamination (1) during/post surgery (1) plus example – sterilisation of implements/disinfectant use (1)
4 marks
- aiii) Local anaesthesia: using drugs/chemicals (1) to block nerve pathways (1) no loss of consciousness (1) localised area numbed AW (1) plus example – dental treatment/epidurals for childbirth/skin lesions/eye surgery/endoscopy (1)
5 marks
- b) Answers are likely to point out that patient choice is a basic human right, protected by law AW, which empowers AW patients, with the right to agree, refuse or delay treatment. It is important when benefits and risks need to be weighed, which can affect quality of life. Its' importance for treatment to be individualised, and an aid to recovery as the patient is more likely to cooperate. Negative points may include the inappropriateness of choice, against professional advice leading to less than effective treatment and recovery, choice may be influenced by current medication, non professionals e.g. friends and family, and/or previous experiences.

Mark Ranges

0 marks

No response worthy of credit

1-3 marks

Answers show some relevant knowledge but are vague, lacking coherence. Points will be simply stated and will not be explained or reasoned. These may tend to be repetitive. Negative aspects are likely to be omitted. Candidates who deploy appropriate knowledge and understanding and display higher QWC skills should be rewarded at the top of the mark band.

4-5 marks

Answers are reasonably coherent arguments showing knowledge of both positive and negative aspects. Points made will be explained or reasoned in some detail. Candidates who deploy appropriate knowledge and understanding and display higher QWC skills should be rewarded at the top of the mark band.

6-7 marks

Answers are coherent and well-structured arguments for both positive and negative aspects. Points made will be explained and/or reasoned in good detail. Candidates who deploy appropriate knowledge and understanding and display higher QWC skills should be rewarded at the top of the mark band.

7 marks

Total 20 marks
Paper Total 80 marks