



EXAMINERS' REPORTS

LEVEL 3 CERTIFICATE/DIPLOMA IN MEDICAL SCIENCE

JANUARY 2019

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Annual Statistical Report

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UNIT 2 PHYSIOLOGICAL MEASUREMENT TECHNIQUES

General Comments

Three centres submitted work for this unit in this series.

The quality of work submitted by the centres was very good and assessment by the centres was generally accurate and in agreement with the moderators.

For all three centres the administrative work was correctly submitted, with authentication sheets signed by the candidates, assignment brief followed and assessment documentation completed.

Activity One

Task 1

Candidates need to produce pre-test information for three different tests; one of these tests must be an ECG.

As noted in previous moderation reports, A.C1.1 caused some concerns at moderation. A.C 1.1 should be covered in each piece of pre-test information, as each piece is marked out of a maximum of 6 marks for this A.C (18 marks in total for this A.C). It is important that for A.C 1.1 candidates do not just describe the physiological test, but explain the **principles of how the test works**. So for example with peak flow test, candidates could explain about this test measuring airflow through the bronchi and thus the degree of obstruction, with blood pressure candidates need to explain how the cuff inflates to cut off blood flow, then slowly releases, so that the sensor can accurately record when pressure returns. Explanations for blood pressure should include reference to systolic and diastolic measurements and what these are in relation to the cardiac cycle in order to be awarded the highest mark band.

Task 2

For this task candidates need to produce a plan (A.C3.1). This plan should be detailed and cover things such as: identification of information to be collected, procedures that will be used, equipment needed, and the location and timing of the test; how/when patients will be informed of when they need to attend, what they should do/not do before the test; any other individuals that need to be contacted - e.g. technician, facilities etc.

Although the observation record can also support the achievement and marking of this A.C, it is important that candidates do produce a written plan themselves.

Candidates need to perform a minimum of two tests on at least two patients. The two tests should test two different physiological systems, for example blood pressure test: cardiovascular system, peak flow: respiratory system. Tests such as BMI do not test a specific system and are not listed in the content for this unit (A.C3.2). Pulse Oximetry and Blood Pressure are a permitted combination of tests. When performing tests on “patients” candidates should follow standard protocols for the undertaking of these tests. For Blood Pressure testing this is taking three tests, suitably spaced apart. This allows for a mean to be calculated to provide the most accurate result and minimise errors.

Task 3 and 4

These two tasks are linked, but it is important to ensure that candidates do cover all the required A.Cs, this includes describing possible limitations of the tests they have performed (A.C1.3). Candidates should process data from the physiological measurement tests they performed and from the data with which they are provided (ECG trace). With the ECG trace candidates should label the components of the ECG (P, QRS and T) and undertake relevant analysis. They could also comment on the “repeatability of the two traces provided.

For A.C4.2 Candidates need to provide conclusions which are detailed and are clearly linked to the evidence, this includes comparisons to expected norms and patient history. Candidates need to link their findings to expected physiology and possible pathology.

For A.C4.4 it is important that candidates use scientific and technical language in the proforma for the head of department (e.g. hypertension rather than high blood pressure).

UNIT 3 MEDICAL SCIENCE RESEARCH METHODS

Two centres submitted work for this session.

Administrative work was correct, with authentication sheets signed by candidates. The quality of the work submitted was generally good and assessments by the centres were in the main accurate and in agreement with the moderator.

Candidates continued to experience the greatest difficulty in achieving ACs 3.1, 3.2, 4.1 and 4.4. To help rectify this, candidates need to consider carefully the hypothesis for their investigation in which the one independent variable is clearly stated. The research questionnaire should then be designed with the hypothesis in mind avoiding the use of irrelevant questions. The style of questions should allow quantitative data to be collected which can then be analysed. Any calculations should be clearly set out, allowing access to AC4.4; the use of mathematical notation. Whilst the use of an appropriate statistical test is needed to achieve band 3 in AC4.1, candidates can still access bands 1 and 2 by calculating mean values and standard deviation. Few candidates attempted to explain the significance of any terms used in data analysis (AC 3.1) or explain the selection of the statistical methods used to analyse data. Further help may be found in the 'Guidance for Teaching' document.

UNIT 4 MEDICINES AND TREATMENT OF DISEASE

General Comments

Just one centre submitted work for this unit in this series.

The quality of work submitted by this centre was of a very good standard and the vast majority of the assessment decisions made by the centre were accurate, and agreed with the moderator's decisions.

The centre submitted all the correct administrative documentation, with authentication sheets signed by the candidates. The centre had correctly completed the mark record sheet, and had included detailed annotation on the candidate's work, which was very helpful to the moderation team.

Task 1.

In completing their presentations, candidates are specifically asked to provide a reflective account of their contribution to team work (A.C4.3). Whilst the assessor can also comment on this in the observation, the reflection is a specified piece of evidence (see assignment brief). Candidates from this centre completed this well.

Whilst the assessor observation record does validate the marks awarded for this aspect of the assessment, it is good practice for candidates to include their actual group presentation (just one copy per group is sufficient), as well as any presentation notes. **It would be helpful if centres could indicate in their submission, which students worked with which other students in the groups.**

Task 2

Often candidates do not give a suitable or detailed enough explanation of why medicines can lose their effectiveness across all the medications discussed. Candidates do need to provide this explanation across all medications discussed in order to be awarded the top band marks. Some candidates from this centre were good at completing this requirement, others not so good, but this A.C is a differentiator in terms of candidate ability.

Candidates often failed to explain clearly how adverse reactions to medicines occur; instead they only provided a list of possible adverse reactions which is not the requirement of this assessment criterion.

For A.C2.2 Candidates should directly reference the body systems that the medication affects, and not just discuss an individual organ affected by the medicine. Again some candidates from this centre were good at completing this requirement, others not so good, but this A.C is a differentiator in terms of candidate ability.



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