### 3625-31 Level 3 Advanced Technical Extended Diploma in Health and Care

**June 2018**

**Version 1.1**

<table>
<thead>
<tr>
<th>Question</th>
<th>Acceptable answer(s)</th>
<th>Guidance</th>
<th>Max marks</th>
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</thead>
<tbody>
<tr>
<td>11.08</td>
<td>Identify the body systems responsible for each of the following: a) micturition b) circulation.</td>
<td>One mark for each answer up to a maximum of two marks. a) renal / urinary system b) cardiovascular/circulatory</td>
<td>2</td>
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</tbody>
</table>
| 12.08    | Describe four structures of a simple cell. | Candidates may achieve a maximum of two marks for only identifying the four structures without description for all the structures. One mark for each description, up to a maximum of four marks:  
- A cell membrane is a semi permeable membrane controlling movement in and out of the cell  
- A nucleus contains genetic material / controls the activity of the cell  
- Cytoplasm is fluid containing enzymes and cell organelles | 4 |
3. **Organelles are structures which carry out essential cell functions.**

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<thead>
<tr>
<th>3</th>
<th>Explain the interaction between the lymphatic and immune system when the body has an infection.</th>
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<tr>
<td></td>
<td><strong>One mark for each of the following explanations up to a maximum of two marks:</strong></td>
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<tr>
<td></td>
<td>The immune system attacks the infection (1) then lymphatic system picks up dead pathogens ready for excretion (1)</td>
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<td></td>
<td><strong>Do not accept marks for a description of immune/lymphatic system in isolation.</strong></td>
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</table>

4. **Explain how an ageing population impacts on the health and wellbeing of individuals and service provision.**

<table>
<thead>
<tr>
<th>4</th>
<th>Candidates must cover both impacts on the individual and the provision of services to gain maximum marks.</th>
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<tbody>
<tr>
<td></td>
<td><strong>One mark for each explanation for each of the following up to a maximum of six marks:</strong></td>
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<tr>
<td></td>
<td>• there may be an increase in age related illnesses</td>
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<td></td>
<td>• increase in complex health conditions</td>
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<tr>
<td></td>
<td>• increase demand for acute services</td>
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<tr>
<td></td>
<td>• longer waiting times for ambulances / waiting for a bed</td>
</tr>
<tr>
<td></td>
<td>• longer waiting times for discharge assessments/arrangements</td>
</tr>
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<td></td>
<td>• increased demand for community services/staff</td>
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<td></td>
<td>• individuals may be required to pay for services</td>
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<td></td>
<td>• increased cost to the NHS/social care services</td>
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<td></td>
<td>• elderly people may become isolated / lonely</td>
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<tr>
<td></td>
<td>• elderly people may suffer from depression and anxiety</td>
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<td>• family members may suffer physical, emotional or financial strain</td>
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5. **Identify two current public policies that raise awareness of how to reduce**

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<thead>
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<th>5</th>
<th><strong>a) One mark for each of the following examples up to a maximum of two marks:</strong></th>
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<tbody>
<tr>
<td></td>
<td>• stopping smoking</td>
</tr>
<tr>
<td></td>
<td>• reducing obesity</td>
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<table>
<thead>
<tr>
<th></th>
<th><strong>Note to marker: Do not accept marks for stating that they raise awareness.</strong></th>
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<td>2</td>
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|   | 6 |

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the risk of developing cancer.

b) Explain how public policies help to reduce the risk of developing cancer.

b) One mark for each explanation and one mark for relevant expansion up to a maximum of four marks.

- National campaigns provide information on cancer (1) to advise people how to look after their own health (1)
- Advises people to attend screening services (1) to detect cancer earlier for early treatment (1)
- Educates health care professionals in detecting early signs of cancer (1) so that they can give advice to people /so they can provide useful/informative information / make early referral to health services (1).
- Sets prices/age limits/quantities to make products that increase the risk of health problems/cancers less affordable/accessible.
- Use various techniques such as use of ‘scare tactics’ to frighten people into changing their behaviour

6
Explain the conflict analysis perspective in relation to health care provision.

One mark for each explanation and one mark for relevant expansion point. Answer may include but not be limited to:

- Conflict analysis argues that discrimination causes inequality in health care provision (1) Inequalities may appear due to discrimination based on gender/ income/ education/ heritage etc. (1)
Those in most need of services are often less able to access health care provision (1) due to location of health care provision/attitude of health care staff/lack of facilities for childcare/physical access arrangements/costs of services/financial burden (1)

Clinicians medicalise problems in order to retain a power/income status (1) Medicalisation of problems prevents the underlying causes being identified and managed (1)

Political drivers influence how/where money is spent (1) this tends to favour those with most power/ influence / most topical / media coverage(1)

7
Describe how Maslow's theoretical model of The Hierarchy of Human Needs promotes an understanding of health and well-being.

One mark for each of the following descriptions up to a maximum of four marks:

- Maslow’s model (hierarchy of human needs) provides a humanistic view of the person.
- The hierarchy is made up of physiological, safety, belonging and love, esteem, and self-actualisation.
- There is an order to achieving each of the needs/ a need cannot be met unless the previous need has been met
- In order to achieve self-actualisation all other needs must be met first
- Health and care professionals use the model to provide an holistic approach to health and care services

8
a) Define the term ‘mitosis’

Mitosis is the process by which a cell divides into two identical copies of the original cell (1)
Mitosis is the type of cell division used for growth/ repair/ asexual reproduction (1)
b) Describe the process of mitosis.

b) One mark for each of the following up to a maximum of four marks:
The process of mitosis involves
- Chromosomes in the cell nucleus are copied (1)
- Chromatids are pulled apart and move towards poles (1)
- Chromosomes separate (1)
- Cell divides (1)

9
Describe two differences between viruses and bacteria.

One mark for each difference, up to a maximum of two marks:
- Viruses are smaller than bacteria / bacteria are larger than viruses
- Viruses require a living host / bacteria can survive outside a host (1)
- Viruses change the host cell’s genetic material from its normal function to producing the virus itself / bacteria do not change the cell’s genetic material (1)
- Antibiotics do not kill viruses / most bacterial infections can be successfully treated by antibiotics
- All viruses cause disease / some bacteria support health

10
a) Describe the purpose of a peak flow reading.

b) Describe how a peak flow diagnostic test is performed.

a) One mark for each point, up to a maximum of two marks:
The peak flow test measures how fast you can breathe out/strength of exhalation (1). It checks how well lungs are working / lung volume / lung efficiency (1). See if airways are constricted (1)

b) One mark for each of the following up to a maximum of two marks.
- Hold the peak flow machine, set to zero. The individual should hold their breath while they place the mouthpiece in their mouth, between their teeth. Blow out as hard and fast as you can in a single blow
11

a) Describe the purpose of checking an individual’s temperature as a physiological measurement.

b) Identify two other physiological measurements that may be taken when an individual is unwell.

One mark for the following answer up to a maximum of two marks:

a) To detect possible hypothermia (1) or hyperthermia/fever/infection (1)

b) One mark for each of the following up to a maximum of two marks:
   - Pulse rate
   - Heart rate
   - Blood pressure
   - Respiratory rate
   - Oxygen saturation.
   - Urinalysis
   - X-ray
   - Blood test

12

Describe how the body gets energy from fats.

One mark for a description of each of the following up to a maximum of four marks:

- Fat from food is broken down into fatty acids (1 mark)
- Fatty acids that are not needed right away for energy are stored. (1 mark)
- Through a series of metabolic processes stored fats can be broken down into glucose (1 mark)
- Glucose can then be converted into glycogen (1 mark)
- The Krebs’s cycle describes the series of chemical reactions that occur which releases energy (1 mark)

13

Ruby is 29-years-old and works in a Band 1: 1 – 4 marks

Basic discussion that includes limited links to factors and their impact on individuals’

Indicative content

- Description, signs and symptoms of
supermarket as a cashier. She is obese and has been since childhood. Ruby’s Doctor has told her she has high blood pressure.

Discuss the factors affecting Ruby’s health and how her health and well-being could be improved.

Band 2: 5 – 8 marks
Clear and relevant discussion which makes a reasonable attempt to cover most factors affecting Ruby’s health and well-being and potential impacts which displaying good breadth of knowledge and understanding. The discussion includes recommendations for improvement and the support available which may be detailed in some areas. There may be use of some examples to support the discussion. The overall discussion is presented in a clear format and the use of terminology is mostly appropriate. Content is factually accurate.

To access higher marks in the band, the response will include some attempt to address a larger range of factors.

Band 3: 9 – 12 marks
Comprehensive and clear discussion showing breadth of understanding across all the factors which were supported by effective justification that displayed depth of understanding. Sound knowledge and understanding of the potential impact on individual’s health and wellbeing. A well-reasoned discussion with accurate links to health and wellbeing support services considered. Throughout the discussion coherent opinions were offered with clearly defined examples and reference to

high blood pressure
- Impact of high blood pressure on physical health
- Impact of obesity on physical health
- Inequalities in healthcare provision
- Diagnostic tests used to identify Ruby’s health issues
- Relevant health care services and professionals who could support Ruby to improve her lifestyle choices
- Types of lifestyle changes that could improve Ruby’s health
- Relevant psychological perspectives to include different theories/theorists
- the effect of self-awareness and self-esteem issues which may be relevant to Ruby’s health in the short and long term
- Biopsychosocial model / integrated care
- Sociological model
Theory/theories to support justifications for recommendations. Relevant use of accurate terminology was evident. The entire discussion was relevant and factually accurate.

To access higher marks in the band the response will be coherent, balanced and structured in a logical way. Clear and strong reference to theory/theories to support discussion. All recommendations will be fully justified.