higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

THE HUMAN BODY AND MIND
NQF LEVEL 3

2 December 2024

This marking guideline consists of 8 pages.

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QUESTION 1

1.1
1.1.1 False
1.1.2 False
1.1.3 True
1.1.4 False
1.1.5 True
1.1.6 True
1.1.7 True
1.1.8 False
1.1.9 True
1.1.10 False

(10 × 1) (10)

1.2 1.2.1 The stomach is situated in the left hypochondriac region OR the left upper abdominal quadrant,✓ below the diaphragm✓ and posterior to the stomach.✓ (Any relevant 3 × 1) (3)

1.2.2 The uterus is situated in the hypogastric region,✓ medial to the Fallopian tubes and ovaries,✓ posterior to the bladder✓ and anterior to the rectum✓ OR between the rectum✓ and the bladder.✓ (Any relevant 3 × 1) (3)

1.2.3 The pancreas is situated in the epigastric region,✓ partly posterior to the stomach✓ and slightly below the stomach✓ in the curve of the duodenum.✓ Below the diaphragm.✓ (Any relevant 4 × 1) (4)

1.3
- The colour of the skin will be affected due to the lack of melanin.
- The destroyed epidermis will be unable to rejuvenate new cells.
- The destroyed epidermis will not be able to function as first line of defence to the body.
- The person will experience a loss of sensation due to the destroyed nerve endings.
- The skin will be unable to sweat due to damaged sweat glands.
- The skin will be dry due to the destroyed/damaged sebaceous glands which are unable to secrete sebum.
- There will be a lack of heat and nutrients and O2 to the skin due to damaged blood vessels.
- There will be a lack of hair growth due to the damaged hair roots and follicles.
- The person will have no gooseflesh to retain heat on cold days.

(Any relevant 5 × 2) (10)
[30]

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QUESTION 2

2.1
2.1.1 frontal
2.1.2 thoracic
2.1.3 superior
2.1.4 conjunctiva
2.1.5 choroid
2.1.6 pathogens
2.1.7 fungi
2.1.8 Viruses
2.1.9 innate
2.1.10 pia mater

(10 × 1) (10)

2.2 2.2.1
- Sense of sight:✓ Look around and notice✓ OR look at the clock.✓
- Sense of hearing:✓ Birds chirping outside✓ OR sound of the invigilator's shoes.✓
- Sense of touch:✓ Bladder feels full✓ OR burning sensation.✓
- Sense of smell:✓ Perfume.✓ (Any relevant 4 × 2) (8)

2.2.2
- Cardiac sphincter
- Heartburn (1 + 1) (2)

2.2.3
- Digestive system:✓ Acid reflux✓
- Urinary system:✓ Bladder✓
- Respiratory system: Nose (Any relevant 2 × 2) (4)

2.2.4 Sneezing (1)

2.3
- It improves memory and self-esteem.
- It can be used to take notes.
- It is easy to make connections between subconcepts.
- Large chunks of information can be summarised.
- Information is visual and graphic.
- It is fun.
- Information is easy to process.
- Information is easy to remember.
- Creativity and originality can be used.
- New ideas and patterns may start to form.
- It can be used during presentations of practical assessment tasks.

(Any relevant 5 × 1) (5)
[30]

QUESTION 3

3.1 3.1.1 Operant conditioning
3.1.2 Classical conditioning
3.1.3 Psychodynamic theory
3.1.4 Cognitive developmental theory
3.1.5 Psychosocial developmental theory

(5 × 1) (5)

3.2 a) Oesophagus
b) Liver
c) Ascending colon/Large intestine
d) Stomach
e) Rectum

(5 × 1) (5)

3.3 3.3.1 ID
3.3.2 Superego
3.3.3 Ego
3.3.4 Ego
3.3.5 ID
3.3.6 Superego
3.3.7 Superego
3.3.8 Ego
3.3.9 ID
3.3.10 Superego

(10 × 1) (10)

3.4 3.4.1
- Oral stage
- Baby sucking a dummy, bottle and the breast
- Sexual energy of baby centred around mouth
- Baby getting satisfaction from sucking and cries when not sucking
- Baby puts everything in the mouth

(Any relevant 5 × 1) (5)

3.4.2 0–12 months (1)

3.4.3
- If a baby is deprived of the breast or taken off the breast too early, it will suck its thumb.✓
- A baby can develop an oral fixation✓ later in life and become a smoker.✓

(Any relevant 3 × 1) (3)

3.4.4 Trust versus mistrust (1)

[30]

QUESTION 4

4.1 4.1.1 Brain (1)

4.1.2 Central nervous system (1)

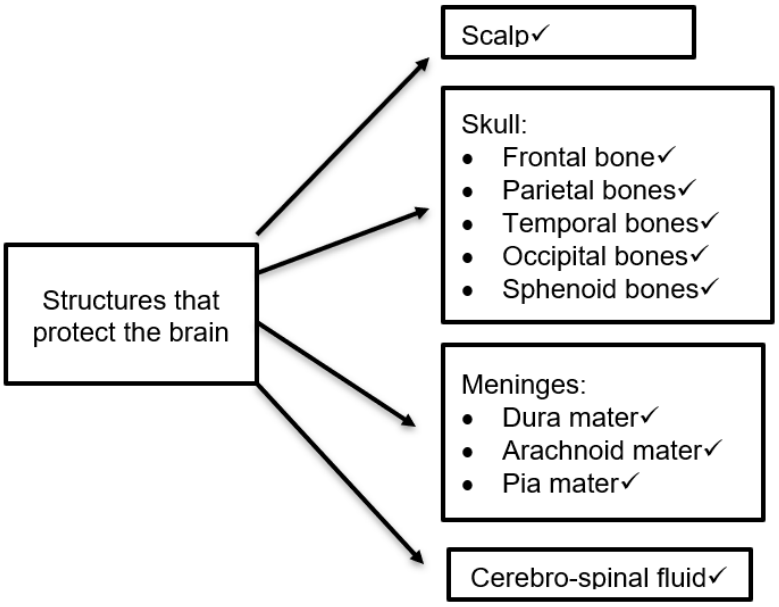
4.1.3 Brain injury with the following consequences:

- Disturbance in respiration, blood pressure and heartbeat
- Lack of voluntary movement
- Unconsciousness
- Loss of memory and intelligence
- Poor sensory perception of all senses
- Trouble talking, speaking, reading, writing and explaining feelings and thoughts
- Changes in cognitive skills
- Drowsiness
- A headache that gets worse and does not go away
- Slurred speech, weakness, numbness or decreased coordination
- Repeated vomiting or nausea, convulsions or seizures
- Death (Any relevant 5 × 1) (5)

4.1.4 It is likely for someone to become paraplegic when the part of the brain that controls voluntary movements, is injured.
Injury to the brain causes poor communication between the brain and the muscles. Certain areas of the brain send signals to the muscles, making movement possible.
When these areas are damaged with traumatic brain injury, the signals are interrupted, the muscles are unable to respond, and a person may become paralysed.

- It is unlikely for someone to become paraplegic if communication between the brain and the muscles is not affected.
- Paralysis happens as a result of injury to the spinal cord.
- A mild head injury may not affect the spinal nerves and voluntary movements. (Any relevant 3 × 1) (3)

4.1.5



(Any relevant 10 × 1) (10)

4.2
- FIGURE 1: Washing clothing removes bacteria✓ and prevents it from entering the body and breaking down the immune system✓ and allowing opportunities for opportunistic infections.✓
- FIGURE 2: Open windows promote good ventilation;✓ it allows sunlight and fresh air to enter. Sunlight kills bacteria such as TB.✓ Fresh air blows TB and other viruses out of a room.✓

(Any relevant 3 × 2) (6)

4.3
- She should mix the formula strictly according to the instructions✓ to ensure that the baby gets the necessary nutrients.✓
- She should wash the bottles with soap and water✓ to remove germs and prevent the baby from ingesting it.✓
- She must sterilise the bottles in the microwave or boil it in water✓ to prevent the baby ingesting bacteria which can cause diarrhoea.✓

(Any relevant 2 × 2) (4)
[30]

QUESTION 5

5.1
5.1.1 Sternum
5.1.2 Inguinal
5.1.3 Floating
5.1.4 Pectoralis major
5.1.5 Mediastinum
5.1.6 Coronary arteries
5.1.7 Clitoris
5.1.8 Penis
5.1.9 Arthritis
5.1.10 Coccyx

(10 × 1) (10)

5.2
- The tricuspid valve opens to allow deoxygenated blood to flow from the right atrium to the right ventricle.
- Leaking will result in the backflow of CO_2 into the right atrium.
- CO_2 will not reach the lungs to be exhaled; it will stay in the body and cause breathing problems.
- Death can occur.
- The heart needs to work harder to get rid of CO_2, causing it to enlarge; which can lead to heart failure. (Any relevant 5 × 1) (5)

5.3
- Helper T-cells (white blood cells)✓ which constantly circulate in tissues, lymphatic fluid and the blood stream, will kill bacteria.✓
- Lymph nodes✓ will filter and inhibit the growth of bacteria and destroy them before they enter the blood stream.✓
- The spleen✓ will destroy dead bacteria.✓
- Phagocytes✓ will surround, destroy and get rid of dead bacteria.✓
- Macrophages✓ will collect and dispose of antigens which were destroyed by phagocytes.✓
- The person will develop a fever; microorganisms will be destroyed because they can't flourish in high temperatures. (Any relevant 5 × 2) (10)

5.4
- Vegetables are beneficial for its fibre, vitamins and minerals.
- Fish, meat, chicken, turkey and eggs are high in protein and promote healthy heart and brain development of the baby.
- Wholewheat pasta is high in fibre to help maintain bowel health.
- Fruit supplies the mother and baby with nutrients to boost the immune system.
- Dairy products are a great source of calcium necessary for bone, teeth and muscle development.
- Seafood is good for brain development.
- Meat, chicken, fish, cereals, spinach and beans are rich in iron and folic acid to prevent defects in the foetus.

NOTE: Allocate marks for the benefit/value of five different food types, and not merely for mentioning the food.

(Any relevant 5 × 1) (5)
[30]

QUESTION 6

6.1
6.1.1	B
6.1.2	E
6.1.3	D
6.1.4	A
6.1.5	C
6.1.6	L
6.1.7	M
6.1.8	H
6.1.9	I
6.1.10	K

(10 × 1) (10)

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6.2
- Buccinators
- Orbicularis oris
- Zygomatic major
- Mentalis
- Frontalis (Any relevant 5 × 1) (5)

6.3
- TB
- Pneumonia
- Herpes simplex
- Kaposi sarcoma
- AIDS (Any relevant 5 × 1) (5)

6.4
- It can get messy, especially in the beginning.
- It is time-consuming.
- It is not informational enough.
- It requires lots of work.
- It is not easy if the person does not understand the concepts.
- Information and important detail can get lost in the process.
- For some, it is not easy to learn how to do mind mapping.

(Any relevant 7 × 1) (7)

6.5
- Their skeletal system needs to be healthy because it produces white blood cells to support a weakened immune system.
- An unhealthy skeleton, which fails to produce white blood cells, results in immunodeficiency.
- Because people with HIV are already immunocompromised, they will be at risk of opportunistic infections. (Any relevant 3 × 1) (3)

[30]

TOTAL: 180

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