

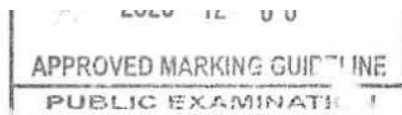
MEMO QUESTION BANK EAR

2020

1.2.8 Grommet

2.1.1

(c) Eustachian tube✓



(1)

2.1.2 G✓ Round window✓

(2)

2.1.3 Hair cells✓/Organ of Corti

(1)

- 2.1.5
- The impulses will be interpreted✓
 - and sent to the skeletal muscles✓
 - to maintain balance✓

(3)

- 2.1.6
- The oval window/Part F will not vibrate✓ freely
 - Fewer/no vibrations will be carried to the cochlea✓/inner ear
 - Fewer/no pressure waves will form✓ in the cochlea
 - There will be less/no stimulation of the organ of Corti✓/hair cells
 - Fewer/no impulses will be transmitted to the cerebrum✓
- leading to hearing loss

Any

(4)

2019

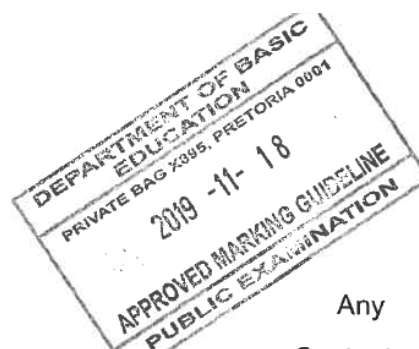
2.1.9 A

2.1.10 D

Maintaining balance (B)

When the position of the head changes, the maculae:

- are stimulated✓
- The stimulus is converted to an impulse✓
- which is transmitted by the auditory nerve✓
- to the cerebellum✓
- where the impulse is interpreted✓
- The cerebellum sends impulses to the muscles✓
- and balance is restored✓



Any

(6)

2018

1.2.3 cerebellum

- 2.4.1 (a) Transmits sound waves to the tympanic membrane✓/Secretes ear wax (1)
(Mark first ONE only)
- (b) Equalises pressure on either side of the tympanic membrane✓ (1)
(Mark first ONE only)
- (c) Releases pressure from the inner ear✓ (1)
(Mark first ONE only)
- 2.4.2 (a) C✓ (1)
- (b) D✓ (1)
- 2.4.3 - The receptors cannot convert the stimuli into impulses✓
 - No impulses/fewer impulses are transmitted to the cerebrum✓
 - and the person does not hear anything✓/hearing is impaired (3)
- 2.4.4 - The sound vibrations are transmitted from the large tympanic membrane✓
 - to the smaller oval window✓
 - through the ossicles✓
 - which are arranged from largest to smallest✓
 - This concentrates the vibrations✓, amplifying them Any (3)
- 2.4.5 - A change in speed/direction of movement✓
 - stimulates the cristae✓
 - The stimulus is converted to an impulse✓
 - The impulse is transmitted to the cerebellum✓
 - via the auditory nerve✓
 - The cerebellum sends impulses to the muscles✓ to restore balance Any (4)

- 3.4.1 (a) Auditory nerve✓ (1)
- (b) Round window✓/Fenestra rotunda (1)
- 3.4.2 Cerebrum✓ (1)
- 3.4.3
- The cristae✓ in the semi-circular canals
 - are stimulated by changes in speed and direction✓
 - when the endolymph moves✓
 - The cristae convert the stimuli to nerve impulses✓
 - The nerve impulses are transported along the auditory nerve✓
 - to the cerebellum✓ to be interpreted
 - Impulses sent to muscles✓ to restore balance (Any 5) (5)
- 3.4.4
- The mucus will block the opening of the Eustachian tube✓
 - Air cannot enter or leave✓ the middle ear
 - to equalise pressure✓/causing imbalance in pressure
- OR**
- Mucus may move through the Eustachian tube✓
 - causing pressure in the middle ear✓
 - pushing on the tympanic membrane✓/part E (3)
- 3.4.5
- The ossicles/structures at A will not be able to vibrate✓
 - and hence no vibrations will be passed to the inner ear✓/cochlea will not be stimulated/no amplification (2)

2016

1.1.1 B 1.1.6 C

Hearing

- Pinna traps/directs the sound waves✓
- into the ear canal✓/meatus
- This causes the tympanic membrane to vibrate✓
- The vibration is transmitted to the auditory ossicles✓
- The ossicles amplify the vibration✓
- and transmit it to the oval window✓
- The oval window vibrates✓
- creating waves✓
- in the fluid/endolymph of the cochlea✓
- which stimulates the Organ of Corti✓
- to convert the wave into an impulse✓
- The impulse travels along the auditory nerve✓
- to the cerebrum✓ where it is interpreted as the roar of the lion

Max 10

2015

- 2.1.1 (a) Eustachian tube✓ (1)
- (b) Round window✓ (1)
- (c) Cochlea✓ (1)
- 2.1.2
- Air will not be taken in✓/released
 - to equalise pressure✓
 - on both sides of the tympanic membrane✓
 - Tympanic membrane/ ossicles may not vibrate freely✓
 - This may lead to the tympanic membrane bursting✓ and
 - therefore could lead to hearing loss✓/deafness/ pain (Any 4) (4)
- 2.1.3 Changes in the direction and speed of movement:
- Causes the endolymph to move✓ in part D/semi-circular canals
 - The cristae✓
 - found in the ampulla ✓are stimulated
 - and converts the stimulus into an impulse✓
 - which is transmitted via the auditory nerve✓/ vestibular nerve
 - to the cerebellum✓
 - from which impulses are transmitted via motor neurons✓
 - to the skeletal muscles✓/effector to restore balance of the body (Any 5) (5)