

GRADE 10 HEART AND SKELETON PRACTICAL **MEMORANDUM**

MARKS: 50

TIME: 2 PERIODS

QUESTION 1: TRANSPORT SYSTEMS IN ANIMALS

EXTERNAL STRUCTURE

- 1.1 (a) Coronary arteries / coronary blood vessels✓ (1)
(b) Provide oxygen and nutrients✓ to the heart muscle AND removes CO₂ and waste products✓ from the heart tissues (2)

INTERNAL STRUCTURE

- 1.2. Atria are smaller✓ than ventricles. They are also thinner✓ than the ventricles. This is because the ventricles must pump blood over a longer distance✓ and have to be stronger and larger✓ (4)
- 1.3. **ANY TWO** of the following:
They are whiter in colour✓
Their walls are thicker✓
They have a smaller lumen (2)
- 1.4. (a) White-pink / pink (1)
(b) Heart tendons / Chordae tendinae✓ (1)
- 1.5. ✓ Pencil sketch
✓ Labels in pen
✓ Heading: "Longitudinal section through the right side of a pig heart"
✓✓✓✓ Four correct labels (7)
- 1.6. Teacher gives learner a mark out of 3 for identifying any THREE of the following structures:
- | | |
|-----------------------|--------------------------|
| - Apex | - Right / left ventricle |
| - Aorta | - Septum |
| - Pulmonary artery | - papillary muscles |
| - Pulmonary vein | - Heart tendons |
| - Vena cava | - Bicuspid valve |
| - Right / left atrium | - Tricuspid valve |
- (3)
- 1.7. (a) 30 – 50 minutes
(b) 0 – 10 minutes
(c) 10 – 30 minutes
(d) 65 – 70 minutes (4)

TOTAL QUESTION 1: [25]

QUESTION 2: SUPPORT SYSTEMS IN ANIMALS

2.1.



(a) Radius ✓

(b) Landed on their arm falling (from a great height) ✓

Sports injury ✓

Car accident

Was in a fight

Any relevant reason for the injury ✓

(NOT OSTEOPOROSIS)

(3)



(a) Fibula ✓

(b) Lower limb / leg ✓

(2)



(a) Metacarpal ✓

(b) Fighting / fist fight ✓

Sports injury

Falling and landing on the hand

(NOT OSTEOPOROSIS)

(2)

2.2.

BONE	IDENTIFY THE VERTEBRA	REASON (MARK FIRST ONE ONLY)
A	Atlas ✓	No spinal process / large articulation facets for skull / no vertebral body/centrum / largest vertebral canal ✓
B	Lumbar ✓	Long spinal process / largest vertebral body/centrum / very large vertebra ✓
C	Axis ✓	Split spinal process / odontoid process / Large vertebral canal / large surfaces for articulation with atlas ✓
D	Cervical ✓	Split spinal process / short transverse processes / small vertebral body/centrum ✓

(8)

2.3.

1 : Femur ✓

2 : Humerus ✓

3 : Scapula ✓

4 : Tibia ✓

5 : Sacrum ✓

(5)

2.4.

(a) Green ✓

(1)

(b) Pelvis / Ilium of the pelvis / pelvic girdle ✓

(1)

(c) Ball-and-socket joint ✓

(1)

(d) 3 ✓

(1)

(e) Axial skeleton ✓

(1)

(5)

TOTAL QUESTION 2: [25]

SUM TOTAL: [50]