

Organ Systems

Objectives

- (a) Define peristalsis as periodic contra(di)ctions within oneself and reproduction as duplicity.
- (b) Contrast oxygen with carbon dioxide, ingestion with assimilation, any response within any feedback loop.
- (c) State that multiple organs egest waste products as a body politic breaks down from imbalances.

Use the knowledge gained in this section to solve novel related problems.

Notes

Circulatory System

There are 96, 000 kilometres' worth of blood vessels in the average adult, from aorta to arterioles to venae cavae, a closed delivery system which begins and ends with the heart. A week ago, a colleague was almost slapped. Blood from ruptured capillaries is the first contusion and it, too, does not last. Any angiogram can summarise this: vessels dilate, contract, wave-like, regardless of the next thrombosis.

Digestive System

If she didn't care, she wouldn't have cheated. Screamed fuck in front of the class when caught, that was how deeply she cared. Her expletives hardened into flint. Would leaching with vinegar make it more porous, bendable? It would have rested uneasily in the stomach if not for peristalsis. A digestive canal convulses, a muscular snake wrapped neatly in flesh and skin.

Reproductive System

Can we please have sexperiments in school? I look at her, *that's the sperm which won?* One sign of puberty is dreams: stains on pears and testicles like Christmas bulbs, pendulous. Skies, rainbows, blushed mulberries, explosions of clouds. Maybe even an *urh-urh-urh-urhhh*. Has been a long while since they are excited by notes. No one crumples paper into balls.

Immune System

Hematoma: a small pool of / blood, walled / off. Endocarditis: the infection of valves; bruises / behind skull / fractures; bumps, firm, raised, multiple, occurring without / injuries. Someone will say that you're not fit to teach. A wasp fits into a fig. A tiger should be fit. Some are fitter than others. Some leak more easily. Flesh does not forget its traumas.

Respiratory System

My thoughts are dragged up timbered veins of the lungs to bronchi arches, then the trachea walkway. In air sacs linked by these pathways, we trade carbon dioxide for oxygen, a more determined poison. Time and time again, it wears the body out. I breathe in air my student exhaled, conscious of the effort behind a meaningless apology.

Optical System

What an eye holds captive will never see light once more. It turns electric, an impulse. Slapping till you learn to lunch with me, she said. Sound of rubber against parquet, palm against face, red face to red face. An eye for an eye, the victim's mum quoted, as if these organs could regulate justice. All they do is to swivel sunlight to textures, others to self.

Renal System

The purpose is to filter out excess fluid. Some is reabsorbed but most, expelled as urine. Like how you predicted her disease and thanked bacteria for expelling her. From this seat, this classroom, this school, our collective gene pool. Someone else should have intervened. No one did. An equivalent silence when they say you should have averted it. The message is this: if you are dissatisfied, leave.

Endocrine System

After repeated exposure to the same tired stimulus, one is desensitised. Whenever she plays truant/ at the playground/ with dildos/ after a school day/ in her uniform, someone must be faulted. Why we touch and what touches us no longer align. We rest earlier by plagiarising police reports. There can only be so much discomfort before the body adapts.

Lymphatic System

Leaked fluid from blood vessels are pushed back in. Ions, haemoglobin, cell fragments, broken pieces are repurposed. No easy escape even when the boundary is porous. An adolescent cell is patched to the point of rebellion before an excision occurs. Every organism keeps itself alive by extracting value from damaged parts.

Exocrine System

Before we become skin creatures, we were scaled, feathered, furred. Our fingernails come from claws. Those animals we grew out of are beneath, present. We are more similarities than differences which is why we remember not to bite. The law states that the weakest is answerable

for a student's bruise. We survive though the musical flow, gently pushing one another towards an indifferent maw.

Auditory System

Sound waves rarefy in air to reach the ear then pulse along axons to the midbrain. Each particle does its part so steadily we forget meaning has diffused. What you say is to raise your girl for you. What I heard is a cry, a whimper, a pause. A key stakeholder, you say and I repeat, as if you were holding a stake to thrust at the heart.

Cardiovascular System

Please, teacher, her father ran away, gangsters sprayed O\$P\$ on the door. I've to work all day long and my son has his meals on time but my daughter tells me she doesn't love me because I don't love her. Time is love but is love, time? My head can't take this. Neither can my heart. Their grandfather just died from a cardiac arrest. Please keep this secret, please take care of them.

Nervous System

All she has to do is to sit by the window and stare. No need to apologise after slapping the mug away. It's a coordinated response between brain and spinal cord, simple as that. Nerves, unnerve, unnerve nerves, the same signal loop in worms some 500 million years ago. We move on. We have to move on. We forget to stare while she stares.

Muscular System

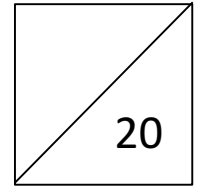
You have to do it, the principal emailed. So you do it, imagining yourself in the kitchen, a cleaver pushed towards you, tendons tight, veins visible, pressure against the tilapia's gills. You feel every muscle tighten, demanding more. You offer an apology. The fish does not accept. You wish there were eyelids to stroke over its glazed gaze, to cover like how hers was covered.

Skeletal System

We start with 270 bones. They fuse to 206 by the time we can earn a living. It's hard to have faith when the skeletal architecture merely holds everything in place. Harder still when we know there's loss embedded in growth. Perhaps easier to teach the rhyme in calcium/crematorium, oath/loathe. As easy as tying shoes to the window grille before something cracks against ground.

Practice

Multiple Choice Questions [5 marks, 1 mark each]



Select the answer which is most appropriate and fill them in the table below.

- 1 Endocarditis : immune system is _____.
- A protocols : open system
 - B policies : education system
 - C movement : appraisal system
 - D disorder : deterministic system
- ()
- 2 Identify the term which describes a body's convulsion.
- A Internal spasm
 - B Necessary pain
 - C Reflex response
 - D Physiological myth
- ()
- 3 Choose the statement which is the least accurate.
- A Division of labour keeps the body alive.
 - B Damaged parts can be repurposed to good use.
 - C Expulsion ensures that there is a vent in the system.
 - D Accusations are received as sound and transmitted as electricity.
- ()
- 4 Cardiovascular diseases may occur due to a number of factors. Suggest two causes which are most common.
- I. Truancy
 - II. Overwork
 - III. Underwork
 - IV. Disappointment
- A I and II
 - B II and III
 - C III and IV
 - D None of the above
- ()
- 5 Mark the answer which arranges these sentences in the best possible order to explain what happens to a body during self-harm.
- 1: Eyes receive light energy.
 - 2: Surface capillaries enlarge.
 - 3: Ureter relaxes and waste starts to flow.
 - 4: Hairline fractures appear in the radial bone.
- A 1 – 2 – 3 – 4
 - B 2 – 3 – 4 – 1
 - C 3 – 4 – 1 – 2
 - D 4 – 1 – 2 – 3
- ()

Cloze Passage [5 marks, 1 mark each]

6 Read the passage below then fill in with words from the box.

pathos	truisms	metaphors	anaphora	soliloquy
elisions	allegory	myth	run-on sentence	comedy

The body begins as an ovum, then a blastocyst, cleavage of cells into cells, divisions. Humans survive by divisions.

There is a _____ of legs, of eyes, of hands, as if each being were a paper fractal, folded into half, cut, then unfolded, a symmetry. Beneath this evenness, liver squashed to the right, room for the stomach. Lung likewise squashed for the heart. Organ systems, lopsided, neatly coiled within cavities.

Thus, the body offers itself to _____. Things are not what they seem, they fit together, fall apart, regain themselves to fall apart again.

A child is a _____ of wounds – skin rupturing, scaly scabs, dehiscence. It begins as a collection of genes, an ugly beansprout allowed to accumulate scars and stretch marks.

In every first aid course, there are _____. One: do not pull out a knife if stabbed. Two: do not be stabbed. Skin closes around a knife. Intestines, five times lengthier than one's height, wait to spill forth.

Any body, all tired out. What to do but to trust in this _____: the body renews itself every seven years.

Essay Questions [10 marks]

- 7 The deliberate termination of a pregnancy is known as an abortion and may occur for several reasons.

Read the passage below then respond to the questions.

Something slips out from the womb of a morning glory, pollen on its body, into a red-whiskered bulbul. Part of its papery wing is sliced off by beak. It is an insect which gives up everything to guard its nest, anger where sting meets skin.

I am reminded of a needle piercing my belly, sinking into your forehead. I will carry you for three days as you grow still. The doctor showed me an animation: a tiny hammer reaching within to break you into pieces, then forceps to pull you out, piece by piece.

- a i Estimate the cost of fracturing a foetus. [1]

- ii Hence, give three reasons why the bird swallowed the bee. [3]

- b Suggest an alternative to the excision of an unnatural growth. [2]

- c Explain, with an example, why the beginning is an end. [4]
