

### 4.5.3 Biology Paper 3 (231/3)

|       |  |                      |
|-------|--|----------------------|
| 1a)   | <b>E</b> – scapula/shoulder blade;<br>- Has a socket/glenoid cavity/depression to articulate with the ball/head of the humerus;<br>- Flat/triangular-shaped flat blade/triangular shaped/flat blade/flattened;;<br>- Has a spine/ridge/coracoids process/acromion for attachment of muscles;   | (3 marks)            |
|       | <b>F</b> – Humerus;<br>- Has a ball/head/rounded head that articulates with the glenoid cavity/ socket on the scapula;<br>- -Has condyles that articulate with radius and ulna;  | (2 marks)            |
|       | <b>G</b> – Radius attached to ulna;<br>- Ulna has a sigmoid notch for articulation with the shoulder joint/ lower end of the humerus;<br>- Has trochlea/olecranon fossa;<br>- Has greater/larger tuberosity<br>- Has bicipital groove;   | (2 marks)            |
| b)    | • Ball and socket (joint);<br>• Hinge joint;   | (1 mark)<br>(1 mark) |
| c)    | Rotation/up and down/side-ways (of the arm);   | (1 mark)             |
| d)    | (i) Bone marrow;   | (1 mark)             |
|       | (ii) Manufacture of (red) blood cells;   | (1 mark)             |
| e)    | (i) Biceps;  | (1 mark)             |
|       | (ii) Contract/relax to move the lower arm (upwards);   | (1 mark)             |
| 2 (a) | i) <b>J</b> – Erythrocyte(s)/red blood cell;<br><b>K</b> – Leucocyte/white blood cell;<br><b>L</b> – Thrombocytes/Platelets  | (3 marks)            |
|       | ii) <b>J</b> – Transportation of oxygen/carbon (IV) oxide;<br><b>K</b> – Engulf/attack pathogens/ foreign materials in the blood;<br><b>L</b> – Blood clotting;  | (3 marks)            |
| b)    | i) Amoebic dysentery;  | (1 mark)             |
|       | ii) <i>Entamoeba histolytica</i> ;   | (1 mark)             |
|       | iii) -Boiling drinking water (before drinking);/<br>-Chlorinating/treating drinking water;<br>-Keeping the food covered (to keep away flies/prevent contamination/proper storage of food;<br>-Proper faecal disposal in pit latrines/toilets/keeping the same clean/not to dispose faecal materials in the open/washing hands before handling food/ washing fruits/food before eating/after visiting toilet/latrine;<br>-Proper cooking of food;<br>-Washing hands before handling of food/washing fruits before eating; | (2 marks)            |

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|       | iv)  | -Pain (especially during feeding);/<br>-Bloody stool;/<br>-Impaired absorption (of digested food materials);   | (2 marks) |
| 3 (a) | i)   | Fruit(s);  | (1 mark)  |
|       | ii)  | Has two scars; point of attachment to remains of style; and point of attachment to the receptacle/fruit stalk  | (2 marks) |
|       | iii) | Presence of seeds;   |           |
|       | iv)  | Presence of pericarp/fruit wall  |           |
|       | v)   | Has epicarp, mesocarp and endocarp fused;  |           |
| b)    | i)   | <p>-Correct, complete diagram with continuous outline-2 marks<br/>-Any three correctly labelled parts-3 marks.</p>   | (5 marks) |
|       | ii)  | Linear magnification = $\frac{\text{Length of drawing}}{\text{Actual length of object (specimen); OWTTE}}$   | (2 marks) |
|       | iii) | Explosive mechanism/self-dispersal mechanism/self explosive;   | (1 mark)  |
|       | iv)  | Dry pods; due to loss of water from the pod and pressure from within the pod; the pod opens (violently) along the sutures /lines of weakness; seeds are thrown away from the parent plant/dispersed; | (3 marks) |