

Q1 (1 mark)

Cell

Q2 (1 mark)

Nucleus

Q3 (1 mark)

Chloroplast

Q4 (1 mark)

Movement of particles from a high concentration to a low concentration

Q5 (1 mark)

Tendon

Q6 (2 marks)

Any two:

- Plant cells have a cell wall
- Plant cells have chloroplasts
- Plant cells have a large permanent vacuole

Q7 (2 marks)

Any two:

- Controls movement of substances in and out of the cell
- Protects the cell

Q8 (1 mark)

Site of aerobic respiration that releases energy for the cell

Q9 (1 mark)

Provides support and structure for the cell

Q10 (1 mark)

Gel-like substance where chemical reactions happen and organelles are held

Q11 (1 mark)

Stores cell sap and keeps the cell turgid (firm)

Q12 (2 marks)

- Particles move from high to low concentration (1)
- Allows oxygen/nutrients in and waste out (1)

Q13 (3 marks)

Any three:

- Place slide carefully on stage (1)
- Start with low magnification (1)
- Focus using coarse then fine adjustment (1)
- Adjust light source/mirror (1)

Q14 (3 marks)

- Flagellum helps movement (1)
- Helps organism reach food or escape harmful conditions (1)
- Improves survival chances by improving chances of feeding and reproduction. (1)

Q15 (3 marks)

Order: cell → tissue → organ → system → organism (2)

Example: digestive system / circulatory system etc. (1)

Q16 (3 marks)

- Chloroplasts carry out photosynthesis (1)
- Contain chlorophyll to absorb light (1)
- Only in plant cells because plants make their own food (1)

Q17 (2 marks)

- Contains genetic material (DNA) (1)
 - Controls cell activities (1)
-

Q18 (5 marks)

- Chloroplasts carry out photosynthesis (1)
 - Contain chlorophyll (1)
 - Mitochondria carry out respiration (1)
 - Release energy from glucose (1)
-

Q19 (5 marks)

- Muscles attached to bones by tendons (1)
 - Muscles contract and relax (1)
 - Bones act as levers (1)
 - Joints allow movement (1)
 - Movement occurs when muscles pull bones (1)
-

Q20 (6 marks)

Award marks for:

Apparatus (1-2 marks):

- Microscope, slide, coverslip, onion tissue, iodine stain

Method (2-3 marks):

- Place onion sample on slide
- Add stain
- Lower coverslip carefully
- Start on low magnification
- Focus using coarse then fine adjustment
- Adjust light

Observations (1-2 marks):

- Cell wall, nucleus, cytoplasm, vacuole visible

Explanation (1 mark):

- Onion cells are plant cells because they have a cell wall and vacuole

Q21 (6 marks)

Levelled answer:

1-2 marks:

- Basic mention of cells/tissues/organs

3-4 marks:

- Correct sequence with some explanation

5-6 marks:

- Clear, detailed sequence with example

Expected content:

- Cells are basic unit of life
- Cells form tissues
- Tissues form organs
- Organs form organ systems
- Organ systems form organisms
- Example (e.g. muscle cell → muscle tissue → heart → circulatory system → human)

Full-mark answer should be logically structured and include an example.