Muscles:

1) By using a labelled drawing, describe the differences in the sarcomere between a contracted and relaxed skeletal muscle? (4)
2) Describe the differences between fast and slow twitch muscle fibres? (4)
3) What are the roles of the transverse (T) tubules and sarcoplasmic reticulum in muscle contraction? (2)
4) At what stages of muscle contraction is ATP needed? (4)
5) Why do skeletal muscles appear to have thick and thin or dark and light bands under the microscope? (2)
6) What is muscle wasting and suggest some causes? (4)
7) Explain why muscle cells have many ribosomes? (2)
8) Increasing the A-band can make muscle contractions more powerful. Explain why? (2)
9) Describe the sequence of events which occurs in a neuromuscular junction? (4)
10) Why is the mechanism of muscle contraction referred to as the 'sliding filament theory'? (2)
11) Drugs which lower calcium ions can have adverse effects on muscles. Explain why? (3)
12) Why are skeletal muscles striated and voluntary? (2)
13) A particular mutation affects the gene coding for tropomyosin such that it cannot bind to actin due to its abnormal shape. What would be the consequences of this and why? (3)
14) Rigor mortis sets in following death; why does it not set in when a person has been anaesthetised for hours? (3)
15) Hypercalcaemia can affect muscle function. Explain how? (2)
16) Ligament injuries take a long time to heal. Suggest why? (2)
17) Hyperactivity of the acetylcholinesterase enzyme can have adverse effects on muscles. Explain why? (3)
18) Explain how a skeletal muscle contracts? (6)

19) What is the difference between muscle fibres, myofibrils and myofilaments? (2)

20) What is a sarcomere? (1)

21) Inflammation of the muscles (myositis) can affect muscle contraction. Suggest how? (2)

22) Lactic acid can also hinder muscle function. Explain how it does so? (3)

Total: /**62**