9 SCIENCE 2016

PHYSICS TEST TWO

Name: _____ Teacher: _____ Mark: /48

MARKING KEY Percentage: %

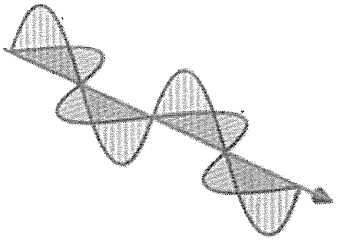
SECTION A: **MULTIPLE CHOICE** **(15 marks)**

Select the most correct answer for each question below.

1.	A	**B**	C	D		16.	A	B	**C**	D
2.	A	**B**	C	D		17.	A	B	C	**D**
3.	A	B	C	**D**		18.	**A**	B	C	D
4.	**A**	B	C	D		19.	A	**B**	C	D
5.	A	**B**	C	D		20.	A	**B**	C	D
6.	A	B	**C**	D		21.	A	B	**C**	D
7.	A	B	C	**D**		22.	A	B	**C**	D
8.	**A**	B	C	D		23.	A	B	C	**D**
9.	**A**	B	C	D		24.	A	**B**	C	D
10.	**A**	B	C	D		25.	A	**B**	C	D
11.	A	B	C	**D**		26.	**A**	B	C	D
12.	A	B	**C**	D		27.	A	B	**C**	D
13.	**A**	B	C	D		28.	**A**	B	C	D
14.	A	**B**	C	D		29.	A	B	**C**	D
15.	A	B	C	D		30.	A	B	**C**	D

MARKING KEY

1. Select the name given to the diagram on the right.



(a) Magnetic wave.
(b) Electromagnetic wave.
(c) Magnotronic wave.
(d) Electric wave.

2. Choose the correct definition for 'wave motion'.

(a) The movement of one wave past a point.
(b) The transfer of energy without transferring matter.
(c) The transfer of energy that transfers matter.
(d) The movement of waves in matter.

3. Electromagnetic radiation used in communication are:

(a) Radio waves.
(b) Microwaves.
(c) Infrared radiation.
(d) Both (a) and (b).

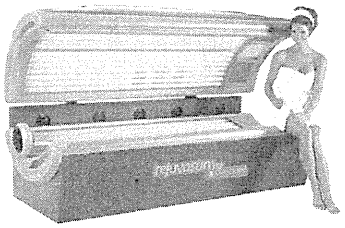
4. Choose the correct definition for 'electromagnetic radiation'.

(a) A range of electromagnetic waves travelling at the speed of light.
(b) A range of magnetic waves travelling at the speed of sound.
(c) Two interconnected fields moving as transverse waves.
(d) A range of electromagnetic waves travelling at the speed of sound.

5. Choose the correct definition for 'current'.

(a) Movement of electricity.
(b) The flow of charge.
(c) Movement of protons.
(d) The build-up of electric charge.

6. The machine on the right produces:



(a) Infrared radiation.
(b) Gamma rays.
(c) Ultraviolet light.
(d) X-rays.

7. Choose the correct definition for 'X-rays'.

(a) Electromagnetic radiation used in communication.
(b) Electromagnetic radiation emitted by radioactive materials.
(c) Electromagnetic radiation detected by our skin as heat.
(d) High energy electromagnetic radiation that can penetrate materials.

8. Choose the correct definition for 'visible light'.

(a) Electromagnetic radiation detected by our eyes.
(b) Electromagnetic radiation detected by our skin.
(c) Electromagnetic radiation used in communication.
(d) Electromagnetic radiation emitted by radioactive materials.

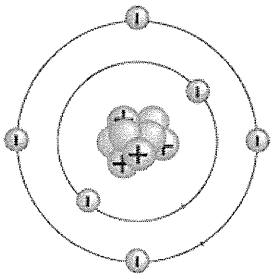
9. Choose the correct definition for 'components'.

(a) The parts of a circuit.
(b) The parts of a wave.
(c) The parts of an atom.
(d) The parts of an energy circuit.

10. If something with a build-up of charge comes into close contact with another object, what may happen to the electrons?

(a) The electrons may jump across a gap from the negatively charged surface back to the positively charged surface.
(b) The electrons may join together due to attraction between them.
(c) The electrons may jump across a gap from the positively charged surface back to the negatively charged surface.
(d) The electrons may build up more energy.

11. Choose the correct statement for the atom on the right.

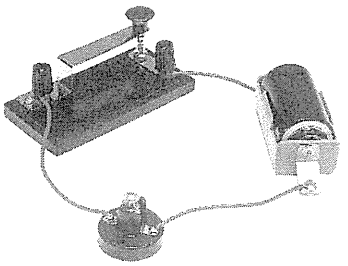


(a) The atom is an ion.
(b) The atom is neutral.
(c) The atom has a negative charge.
(d) Both (a) and (c).

12. The diagram on the right represents:

(a) A closed switch.
(b) A voltmeter.
(c) A resistor.
(d) A battery.

13. The image on the right is an example of:

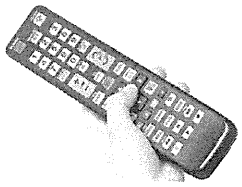


(a) An electric circuit.
(b) An electric source.
(c) A circuit diagram.
(d) A path of protons.

14. The damaging rays that are emitted in a nuclear explosion are:

(a) Ultraviolet light rays.
(b) Gamma rays.
(c) X-rays.
(d) Infrared radiation.

15. The object on the right uses:



(a) Ultraviolet light.
(b) Radio waves.
(c) Infrared radiation.
(d) Gamma rays.

16. When a piece of plastic becomes negatively charged it has:

(a) Gained protons.
(b) Gained electrons.
(c) Lost protons.
(d) Lost electrons.

17. When a piece of plastic becomes positively charged it has:

(a) Gained protons.
(b) Gained electrons.
(c) Lost protons.
(d) Lost electrons.

18. When you walk across a nylon carpet, you become negatively charged. When you then touch a metal handle you receive a shock because:

(a) Electrons jump from you to the handle.
(b) Protons jump from you to the handle.
(c) Electrons jump from the handle to you.
(d) Protons jump from the handle to you.

19. When plastic is charged by rubbing it with a cloth:

(a) It can repel small pieces of paper.
(b) It can attract small pieces of paper.
(c) It does nothing when brought near small pieces of paper.
(d) The cloth produces sparks.

20. In a circuit diagram, what does a circle with a cross inside it represent?

(a) A motor.
(b) A light bulb.
(c) An ammeter.
(d) A resistor.

21. What do the long straight lines represent in a circuit diagram?

(a) A voltmeter.
(b) A light bulb.
(c) Wires.
(d) A resistor.

22. Inserting a switch in an electric circuit with current flowing through it allows:

(a) The flow of current to be increased.
(b) The flow of current to be constant.
(c) The flow of current to be stopped in a controlled manner.
(d) The flow of current to be decreased.

23. What is the function of a power source in an electric circuit?

(a) It provides a steady source of static electricity.
(b) It provides a means through which the circuit can be broken.
(c) It provides a path along which the electricity can flow.
(d) It provides a steady flow of electrons.

24. Why is static electricity not useful as a power source?

(a) Because electrons are not transferred in bursts of static electricity.
(b) Because all energy is released at once in static electricity.
(c) Because static electricity is not a real form of electricity.
(d) Because static electricity only occurs in lightning.

25. What might happen if wires weren't insulated? (If wires weren't covered with a layer of plastic).

(a) The power source would no longer provide a flow of electrons.
(b) We would be in danger of harm from electric shocks.
(c) Current electricity would become static electricity.
(d) The circuit would be broken.

26. What device opens and closes an electric circuit?

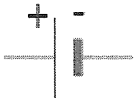
(a) A switch.
(b) A resistor.
(c) An ammeter
(d) A power source.

27. When a plastic rod is rubbed onto a piece of fur, _____ move off the rod and this gives the rod a _____ charge.

(a) Electrons, negative.
(b) Protons, positive.
(c) Electrons, positive.
(d) Protons, negative.

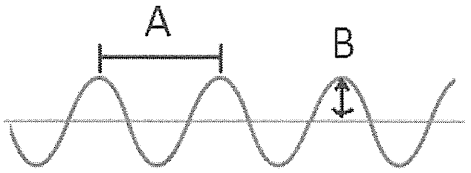
28. The diagram on the right represents:

(a) A cell.
(b) A resistor.
(c) An battery.
(d) A proton.



29. What does the section of the wave labelled 'A' represent?

(a) Frequency.
(b) Peak.
(c) Wavelength.
(d) Amplitude.



30. What does the section of the wave labelled 'B' represent?

(a) Peak.
(b) Frequency.
(c) Amplitude.
(d) Wavelength.

SECTION B: SHORT ANSWER (18 marks)

1. List two places where electromagnetic waves are generated (created) naturally. (2 marks)

Upper atmosphere (1)

Stars (including sun) (1)

2. List three forms of energy released when a spark jumps across a gap. (3 marks)

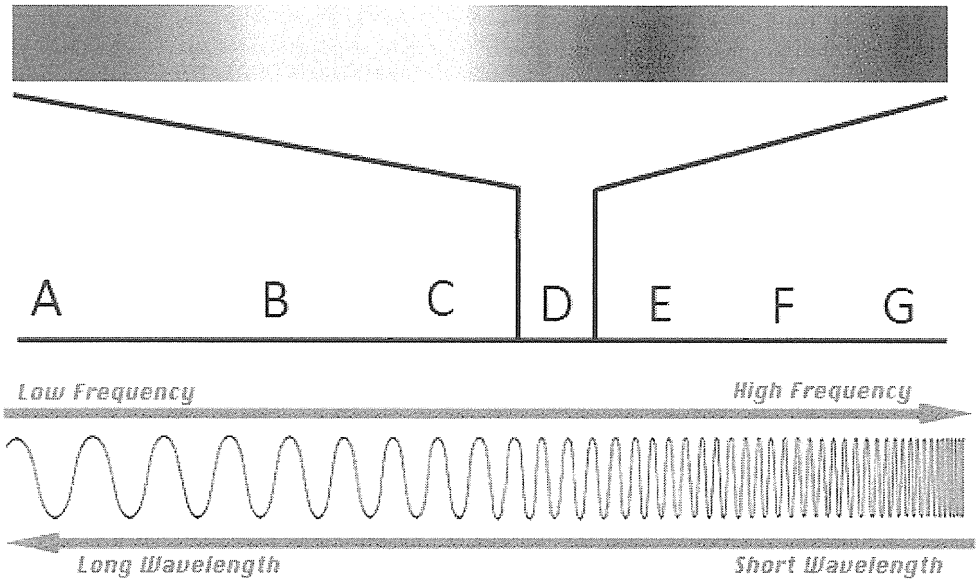
Heat, light, sound, kinetic energy
(1 mark for each)

3. List three things that an electric circuit needs. (3 marks)

Energy source (1) Wires to connect everything together (1)

Energy user (1)

4. Label the diagram of the electromagnetic spectrum. (7 marks)



Write the name of each type of wave represented on the diagram with a letter of the alphabet.

A: Radio waves

B: Microwaves

C: Infrared radiation

D: Visible light

E: Ultraviolet radiation

F: X-rays

G: Gamma rays

5. Draw a **circuit diagram** that has an open switch, light globe and battery. (3 marks)