



**ZIMBABWE SCHOOL EXAMINATIONS COUNCIL**  
**General Certificate of Education Ordinary Level**

**PHYSICS**

**PAPER 1** Multiple Choice

**4023/1**

1 hour

**JUNE 2024 SESSION**

Additional materials:

Multiple Choice answer sheet

Soft clean eraser

Soft pencil (type B or HB is recommended.)

Electronic calculator

**INSTRUCTIONS TO CANDIDATES**

Answer **all** questions. For each question, there are **four** possible answers, **A, B, C** and **D**.  
Choose the correct answer. Record your choice in **soft pencil** on the separate answer sheet.

**Read very carefully the instructions on the answer sheet.**

**INFORMATION FOR CANDIDATES**

There are **forty** questions in this paper. Each correct answer will score **one** mark. Any rough working should be done on this question paper.

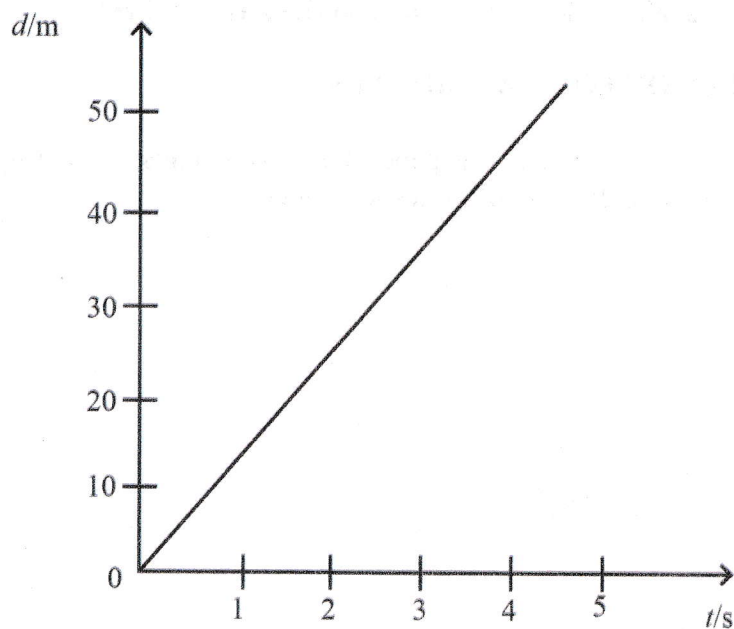
**This question paper consists of 17 printed pages and 3 blank pages.**

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1. The SI unit of pressure is
- A Atmospheres.
  - B Newtons.
  - C Pascals.
  - D mmHG.
2. Which quantity has units of  $\text{kgm/s}^2$ ?

- A pressure
- B force
- C work
- D power

3. The diagram shows the variation of distance with time of an object in motion.

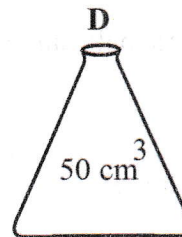
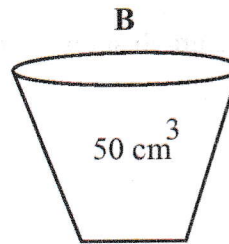
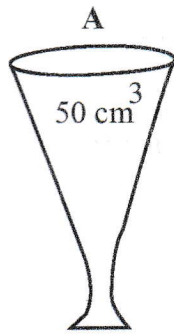


The object is

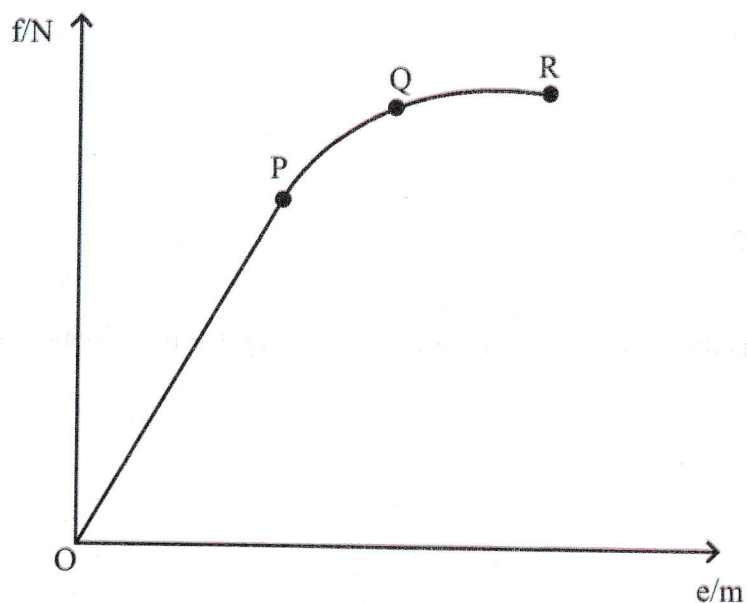
- A accelerating.
- B decelerating.
- C moving with uniform speed.
- D moving with uniform displacement.



4. What is the mass of a body whose momentum is 1000 kgm/s and is travelling at a velocity of 20 m/s?
- A 20 000 kg  
B 1 000 kg  
C 50 kg  
D 0.02 kg
5. Which is the most stable container considering that they contain the same volume of water?



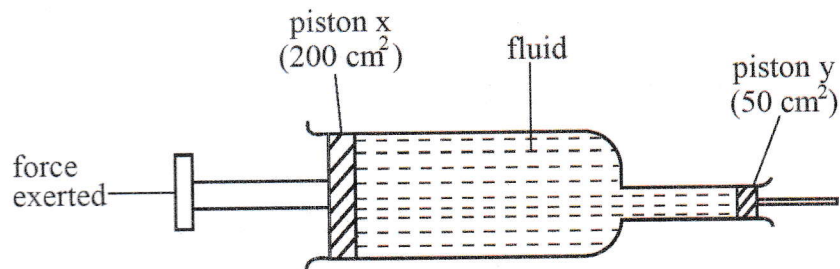
6. The graph shows a force-extension variation for a loaded spring.



Which part of the graph shows material obeying Hooke's Law?

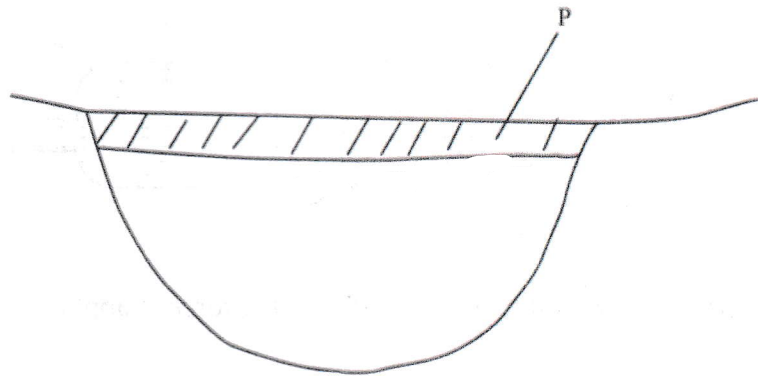
- A OP
  - B PQ
  - C QR
  - D OR
7. The force needed to make an object move in a circle is the
- A pulling force.
  - B gravitational force.
  - C centripetal force.
  - D turning force.

8. Which one does **not** affect pressure below the surface of a liquid?
- A density of liquid
  - B surface area of liquid
  - C gravitational field strength
  - D depth of point below liquid surface.
9. The diagram shows a hydraulic system.



- What is the force exerted on piston y if a 100 N force is applied on piston x?
- A 25 N
  - B 100 N
  - C 400 N
  - D 1 000 000 N
10. Two pieces of wood can be joined by using
- A riveting.
  - B soldering.
  - C brazing.
  - D dowelling.

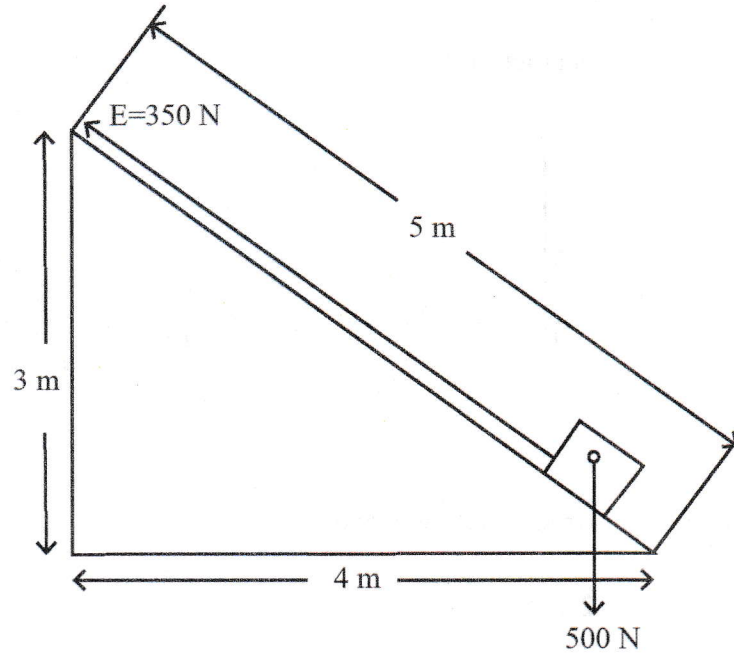
11. A truss is a
- A supporting framework.
  - B supporting beam.
  - C collection of ties only.
  - D collection of struts only.
12. The diagram shows a beam bridge.



- Which statement is true about a beam bridge?
- A It experiences tensional forces only when loaded.
  - B It experiences compressional forces only when loaded.
  - C It is simple to construct over a wide span
  - D It is simple to construct over a narrow span.
13. A carburettor
- A only filters air.
  - B only filters fuel.
  - C is found in a petrol engine.
  - D is found in a diesel engine.



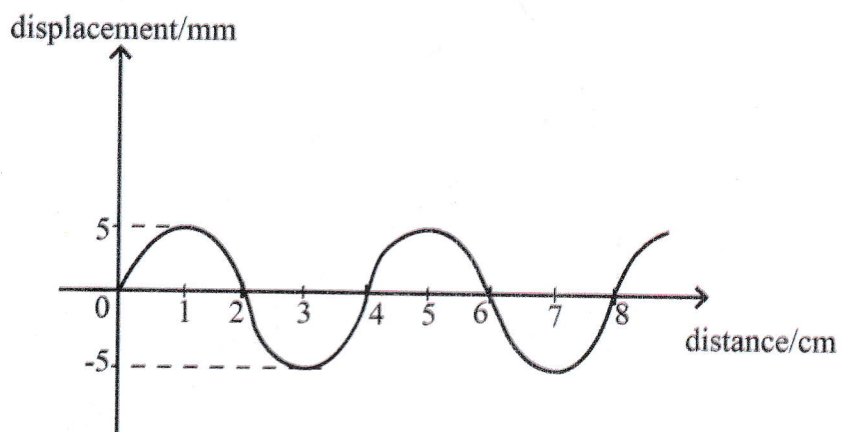
14. The diagram shows an inclined plane.



What is the velocity ratio?

- A 0.6
- B 0.7
- C 1.4
- D 1.7

15. The diagram shows a wave profile.



- Which statement is true about the wave?
- A Its period is 3.2 s.
  - B Its period is 5 s.
  - C Its wavelength is 5 mm.
  - D Its wavelength is 4.0 cm.
16. A swimming pool looks shallower than its real depth because light from the bottom surface
- A is reflected away from the normal.
  - B is refracted away from the normal.
  - C is refracted towards from the normal.
  - D is reflected towards the normal.
17. X-rays are used in
- A communication.
  - B cooking.
  - C remote sensing.
  - D security alarms.



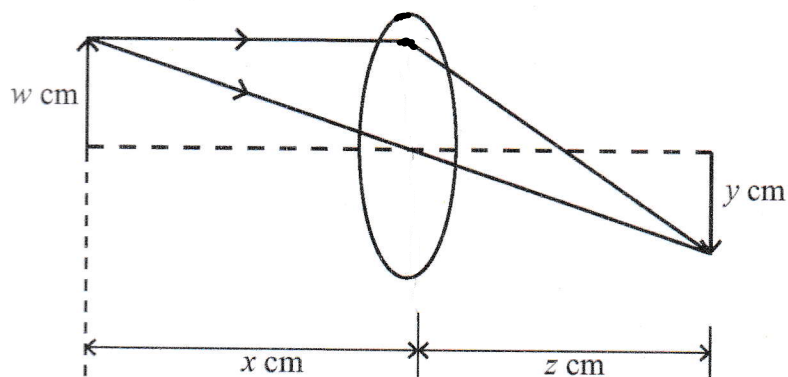
18. Which property of sound does **NOT** change when travelling in different media?

- A speed
- B wavelength
- C frequency
- D amplitude

19. Which is **not** an application of wave echoes?

- A electronic tape measure
- B instrument sterilisation
- C sonar instruments
- D metal flaw detection

20. The ray diagram was drawn to determine magnification.



Which ratio gives the magnification?

- A  $\frac{w}{x}$
- B  $\frac{w}{z}$
- C  $\frac{z}{x}$
- D  $\frac{x}{y}$

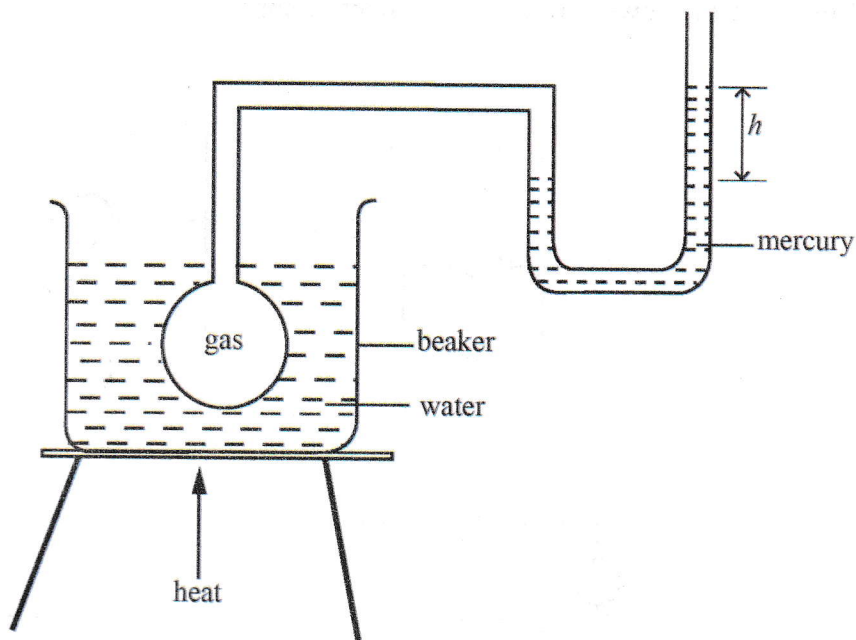
21. Which process occurs at all temperatures?

- A boiling
- B melting
- C freezing
- D evaporation

22. Heat capacity is the

- A heat energy gained by a material.
- B heat energy lost by a material.
- C heat energy per unit mass.
- D heat energy per unit temperature.

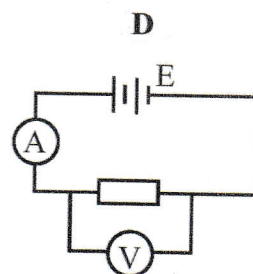
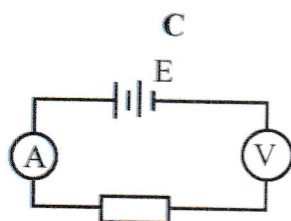
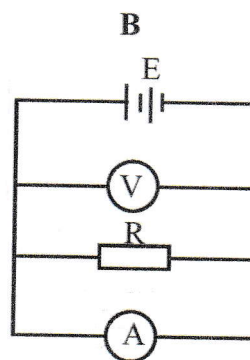
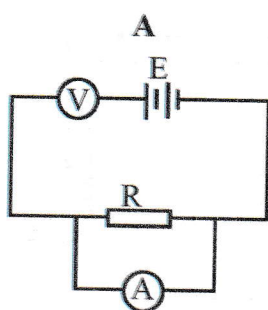
23. The setup was used to investigate gas laws.



Which property / properties of a gas is being investigated?

- A volume and pressure
  - B temperature only
  - C pressure and mass
  - D mass only
24. A lightning conductor consists of
- A an insulator that repels lightning.
  - B a conductor that repels lightning.
  - C an insulator that conducts lightning to the ground.
  - D a conductor that conducts lightning to the ground.
25. When current flows in a light bulb, which quantity is used up?
- A charge
  - B energy
  - C resistance
  - D current

26. Which circuit shows correct arrangement of apparatus?



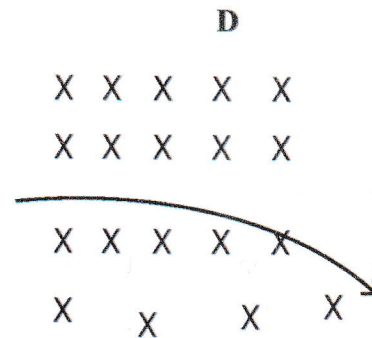
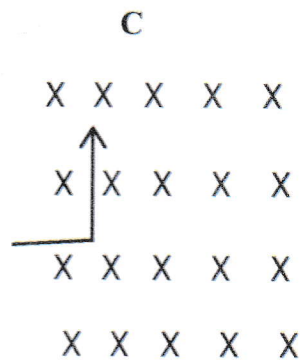
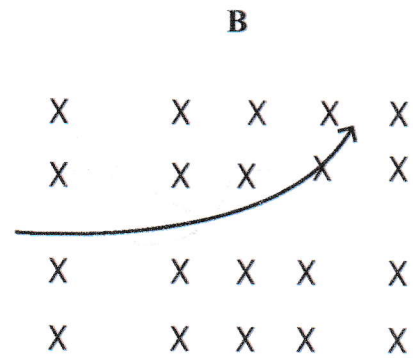
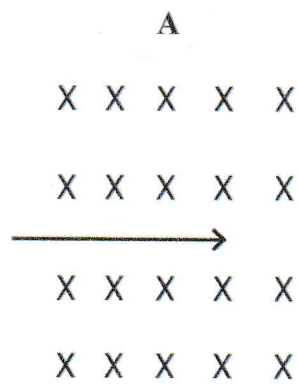
27. The supply voltage is 230 V.  
Which fuse rating can be used for a 2200 W stove?

- A 5 A
- B 9 A
- C 10 A
- D 13 A

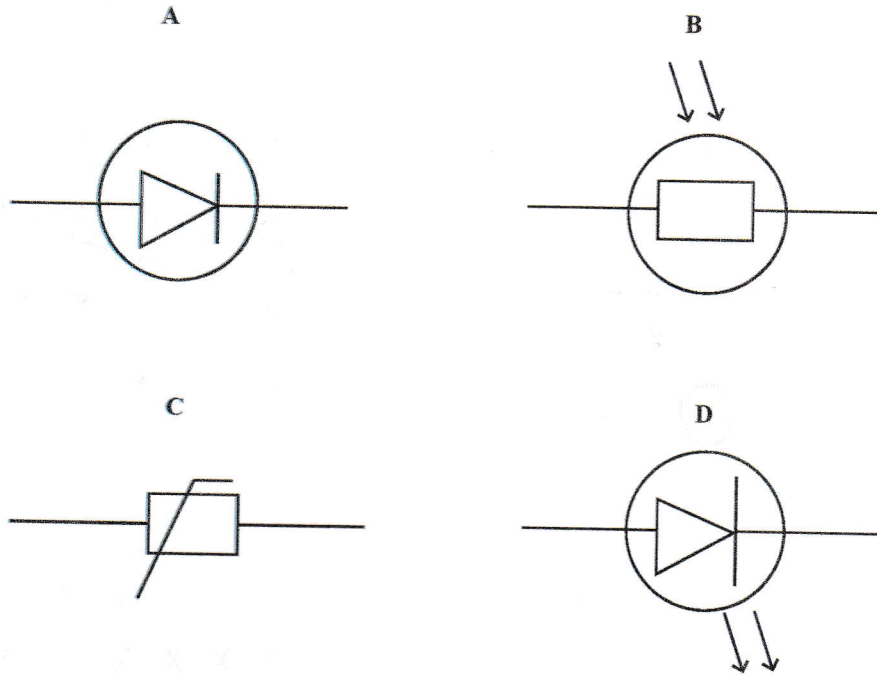
28. Which one improves the efficiency of a transformer?

- A lamination
- B use of oil
- C use of soft iron
- D use of thin coils

29. Which diagram correctly shows the deflection of electrons in a magnetic field?



30. Which symbol represents a light emitting diode?



31. Rectification is

- A conversion of A.C to D.C.
- B conversion of D.C to A.C.
- C conversion of high voltage to low voltage.
- D conversion of low voltage to high voltage.

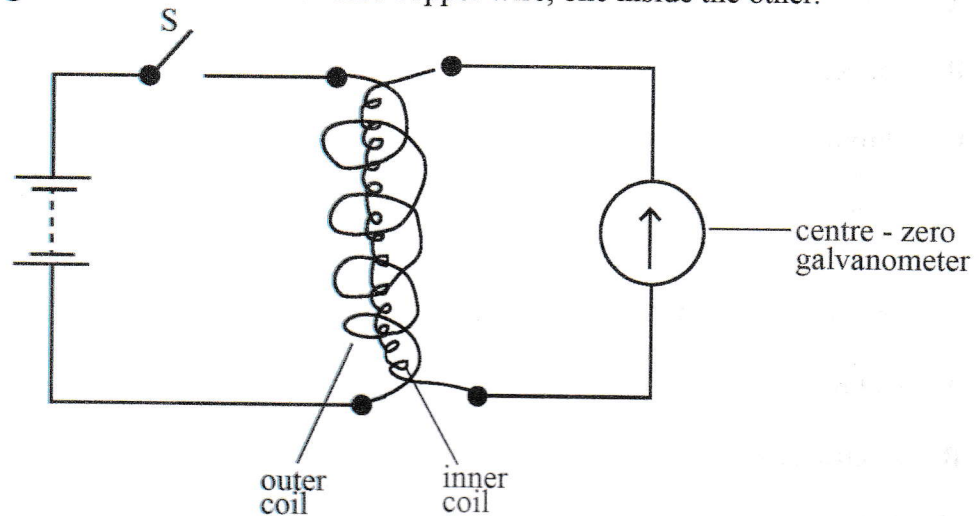
32. The use of a capacitor on the output of rectified current is to

- A increase the current.
- B decrease current.
- C decrease the rippling effect.
- D increase the rippling effect.



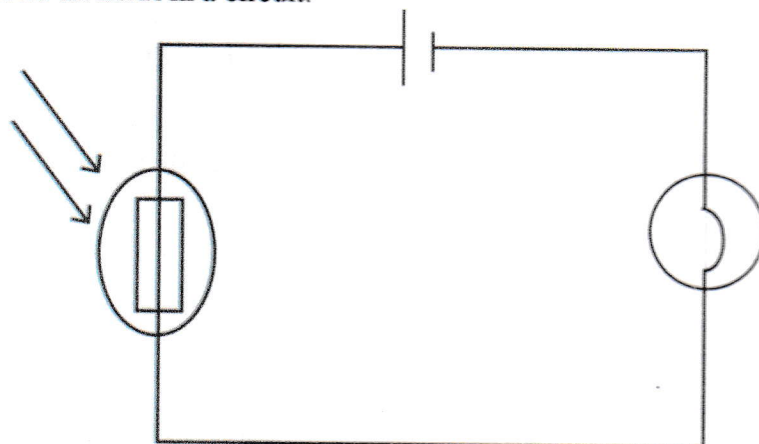
33. The best material for making a permanent magnet is
- A iron.
  - B copper.
  - C chrome.
  - D steel.
34. Magnetism is not used in
- A audio players.
  - B electric bells.
  - C CD players.
  - D telephones.
35. Which one will not increase the induced emf in a generator?
- A increasing speed of motion
  - B increasing number of turns on the coil
  - C increasing strength of the magnet
  - D increasing separation of poles

36. The diagram shows coils of insulated copper wire, one inside the other.



When switch, S is closed the pointer of the centre zero galvanometer

- A deflects momentarily.
  - B oscillates.
  - C stays deflected.
  - D does not deflect at all.
37. The diagram shows an LDR in a circuit.



The circuit can be used for

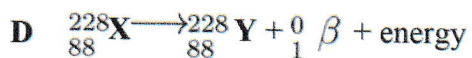
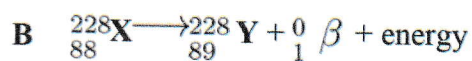
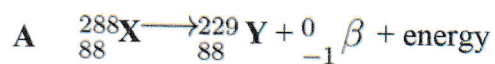
- A lighting the bulb when it is dark.
- B lighting the bulb on and off repeatedly.
- C lighting the bulb during the day.
- D lighting the bulb during the day and night.

38. The diagram shows a truth table for a logic gate.

Input A	Input B	Output
0	0	1
0	1	1
1	0	1
1	1	0

Which logic gate is represented by the truth table?

- A AND  
 B NAND  
 C OR  
 D NOR
39. Which one is a balanced decay equation?



40. A radioactive sample has a mass of 60 g and a half life of 30 minutes.

What is the mass remaining after 90 minutes?

- A 7.5 g  
 B 10 g  
 C 20 g  
 D 30 g