CANDIDATE PLEASE NOTE!

PRINT your name on the line below and return this booklet with your answer sheet. Failure to do so may result in disqualification.

TEST CODE 01238010

FORM TP 2026–106

MAY JUNE 2026

CARIBBEAN EXAMINATIONS COUNCIL

CARIBBEAN SECONDARY EDUCATION CERTIFICATE® EXAMINATION

PHYSICS

Paper 01 – General Proficiency

1 hour 15 minutes

02 JUNE 2026 (p.m.)

848

READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

1. This test consists of 60 items. You will have 1 hour and 15 minutes to answer them.
2. In addition to this test booklet, you should have an answer sheet.
3. Each item in this test has four suggested answers lettered (A), (B), (C), (D). Read each item you are about to answer and decide which choice is best.
4. On your answer sheet, find the number which corresponds to your item and shade the space having the same letter as the answer you have chosen. Look at the sample item below.

Sample Item

The SI unit of length is the

(A) metre
(B) second
(C) newton
(D) kilogram

Sample Answer

● Ⓑ Ⓒ Ⓓ

A014

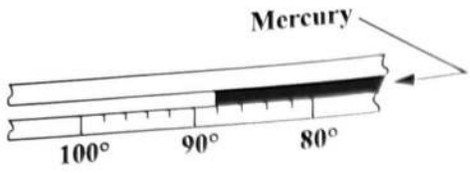
The best answer to this item is "metre", so (A) has been shaded.

5. If you want to change your answer, erase it completely before you fill in your new choice.
6. When you are told to begin, turn the page and work as quickly and as carefully as you can. If you cannot answer an item, go on to the next one. You may return to that item later.
7. Figures are not necessarily drawn to scale.
8. You may do any rough work in this booklet.
9. You may use a silent, non-programmable calculator to answer items.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

Copyright © 2025 Caribbean Examinations Council
All rights reserved.

Item 1 refers to the following diagram which shows a section of a thermometer.



1. What is the reading shown on the thermometer?

(A) 88°
(B) 89°
(C) 91°
(D) 92°

2. Which of the following instruments is MOST suitable for measuring the diameter of a human hair?

(A) Metre rule
(B) Tape measure
(C) Vernier caliper
(D) Micrometer screw gauge

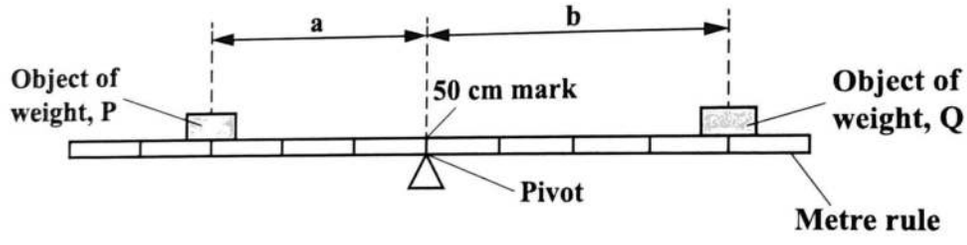
3. Which of the following groups of physical quantities consists **only** of scalar quantities?

(A) Force, momentum, weight
(B) Time, energy, speed, temperature
(C) Displacement, density, acceleration
(D) Speed, distance, velocity, acceleration

4. Which of the following is a derived unit?

(A) s
(B) K
(C) kg
(D) m^3

Item 5 refers to the following diagram which shows an object of weight, P, and an object of weight, Q, balanced on a uniform metre rule.



5. Which of the following equations shows the correct relationship among a, b, P and Q?

(A) $\frac{P}{a} = \frac{Q}{b}$

(B) $P \times Q = a \times b$
(C) $P \times a = Q \times b$
(D) $P(a + b) = Q$

GO ON TO THE NEXT PAGE

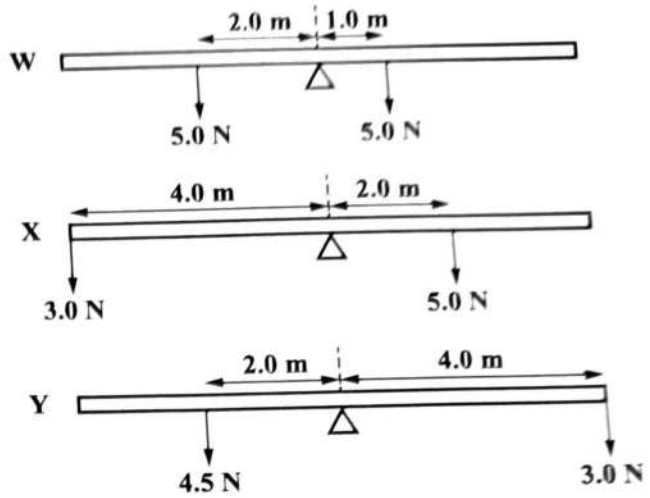
6. Which of the following quantities will be constant, if a constant net force is applied to a body?

(A) Kinetic energy
(B) Acceleration
(C) Momentum
(D) Velocity

7. Which of the following groups of implements has the BEST design for creating a large moment by taking advantage of a small force?

(A) Knife, axe, see-saw, door
(B) Flagpole, crane, screw, pulley
(C) Crowbar, claw hammer, spanner
(D) Pair of tweezers, scissors, doorknob

Item 8 refers to the following diagrams which show three uniform beams, W, X and Y, each pivoted at its centre. The two forces acting on each beam are also shown.



8. Which of the beams, W, X or Y, rotate clockwise?

(A) X only
(B) Y only
(C) W and Y only
(D) X and Y only

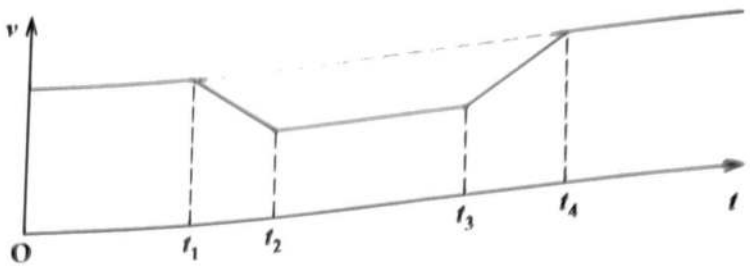
9. A boy measured the height of a laboratory table. Which of the following measurements is MOST likely the correct one?

(A) 0.00895 m
(B) 0.0895 m
(C) 0.895 m
(D) 8.95 m

848

A014

Item **10** refers to the following diagram which shows a velocity (v)/time (t) graph for a moving object.

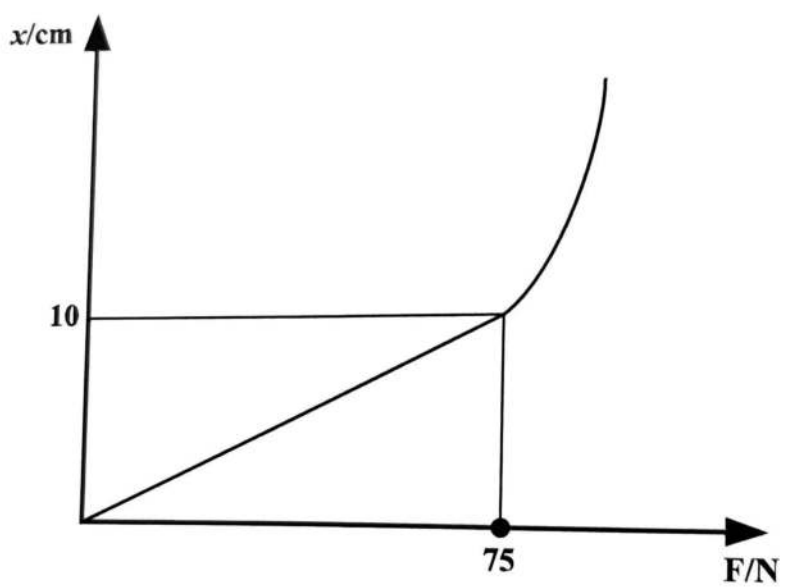


10. Which of the following statements about the object is true?

(A) The object returns to its starting point at t_4.
(B) Between times t_2 and t_3, the object has zero acceleration.
(C) The object started from rest and decelerated from t_3 to t_4 to its destination.
(D) During the periods t_1 to t_2 and t_3 to t_4, the object is moving with constant speed.

848

Item **11** refers to the following diagram which shows a simple extension (x) against force (F) graph for a light spring.



A014

11. Based on the graph, which of the following statements is INCORRECT?

(A) The elastic limit of the spring was exceeded.
(B) The spring obeyed Hooke's law over its entire extension.
(C) The force per unit extension in the elastic region was 7.5 N cm^{-1}.
(D) For forces above 75 N, the spring gets weaker and undergoes deformation.

12. A piece of string is tied onto a small stone and then the stone is totally immersed in water. The tension in the string will be

(A) equal to the mass of water displaced by the stone
(B) more than the weight of the stone
(C) less than the weight of the stone
(D) equal to the weight of the stone

13. When a ball is thrown vertically upwards and reaches its maximum height, it has

(A) maximum kinetic energy and maximum potential energy
(B) maximum kinetic energy and minimum potential energy
(C) minimum kinetic energy and minimum potential energy
(D) minimum kinetic energy and maximum potential energy

14. What is the gain in the gravitational potential energy of a body of weight 200 N, as it rises from a height of 30 m to a height of 35 m above the earth's surface?

(A) 40 J
(B) 100 J
(C) 1000 J
(D) 2000 J

15. Given that force = mass × acceleration, the unit of force could be written

(A) $kg^{1} m s^{2}$
(B) $kg m^{1} s^{2}$
(C) $kg m^{1} s^{1}$
(D) $kg m s^{1}$

16. Which of the following is a MAJOR benefit of the use of renewable energy sources in the Caribbean?

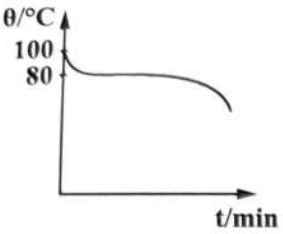
(A) Energy production from renewable sources can lead to reduced access to electricity and significant workforce retraining.
(B) Energy production from renewable sources is expensive and requires significant infrastructure.
(C) Producing energy from renewable sources is environmentally friendly and has a low carbon footprint.
(D) Supply of energy from renewable sources is unreliable and inadequate for large-scale energy production.

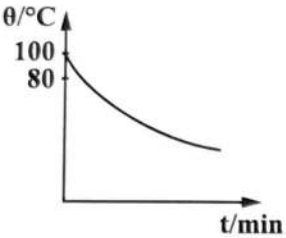
848

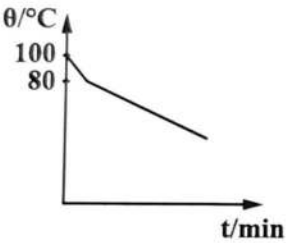
A014

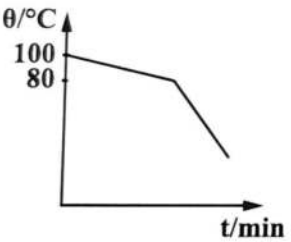
GO ON TO THE NEXT PAGE

17. Molten naphthalene at 100 °C is allowed to cool down to room temperature. If naphthalene has a melting point of 80 °C, which of the following graphs BEST represents the cooling curve?

(A)


(B)


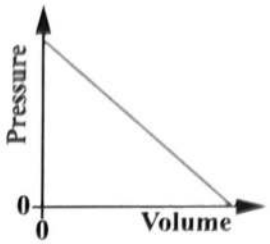
(C)


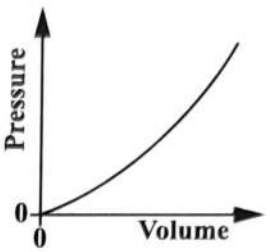
(D)


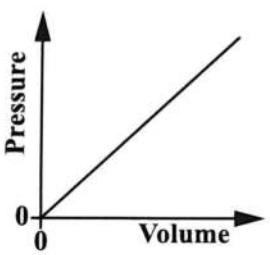
18. According to the kinetic theory, when a gas in a closed container is heated the pressure rises because

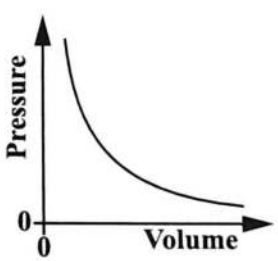
(A) there are more molecules hitting the walls of the container
(B) the molecules move faster and hit each other harder and more often
(C) the molecules expand and push harder on the walls of the container
(D) the molecules move faster and hit the walls of the container harder and more often

19. Which of the following graphs shows the relationship between the pressure and volume of a fixed mass of gas at constant temperature (PV = k, where k is a constant)?

(A)


(B)


(C)


(D)


20. Evaporation is different from boiling because evaporation occurs at

(A) any temperature at the surface of a liquid
(B) the surface of any medium and results in cooling
(C) any temperature and is a faster process once the container is closed
(D) a specific temperature within a liquid with visible bubbling from the bulk

848
A014

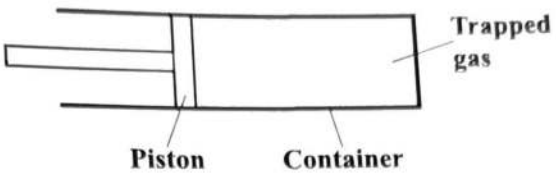
21. The specific latent heat of fusion of water is 340 kJ kg^{-1}. This means that when 10 kg of water freezes,

(A) 34 kJ of heat is given out
(B) 34 kJ of heat is absorbed
(C) 3 400 kJ of heat is given out
(D) 3 400 kJ of heat is absorbed

22. An electric kettle full of water is plugged into the mains. The MAJOR process by which heat travels through the water is

(A) radiation
(B) convection
(C) conduction
(D) electrification

Item **23** refers to the following diagram which shows a container with a piston that traps gas of volume 400 cm^3 inside the container.



23. When the piston is pushed to the right, the volume of the gas decreases to 200 cm^3 and the temperature remains constant.

Which of the following options represents the effect that this action has on the kinetic energy of the gas particles and the force per unit area exerted by the particles colliding with the inside walls of the container?

	Kinetic Energy	Force per Unit Area
(A)	Stays the same	Doubles
(B)	Doubles	Doubles
(C)	Doubles	Stays the same
(D)	Stays the same	Stays the same

24. Which of the following methods is the MOST suitable means of heating a brass bob in order to determine its specific heat capacity by the method of mixtures?

(A) Subjecting it to an open flame for ten minutes
(B) Subjecting it to an infrared beam for ten minutes
(C) Placing it in a boiling water-bath for ten minutes
(D) Placing it in contact with an electrical heater for ten minutes

GO ON TO THE NEXT PAG

25. A student is carrying out an experiment to determine the specific heat capacity, c, of a solid using the electrical method. Which of the following equations should be used?

(A) $c = \frac{m\Delta\theta}{PI}$

(B) $c = \frac{F \times s}{m\Delta\theta}$

(C) $c = \frac{m\Delta\theta}{IVt}$

(D) $c = \frac{IVt}{m\Delta\theta}$

848

26. Which of the following statements about the transfer of thermal energy is correct?

(A) Radiation that transfers thermal energy is a type of electromagnetic radiation.
(B) Radiation requires a medium for the transfer of thermal energy to occur.
(C) Conduction involves movement of particles to transfer heat from a less dense to a denser medium.
(D) Convection involves heat transfer by vibration of particles at their position in solids and liquids only.

A014

27. Narissa lives in a mud house in the hinterland region in Guyana. She observes that the interior of her house is cooler than the exterior in the hot season and warmer during the rainy season. The MAIN reason for this observation is that mud is

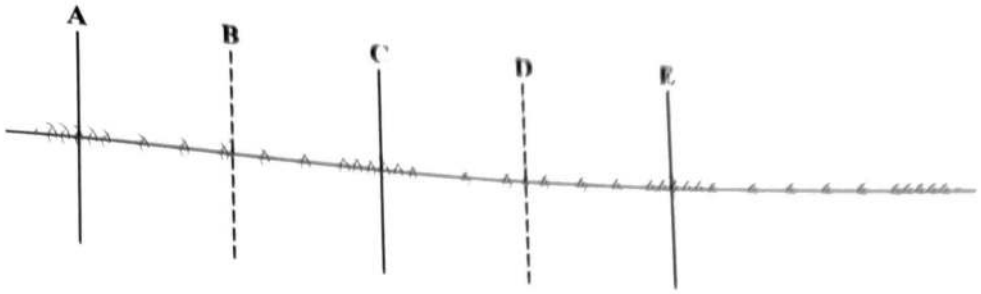
(A) more dense than hot air
(B) a poor conductor of heat
(C) adaptable to changing temperatures
(D) a good conductor of thermal energy

28. Which of the following are reasons why a hot liquid, placed in a double-walled vacuum flask, retains its heat for a long time?

I. Evacuated space between the double walls reduces the loss of heat by conduction.
II. Silvered inner walls reduce the loss of heat by radiation.
III. The silvered outer wall helps to absorb heat from the surroundings.

(A) I and II only
(B) I and III only
(C) II and III only
(D) I, II and III

Item **29** refers to the following diagram which shows a longitudinal wave train produced on a slinky.



29. Which of the following distances represents the wavelength of the vibration?

(A) D to E
(B) C to E
(C) A to E
(D) A to B

848

30. Which of the following waves travel(s) only longitudinally?

I. Sound
II. Radio
III. Water

(A) I only
(B) II only
(C) II and III only
(D) I, II and III

A014

31. Which of the following equations expresses the correct relationship among the wavelength, λ, speed, v, and frequency, f, of a wave?

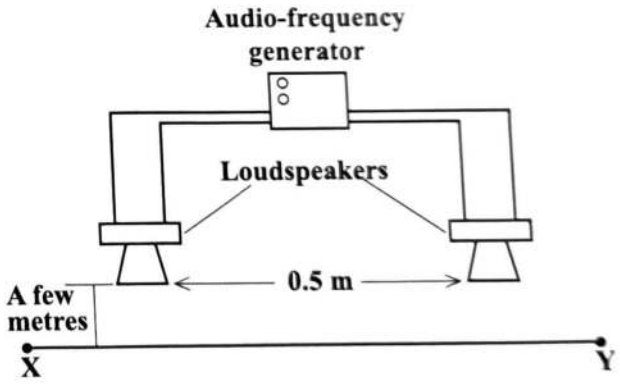
(A) $f = \frac{v}{\lambda}$

(B) $f = \frac{\lambda}{v}$

(C) $\lambda = \frac{f}{v}$

(D) $\lambda = f \times v$

Item **32** refers to the following diagram which shows two similar loudspeakers connected to the same audio-frequency generator. The speakers are set up a few metres away from a path, XY.

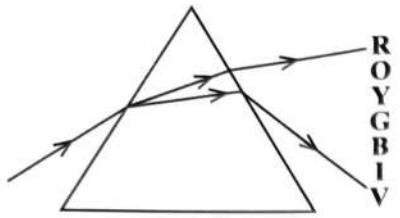


32. At some points along XY no sound is heard because

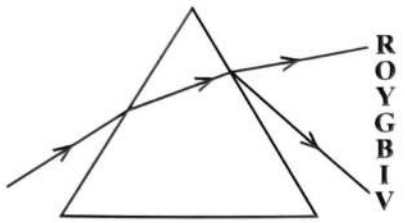
(A) the sound waves are diffracted
(B) interference of the sound waves takes place
(C) the sound waves are refracted away from those points
(D) the sound waves are reflected back to the same source

33. A ray of white light enters a transparent glass prism. In which of the following diagrams is the dispersion of light correctly illustrated?

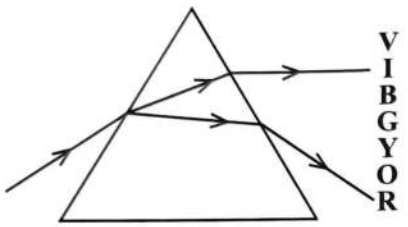
(A)



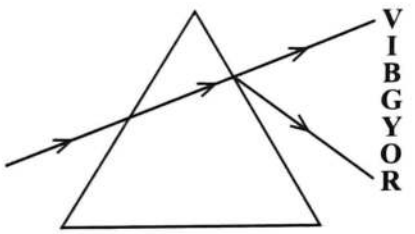
(B)



(C)



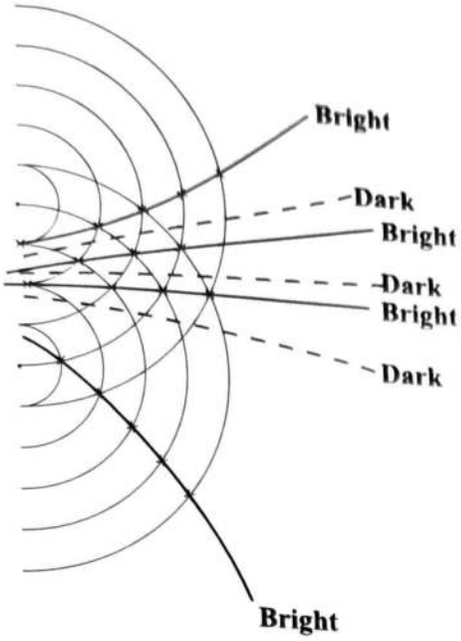
(D)



34. The critical angle of glass is 42°. Which of the following options is correct if the angle of incidence of a light ray at the glass–air boundary is either 32° or 52°?

	At 32°	At 52°
(A)	Angle of refraction greater than 32°.	Angle of refraction equals 38°.
(B)	Angle of refraction equals 90°.	Angle of refraction less than 90°.
(C)	Totally internally reflected.	Angle of refraction equals 90°.
(D)	Angle of refraction less than 90°.	Totally internally reflected.

Item **35** refers to the following diagram in which two coherent light sources produce an interference pattern of bright and dark fringes on a screen.



35. The reason for the formation of the bright fringes is that

(A) these positions contain more light energy
(B) the crests are larger than the troughs along these lines
(C) all the crests and troughs are in phase along these points
(D) all the crests and troughs are out of phase along these points

36. A ray of light leaves the air and enters glass of refractive index 1.5. If the angle of incidence is 37°, what is the sine of the angle of refraction?

(A) $1.5 \sin 37°$

(B) $1.5 + \sin 37°$

(C) $\dfrac{1.5}{\sin 37°}$

(D) $\dfrac{\sin 37°}{1.5}$

37. Which of the following media can produce a diminished virtual image of a real object?

(A) A converging lens
(B) A diverging lens
(C) A plane mirror
(D) A glass block

38. Which of the following equations represents the relationship used to determine the linear magnification of an image?

(A) $\dfrac{\text{Height of image}}{\text{Height of object}}$

(B) $\dfrac{\text{Object distance}}{\text{Image distance}}$

(C) $\dfrac{\text{Object distance}}{\text{Height of image}}$

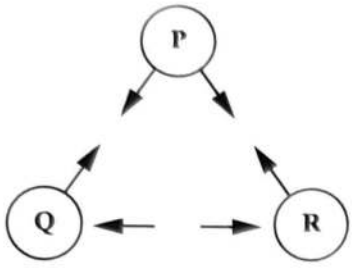
(D) $\dfrac{\text{Image distance}}{\text{Height of object}}$

39. Which of the following phenomena are exhibited by sound waves?

I. Refraction
II. Diffraction
III. Interference

(A) I and II only
(B) I and III only
(C) II and III only
(D) I, II and III

Item **40** refers to the following diagram which shows the arrangement of three charged hollow metal spheres, P, Q, and R. The arrows indicate the direction of the electric forces acting between the spheres. At least two of the spheres are positively charged.



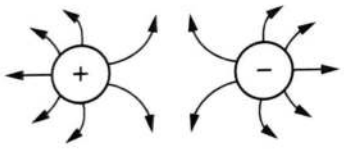
848

40. Which of the spheres, if any, could be negatively charged?

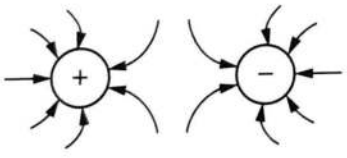
(A) P
(B) Q
(C) R
(D) None

41. Which of the following diagrams represents the electric field between two oppositely charged conducting spheres?

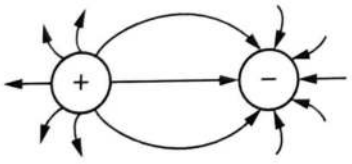
(A)



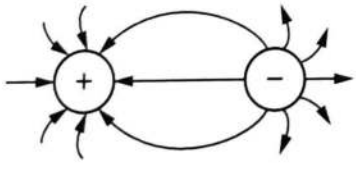
(B)



(C)



(D)



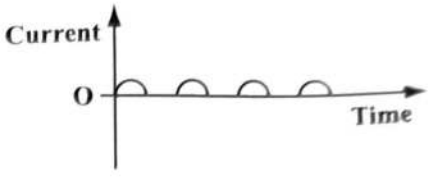
A014

42. If a neutral object, X, is charged by another object, Z, by the process of induction, then X will acquire a charge

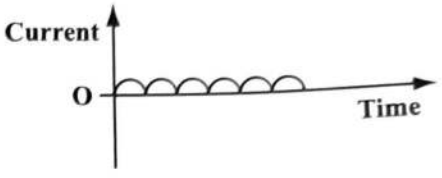
(A) having the same sign as that of Z
(B) having a sign opposite to that of Z
(C) that is greater than the charge on Z
(D) due to the transfer of protons from Z

43. Which of the following graphs illustrates an **alternating** current?

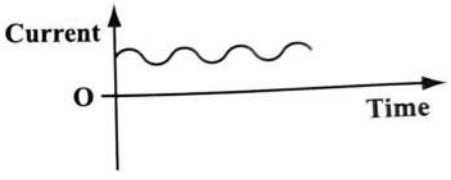
(A)



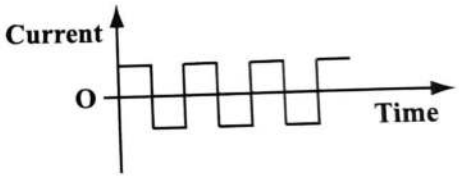
(B)



(C)



(D)



44. An uncharged glass rod is rubbed with a piece of silk and becomes positively charged. The glass rod obtains this charge by

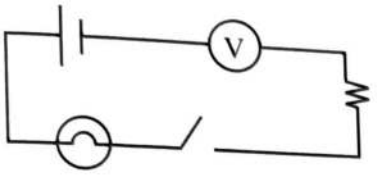
(A) losing protons
(B) losing electrons
(C) gaining protons
(D) gaining electrons

45. A voltmeter has a very high resistance so that it can be placed in

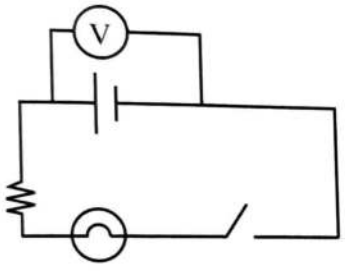
(A) parallel with a component and not affect the circuit
(B) series with a component and not affect the circuit
(C) parallel with a component and the voltmeter does not heat up
(D) series with a component and the voltmeter does not heat up

46. Which of the following circuit arrangements is BEST suited for accurately measuring the voltage across the lamp?

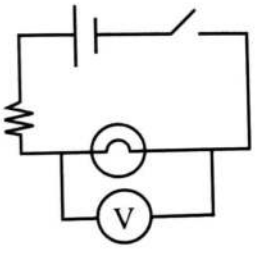
(A)



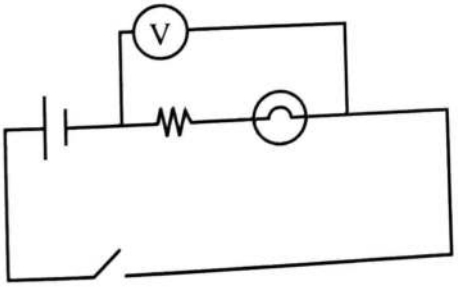
(B)



(C)



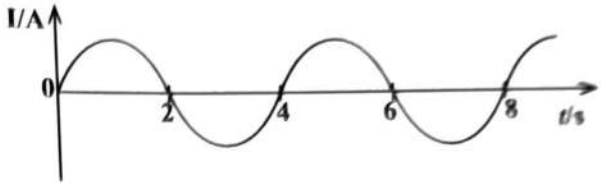
(D)



47. A conductor, rotating in a uniform magnetic field, induces maximum instantaneous current when the conductor cuts the magnetic field lines at

(A) 30°
(B) 45°
(C) 90°
(D) 180°

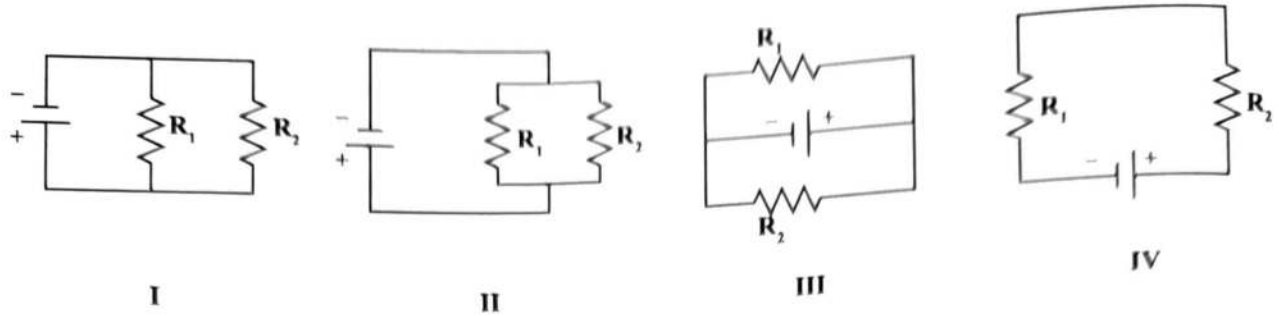
Item **48** refers to the following current (I) – time (*t*) graph.



48. What is the period of the current?

(A) 2 s
(B) 4 s
(C) 6 s
(D) 8 s

Items **49** and **50** refer to the following diagram which shows four different circuits labelled I, II, III and IV.



848

49. In which of the circuits can the effective total resistance be calculated using the relationship $R_T = R_1 + R_2$?

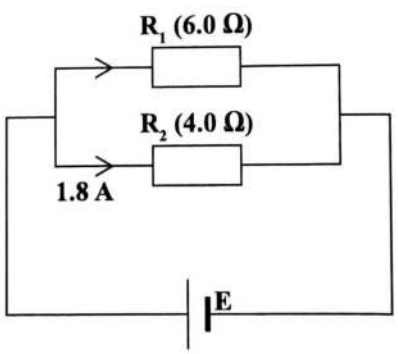
(A) I
(B) II
(C) III
(D) IV

50. If $R_1 = 60\ \Omega$ and $R_2 = 40\ \Omega$, then the effective resistance in the circuit labelled II is

(A) 20 Ω
(B) 24 Ω
(C) 100 Ω
(D) 600 Ω

Item **51** refers to the following diagram which shows two resistors, R_1 of 6.0 Ω and R_2 of 4.0 Ω, in parallel.

A014

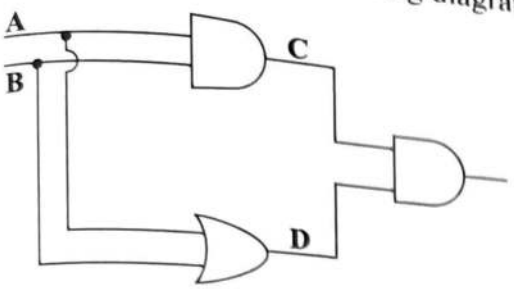


51. What is the current through R_1 if the current through R_2 is 1.8 A?

(A) 1.2 A
(B) 1.8 A
(C) 2.7 A
(D) 3.0 A

GO ON TO THE NEXT PAGE

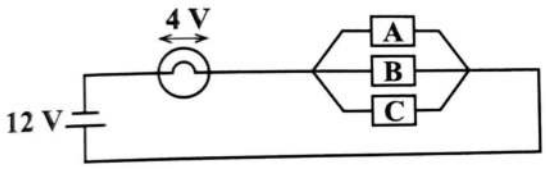
Item **52** refers to the following diagram.



52. What is the output at **C** and **D** when an input of 0 0 is made at **A** and **B**?

	C	D
(A)	0	0
(B)	1	1
(C)	0	1
(D)	1	0

Item **53** refers to the following diagram.



53. Given that the potential difference across the lamp in the circuit is 4 V, what is the potential difference across Resistor A?

(A) $(12 \div 4)$ V
(B) $(12 - 4)$ V
(C) (12×4) V
(D) $(12 + 4)$ V

54. An α-particle collides with an atom to produce a positive ion. For the atom to have become a positive ion, it had to lose

(A) a neutron from inside the nucleus
(B) a proton from outside the nucleus
(C) an electron from inside the nucleus
(D) an electron from outside the nucleus

55. Isotopes of an element differ from each other in that they have a different

(A) atomic number
(B) number of protons
(C) number of neutrons
(D) number of electrons

56. Which of the following statements about a proton is NOT true?

(A) It is a hydrogen atom minus an electron.
(B) It has the same mass as that of an electron.
(C) It has a mass about 2000 times that of an electron.
(D) It has a charge equal in size but opposite in sign to that of an electron.

57. If n = number of neutrons,
p = number of protons and
e = number of electrons in the atom, then, according to the Rutherford–Bohr model of a neutral, stable atom, for all elements

(A) $p = e$
(B) $n = e$
(C) $n + e = p$
(D) $n + p = e$

58. Which of the following equations is correct?

(A) $^{226}_{88}Ra \rightarrow {}^{222}_{86}Rn + \beta$-particle

(B) $^{14}_{6}C \rightarrow {}^{15}_{7}N + \beta$-particle

(C) $^{226}_{88}Ra \rightarrow {}^{222}_{86}Rn + \alpha$-particle

(D) $^{14}_{6}C \rightarrow {}^{15}_{7}N + \alpha$-particle

59. How many neutrons are in the following isotope of uranium?

$^{238}_{92}U$

(A) 92
(B) 119
(C) 146
(D) 238

60. An isotope of uranium, $^{234}_{92}U$, changes to thorium, $^{230}_{90}Th$. This is an example of

(A) α decay
(B) β decay
(C) fission
(D) fusion

848

A014

END OF TEST

IF YOU FINISH BEFORE TIME IS CALLED, CHECK YOUR WORK ON THIS TEST.