Paper 1 May/June 2024 Physics 0625/11 IGCSE Multiple Choice

Choose the correct option

1 Which of the following is a scalar quantity?

- **A** Force
- **B** Velocity
- **C** Speed
- **D** Displacement

2 A car travels 100 m in 5 s. What is its average speed?

- **A** 10 m/s
- **B** 20 m/s
- **C** 500 m/s
- **D** 0.05 m/s

3 Which law states that every action has an equal and opposite reaction?

- **A** Newton's First Law
- **B** Newton's Second Law
- **C** Newton's Third Law
- **D** Hooke's Law

4 The unit of force in the SI system is:

- **A** Joule
- **B** Watt
- **C** Pascal
- **D** Newton

5 An object at rest will remain at rest unless acted upon by an unbalanced force. This is:

- **A** Newton's Second Law
- **B** Newton's First Law
- **C** The law of conservation of energy
- **D** Archimedes' principle

6 Which type of wave requires a medium to travel through?

- **A** Electromagnetic wave
- **B** Light wave
- **C** Mechanical wave
- **D** Radio wave

7 What is the frequency of a wave with period 0.02 s?

- **A** 0.02 Hz
- **B** 2 Hz
- **C** 20 Hz
- **D** 50 Hz

8 The distance between two consecutive crests of a wave is called the:

- **A** Amplitude
- **B** Frequency
- **C** Wavelength
- **D** Period

9 Which of the following best describes the refraction of light?

- **A** Bouncing of light off a surface
- **B** Bending of light as it passes from one medium to another
- **C** Spreading of light around obstacles
- **D** Absorption of light by a material

10 Which colour of visible light has the highest frequency?

- **A** Red
- **B** Green
- **C** Yellow
- **D** Violet

11 The formula for kinetic energy is:

- **A** KE = mgh
- **B** KE = Fd
- **C** KE = ½mv²
- **D** KE = mv

12 A 2 kg object is lifted 5 m. What is the gain in gravitational potential energy? (g = 10 m/s²)

- **A** 10 J
- **B** 25 J
- **C** 100 J
- **D** 50 J

13 Which of the following is a renewable energy source?

- **A** Coal
- **B** Natural gas
- **C** Solar
- **D** Nuclear

14 The efficiency of a machine is calculated as:

- **A** Input energy / Output energy × 100%
- **B** Output energy / Input energy × 100%
- **C** Output force / Input force
- **D** Input power / Output power

15 Which property of a material describes its ability to conduct electricity?

- **A** Density
- **B** Resistivity
- **C** Conductivity
- **D** Elasticity

16 Ohm's Law states that voltage is equal to:

- **A** Current divided by resistance
- **B** Current multiplied by resistance
- **C** Power divided by current
- **D** Resistance divided by current

17 A circuit has a resistance of 4 Ω and a current of 3 A. What is the voltage?

- **A** 0.75 V
- **B** 7 V
- **C** 12 V
- **D** 1.33 V

18 In a series circuit, the total resistance is:

- **A** Less than the smallest individual resistance
- **B** Equal to the smallest individual resistance
- **C** The sum of all individual resistances
- **D** The product of all individual resistances

19 What happens to the resistance of a metallic conductor as temperature increases?

- **A** Decreases
- **B** Increases
- **C** Stays the same
- **D** First increases then decreases

20 Which particle in an atom carries a negative charge?

- **A** Proton
- **B** Neutron
- **C** Nucleus
- **D** Electron

21 The atomic number of an element is equal to the number of:

- **A** Neutrons in the nucleus
- **B** Protons in the nucleus
- **C** Electrons in the outer shell
- **D** Nucleons in the nucleus

22 Which type of nuclear radiation has the greatest penetrating power?

- **A** Alpha
- **B** Beta
- **C** Gamma
- **D** Neutron

23 Half-life is defined as:

- **A** Time for all nuclei to decay
- **B** Time for half the nuclei in a sample to decay
- **C** Time for radiation to reduce to zero
- **D** Time for one nucleus to decay

24 The pressure of a gas in a container increases when:

- **A** The volume increases at constant temperature
- **B** The temperature decreases at constant volume
- **C** The temperature increases at constant volume
- **D** The number of molecules decreases

25 Which of the following describes thermal conduction?

- **A** Transfer of heat through fluid movement
- **B** Transfer of heat through electromagnetic waves
- **C** Transfer of heat through direct contact between particles
- **D** Transfer of heat through a vacuum

26 A thermometer works on the principle that liquids:

- **A** Contract when heated
- **B** Expand when heated
- **C** Change colour when heated
- **D** Evaporate when heated

27 Which process transfers heat through a vacuum?

- **A** Conduction

- **B** Convection
- **C** Radiation
- **D** Evaporation

28 The specific heat capacity of a substance is the energy needed to:

- **A** Melt 1 kg of the substance
- **B** Raise the temperature of 1 kg by 1°C
- **C** Evaporate 1 kg of the substance
- **D** Cool 1 kg by 1°C

29 Magnets always have:

- **A** Only a north pole
- **B** Only a south pole
- **C** Both a north and south pole
- **D** Neither pole if demagnetised

30 An electromagnet can be made stronger by:

- **A** Decreasing the current
- **B** Using fewer turns of wire
- **C** Increasing the current
- **D** Using a wooden core

31 Which of the following is NOT part of the electromagnetic spectrum?

- **A** X-rays
- **B** Ultrasound
- **C** Microwaves
- **D** Infrared

32 The speed of light in a vacuum is approximately:

- **A** 3×10^6 m/s
- **B** 3×10^8 m/s
- **C** 3×10^{10} m/s
- **D** 3×10^4 m/s

33 A convex lens is used to correct which type of vision defect?

- **A** Long-sightedness
- **B** Short-sightedness
- **C** Astigmatism
- **D** Colour blindness

34 Which of the following is an example of a transverse wave?

- **A** Sound wave
- **B** Seismic P-wave
- **C** Light wave
- **D** Compression wave

35 Density is defined as:

- **A** Mass × Volume
- **B** Mass / Volume
- **C** Volume / Mass
- **D** Weight / Area

36 An object floats in a liquid when:

- **A** Its weight equals the upthrust
- **B** Its density is greater than the liquid

- **C** Its volume is very small
- **D** Its mass equals zero

37 The principle of conservation of energy states that energy:

- **A** Can be created but not destroyed
- **B** Can be destroyed but not created
- **C** Cannot be created or destroyed, only transformed
- **D** Is always lost as heat

38 Power is defined as:

- **A** Force × Distance
- **B** Energy / Time
- **C** Mass × Acceleration
- **D** Voltage × Resistance

39 Which instrument is used to measure electric current?

- **A** Voltmeter
- **B** Ohmmeter
- **C** Ammeter
- **D** Galvanometer

40 The turning effect of a force about a pivot is called:

- **A** Pressure
- **B** Torque
- **C** Moment
- **D** Impulse

Fill in the blanks with the appropriate word

Determine whether the statements are true or false

Discover the connection

Answer the following questions completely

COMPANY

QUESTIONS	TOTAL MARKS	LEVEL OF DIFFICULTY
40	40	Moderate

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Answer Keys

1	C	2	B	3	C
4	D	5	B	6	C
7	D	8	C	9	B
10	D	11	C	12	C
13	C	14	B	15	C
16	B	17	C	18	C
19	B	20	D	21	B
22	C	23	B	24	C
25	C	26	B	27	C
28	B	29	C	30	C
31	B	32	B	33	A
34	C	35	B	36	A
37	C	38	B	39	C
40	C				