

BAHAWALPUR BOARD

GRADE 10

PHYSICS

2019 GROUP 1

Section-A (MCQs)

i) During the Fission Reaction of 1 Kg of Uranium =235, amount of energy is released. (Mark 1)

- A. 4.7×10^{11}
- B. 5.7×10^{11}
- C. 6.7×10^{11}
- D. 7.7×10^{11}

Answer:

- C. 6.7×10^{11}

ii) One Byte is equal to:

(Mark 1)

- A. 10 Bits
- B. 8 Bits
- C. 6 Bits
- D. 4 Bits

Answer:

- B. 8 Bits

iii) George Bole invented.

(Mark 1)

- A. Arithmetic Algebra
- B. Geometry
- C. Boolean Algebra
- D. Mean Algebra

Answer:

- C. Boolean Algebra

iv) In C.R.O the Potential of Grid is:

(Mark 1)

- A. Zero
- B. Positive
- C. Negative
- D. Neutral

Answer:

- C. Negative

v) Laws of Electromagnetic Induction and Electrolysis were presented by: (Mark

1)

- A. Micheal Faraday
- B. George Coulomb

- C. Newton
- D. Simon Ohm

Answer:

- A. Micheal Faraday

vi) 1 KWh = _____ :

(Mark 1)

- A. 3.6 N
- B. 3.6 W
- C. 3.6 M J
- D. 3.6 J

Answer:

- C. 3.6 M J

vii) The Unit of e.m.f. is:

(Mark 1)

- A. NC^{-1}
- B. NC
- C. CJ
- D. JC^{-1}

Answer:

- D. JC^{-1}

viii) The Index of Refraction depend on:

(Mark 1)

- A. The Focal Length
- B. The Speed is Light
- C. The Image Distance
- D. The Object Distance

Answer:

- B. The Speed is Light

ix) The Rays reflected at angle of ____ in totally Internal Reflecting Prism:

(Mark

1)

- A. 45°
- B. 60°
- C. 90°
- D. 180°

Answer:

- D. 180°

x) "Optical Fibres" work on the principle of _____:

(Mark 1)

- A. Reflection
- B. Refraction
- C. Diffraction
- D. Total Internal Reflection

Answer:

- D. Total Internal Reflection

xi) The loudness of a sound is most closely related to its:

(Mark 1)

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

Answer:

- A. Amplitude

xii) The bending of Waves around obstacles or sharp edges, this phenomenon is called: (Mark 1)

- A. Reflection
- B. Refraction
- C. Interference
- D. Diffraction

Answer:

- D. Diffraction

Q.2 i) How can you define Damped Oscillations? (Marks 2)

Q.2 ii) What is meant by Diffraction of Waves? (Marks 2)

Q.2 iii) Differentiate between Time Period and Frequency. (Marks 2)

Q.2 iv) Write down any two uses of Ultrasound. (Marks 2)

Q.2 v) What is meant by Quality of Sound? (Marks 2)

Q.2 vi) State Lenz's Law. (Marks 2)

Q.2 vii) Define Mutual Induction. (Marks 2)

Q.2 viii) Differentiate between Step Up and Step Down Transformer. (Marks 2)

Q.3 i) State the Laws of Reflection. (Marks 2)

Q.3 ii) What is meant by the Refractive Index of a Medium? What is its S.I Unit? (Marks 2)

Q.3 iii) What is the difference between Real and Virtual Image? (Marks 2)

Q.3 iv) Differentiate between Hardware and Software? (Marks 2)

Q.3 v) Name different Information Storage Devices. (Marks 2)

Q.3 vi) Write two advantages of E-mail. (Marks 2)

Q.3 vii) Describe two uses of Radio Isotopes in Medicine. (Marks 2)

Q.3 viii) What are two common Radiation Hazards? (Marks 2)

Q.4 i) Define Electrostatic Induction. (Marks 2)

Q.4 ii) Define Potential Difference between two points and write its unit. (Marks 2)

Q.4 iii) Write four uses of Capacitors. (Marks 2)

- Q.4 iv) Define Joule's Law. (Marks 2)
- Q.4 v) Define Direct Current and Alternating Current. (Marks 2)
- Q.4 vi) What is Circuit Breaker? (Marks 2)
- Q.4 vii) What are Logic Gates? (Marks 2)
- Q.4 viii) What is Not Operation? Draw its symbol diagram. (Marks 2)
- Q.5 a) Define Refraction of Light. Also, explain Refraction of Light by a Glass Block with a diagram. (Marks 4)
- Q.5 b) A simple Pendulum completes one vibration in two seconds. Calculate its length when $g=10 \text{ ms}^{-2}$. (Marks 5)
- Q.6 a) Describe the method for the measurement of Potential Difference across a circuit component and the measurement of emf. (Marks 4)
- Q.6 b) Three Capacitors with capacitance of $3 \mu \text{ F}$, $4 \mu \text{ F}$ and $5 \mu \text{ F}$ are arranged in Series combination to a battery of 6.V Find. (Marks 4)
- Q.7 a) What is Cathode Ray Oscilloscope? Explain the working of different parts of CRO in detail. (Marks 4)
- Q.7 b) A Radioactive Element has a half-life of 40 minutes. The initial count rate was 1000 per minute How long will it take for the count rate to drop to : (Marks 5)
- i) 250 Count per Minute
- ii) 125 Count per Minute

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Section-A (MCQs)

- i) In a Vacuum all Electromagnetic Waves have the same: (Mark 1)

- A. Speed
- B. Frequency
- C. Amplitude

D. Wavelength

Answer:

A. Speed

ii) Which type of Image is formed in Plane Mirror: (Mark 1)

A. Real

B. Virtual

C. Real and Virtual

D. None of these

Answer:

B. Virtual

iii) Image formed by a Camera is: (Mark 1)

A. Real, Inverted and Diminished

B. Virtual, Upright and Diminished

C. Virtual, Upright and Magnified

D. Virtual, Inverted and Magnified

Answer:

A. Real, Inverted and Diminished

iv) The S.I Unit of Sound Intensity level is: (Mark 1)

A. Wm^{-2}

B. Bell

C. Decibel

D. None of these

Answer:

C. Decibel

v) The value of Constant K in Coulomb's Law depends upon: (Mark 1)

A. Size of Charges

B. Magnitude of Charges

C. Distance between Charges

D. Medium between Charges

Answer:

D. Medium between Charges

vi) In an Ideal Transformer, which quantity remains constant: (Mark 1)

A. Voltage

B. Power

C. Current

D. Both A and B

Answer:

B. Power

vii) When we double the voltage in a Simple Electric Circuit, we double the:
(Mark 1)

A. Current

B. Power

C. Resistance

D. Both A and B

Answer:

B. Power

viii) Specific Resistance of Silver is:

(Mark 1)

- A. $1.69 \times 10^{-8} \Omega \text{ m}$
- B. $2.75 \times 10^{-8} \Omega \text{ m}$
- C. $1.7 \times 10^{-8} \Omega \text{ m}$
- D. $5.25 \times 10^{-8} \Omega \text{ m}$

Answer:

- C. $1.7 \times 10^{-8} \Omega \text{ m}$

ix) For a NOR gate Output will be "1" when inputs are:

(Mark 1)

- A. "0" and "1"
- B. "1" and "0"
- C. "0" and "0"
- D. "1" and "1"

Answer:

- C. "0" and "0"

x) In Beta Decay, Nucleon Number changes by:

(Mark 1)

- A. Decreases by 4
- B. Increases by 4
- C. Remains unchanged
- D. Decreases by 2

Answer:

- C. Remains unchanged

xi) The basic operation performed by Computer is:

(Mark 1)

- A. Arithmetic Operation
- B. Non-Arithmetic Operation
- C. Logic Operation
- D. Both A and C

Answer:

A. Arithmetic Operation

xii) Which Gate is used in making Burglar Alarm: (Mark 1)

- A. OR gate
- B. AND gate
- C. NOT gate
- D. NAND gate

Answer:

D. NAND gate

- Q.2 i) Write any two features of Simple Harmonic Motion. (Marks 2)**
- Q.2 ii) If $l = 1.0\text{m}$, $g = 10.0 \text{ m s}^{-2}$ then find the value of T. (Marks 2)**
- Q.2 iii) Name two categories of Waves . (Marks 2)**
- Q.2 iv) Define Intensity of Sound and write its unit. (Marks 2)**
- Q.2 v) Write any two uses of Ultrasound. (Marks 2)**
- Q.2 vi) Define Electromagnetic Induction. (Marks 2)**
- Q.2 vii) Write the factors which effect the Induced e.m.f. (Marks 2)**
- Q.2 viii) What is Transformer? In which principle does it works?
(Marks 2)

- Q.3 i) Describe any two types of Endoscope. (Marks 2)**
- Q.3 ii) Enlist at least four types of Lenses. (Marks 2)**
- Q.3 iii) State Lens formula in words. (Marks 2)**
- Q.3 iv) What is meant by Word Processing? (Marks 2)**
- Q.3 v) Write the main services used on the Internet. (Marks 2)**
- Q.3 vi) Write the way to reduce the Risk of security breaches to secure your computer. (Marks 2)**
- Q.3 vii) Write two uses of Radioisotopes. (Marks 2)**

Q.3 viii) Draw the Diagram of Fission Chain Reaction in U-235.

(Marks 2)

Q.4 i) Describe the structure of Paper Capacitor. (Marks 2)

Q.4 ii) Write Mathematical Form of Coulomb Law. How does the Coulomb Force affected, if the separation between two point charges is doubled? (Marks 2)

Q.4 iii) Define Electric Field Intensity and write its unit. (Marks 2)

Q.4 iv) What is a Thermistor? Write its any one use. (Marks 2)

Q.4 v) What is meant by the term Electro-Motive Force? (Marks 2)

Q.4 vi) Differentiate between Direct Current and Alternating Current.

(Marks 2)

Q.4 vii) In CRO, what is the function of Deflecting Plates? (Marks 2)

Q.4 viii) Differentiate between Analogue Electronics and Digital Electronics. (Marks 2)

Q.5 a) Describe Defects of Vision. How these Defects can be corrected? Explain. (Marks 4)

Q.5 b) A doctor counts 72 heartbeats in 1 minute. Calculate the frequency and period of the heartbeats. (Marks 5)

Q.6 a) What is meant by the Parallel Combination of Resistors? write down its three Characteristics. (Marks 4)

Q.6 b) A capacitors holds 0.03 coulombs of charge when fully charged by a 6 Volt Battery. How much Voltage would be required for it to hold 2 Coulombs of charge? (Marks 5)

Q.7 a) Explain OR Operation. Write also symbol and Truth Table of OR gate. (Marks 4)

Q.7 b) Technitum-99 m is a Radioactive element and is used to diagnose brain, thyroid, liver and kidney diseases. This element has a half-life of 6 hours. If there is 200 mg this technetium present, how much will be left in 36 hours? (Marks 5)