LAHORE BOARD

GRADE 10

PHYSICS

2019 GROUP 1

MCQ's

Section-A (MCQs)

i) If the mass of the bob of the pendulum is increased by a factor of 3, the time period of the pendulum's motion will be: (Mark 1)

A. Increased by a factor of two
B. Remain unchanged
C. Decreased by a factor of two
D. Decreased by a factor of four
Answer:
B. Remain unchanged

ii) We can distinguish between a shrill and grave sound by its: (Mark 1)

A. Loudness
B. Amplitude
C. Area
D. Pitch
Answer:
D. Pitch

iii) To get a virtual image from a convex lens the object is kept: (Mark 1)

A. On F
B. Between F and 2F
C. Between O and F
D. Beyond 2F
Answer:
C. Between O and F

iv) To correct the defect of vision farsightedness which type of lens is used: (Mark 1)

A. Converging
B. Diverging
C. Both
D. None of these
Answer:
A. Converging

v) S.I unit of the capacitance of a capacitor is: (Mark 1)

A. V
B. A
C. F
D. N
Answer:
C. F

vi) The combined resistance of two identical resistors connected in series is 8 Ohm. Their combined resistance in a parallel arrangement will be: (Mark 1)

A. 4 Ω
B. 2 Ω
C. 8 Ω
D. 12 Ω
Answer:
B. 2 Ω

vii) To measure the value of current flowing in a circuit which device is used: (Mark 1)

A. Galvanometer
B. Ammeter
C. Voltmeter
D. None of these
Answer:
B. Ammeter

viii) The turn ratio of a transformer is 10, it means: (Mark 1)

A. $I_s = 10I_p$
B. $1N_s = N_p/10$
C. $V_s = V_p/10$
D. $N_s = 10N_p$
Answer:
D. $N_s = 10N_p$

ix) The process by which electrons are emitted by a hot metal surface is known: (Mark 1)

A. Boiling
B. Evaporation
C. Thermionic emission
D. Conduction
Answer:
C. Thermionic emission

x) Typical value of the voltage and current used for thermionic emission from tungsten filament is: (Mark 1)

A. 6 V and 0.3 A
B. 12 V and 0.3 A
C. 12 V and 3 A
D. 6V and 3 A
Answer:
A. 6 V and 0.3 A

xi) The brain of any computer system is : (Mark 1)

A. Monitor
B. Memory card
C. Floppy disc
D. C.P.U
Answer:
D. C.P.U

xii) When U-92 ejects a beta particle how many protons will be in the remaining nucleus: (Mark 1)

A. 93
B. 89
C. 91
D. 90
Answer:
A. 93

Q.2 i) Write down two characteristics of simple harmonic motion. (Marks 2)

Q.2 ii) Prove that: $v = f\lambda$ (Marks 2)

Q.2 iii) What do you know about Ripple Tank? (Marks 2)

Q.2 iv) What is tuning fork? (Marks 2)

Q.2 v) Write two uses of ultrasound in the medical field. (Marks 2)

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

Q.2 vii) What is the difference between step up and step down transformer? (Marks 2)

Q.2 viii) What is the function of a relay? (Marks 2)

Q.3 i) Define the power of a lens and write its unit. (Marks 2)

Q.3 ii) Draw the ray diagram of refracting telescope. (Marks 2)

Q.3 iii) How can you define optical fibre? (Marks 2)

Q.3 iv) What is meant by compact disc? (Marks 2)

Q.3 v) Define telecommunication. (Marks 2)

Q.3 vi) Define piracy and floppy disc. (Marks 2)

Q.3 vii) What do you mean by background radiations? (Marks 2)

Q.3 viii) Write down two uses of radioisotopes. (Marks 2)

Q.4 i) Describe the construction of electroscope. (Marks 2)

Q.4 ii) Differentiate between ohmic and non-ohmic material.

(Marks 2)

Q.4 iii) Define the S.I unit of the capacitance of a capacitor. (Marks 2)

Q.4 iv) What is the difference between conductors and insulators? (Marks 2)

Q.4 v) Define the specific resistance of a substance. Also, write its S.I unit. (Marks 2)

Q.4 vi) For which purpose circuit breaker is used in circuits?

Q.4 vii) Describe the function of deflecting plates in a cathode-ray oscilloscope. (Marks 2)

Q.4 viii) Describe the uses of a cathode-ray oscilloscope. (Marks 2)

Q.5 a) State the reflection of light and explain laws of reflection.

(Marks 4)

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

Q.6 a) Explain a parallel combination of resistors with the help of a circuit diagram. (Marks 4)

Q.6 b) Two-point charges q= 10μC and q2 =5μC are placed at a distance of 150 cm. What will be the Coulomb's force between them? Also, find the direction of the force. (Marks 5)

Q.7 a) What is an electron gun? Explain the process of thermionic emission. (Marks 4)

Q.7 b) Half-life of a radioactive element is 10 minutes. If the initial count rate is 368 counts per minute, find the time by which the count rate reaches 23 counts per minute? (Marks 5)

•

LAHORE BOARD

GRADE 10

PHYSICS

2019 GROUP 2

MCQ's

Section-A (MCQs)

i) Power of hair dryer: **(Mark 1)**

A. 5000 watts
B. 1500 watts
C. 1000 watts
D. 800 watts
Answer:
B. 1500 watts

ii) The brain of any computer system is: **(Mark 1)**

A. Monitor
B. Memory
C. C.P.U
D. Control unit
Answer:
C. C.P.U

iii) Speed of light in glass: **(Mark 1)**

A. 2.0×10^8 m/s
B. 3.0×10^8 m/s
C. 2.0×10^6 m/s
D. 3.0×10^6 m/s
Answer:
B. 3.0×10^8 m/s

Answer:
A. X = A.B

v) The half-life of an isotope of cobalt $^{60}Co_{27}$: **(Mark 1)**

A. 30 years
B. 20 years
C. 15 years
D. 10 years
Answer:
A. 30 years

Answer:
B.

vii) The specific resistance of iron: **(Mark 1)**

A. 9.8×10^{-8} Ωm
B. 100×10^{-8} Ωm
C. 10.6×10^{-8} Ωm
D. 5.25×10^{-8} Ωm
Answer:
A. 9.8×10^{-8} Ωm

viii) Speed of sound in steel at 25°C: **(Mark 1)**

A. 3880 m/s
B. 5950 m/s
C. 6040 m/s
D. 5960 m/s
Answer:
D. 5960 m/s

ix) The direction of induced e.m.f in a circuit is in accordance with the conservation of : **(Mark 1)**

A. Mass
B. Charge
C. Momentum
D. Energy
Answer:
D. Energy

x) Capacitance is defined as: **(Mark 1)**

A. VC
B. Q/V
C. QV
D. V/Q
Answer:
B. Q/V

xi) Index of refraction of ice: (Mark 1)

A. 1.00
B. 1.33
C. 1.31
D. 1.36
Answer:
C. 1.31

xii) The process by which electrons are emitted by a hot metal surface is known as: (Mark 1)

A. Boiling
B. Evaporation
C. Conduction
D. Thermionic emission
Answer:
D. Thermionic emission

Q.2 i) Define the refraction of a wave. (Marks 2)

Q.2 ii) What is meant by compression? (Marks 2)

Q.2 iii) Define mechanical waves and write the name of its types. (Marks 2)

Q.2 iv) Differentiate between noise and musical sound. (Marks 2)

Q.2 v) What is a silent whistle? Write its frequency limits. (Marks 2)

Q.2 vi) Define Right Hand rule. (Marks 2)

Q.2 vii) Can a transformer work on direct current? (Marks 2)

Q.2 viii) Define electromagnetic induction. (Marks 2)

Q.3 i) Define refractive index. (Marks 2)

Q.3 ii) Write the types of the endoscope. (Marks 2)

Q.3 iii) Differentiate between pole and optical centre. (Marks 2)

Q.3 iv) Name at least four browsers being used now-a-days. (Marks 2)

Q.3 v) Define word processing. (Marks 2)

Q.3 vi) Write the storage capacity of Compact Disc (CD) and DVD. (Marks 2)

Q.3 vii) What do you mean by nuclear transmutation? (Marks 2)

Q.3 viii) Write the difference between fission reaction and fusion reaction. (Marks 2)

Q.4 i) How does electrostatic induction differ from charging by friction? (Marks 2)

Q.4 ii) Write any two uses of a capacitor. (Marks 2)

Q.4 iii) Define the S.I unit of the capacitance. (Marks 2)

Q.4 iv) What is the difference between conductors and insulators?

(Marks 2)

Q.4 v) Differentiate between Ohmic and Non-Ohmic materials.

(Marks 2)

Q.4 vi) How many watt-hours are in 1000 Joules? (Marks 2)

Q.4 vii) Describe the uses of a cathode ray oscilloscope? (Marks 2)

Q.5 a) Explain the refraction through the convex lens by making a ray diagram. (Marks 4)

Q.5 b) If at Anarkali Bazaar Lahore, the intensity level of sound is 80 dB, what will be the intensity of sound there? (Marks 5)

Q.6 a) What is meant by the series combination of resistors? Write down its three characteristics. (Marks 4)

Q.6 b) The charge of how many negatively charged particles would be equal to 100 μ C. Assume charge on one negative particle is 1.6×10^{-19} C. (Marks 5)

Q.7 a) Draw the circuit diagrams of AND operation and OR operation and also write the truth table of both these operations.

(Marks 4)

Q.7 b) Half-life of a radioactive element is 10 minutes. If the initial count rate is 368 counts per minute, find the time by which the count rate reaches 23 counts per minute? (Marks 5)

+...3