

LAHORE BOARD

GRADE 10

PHYSICS

2017 GROUP 1

MCQ's

Section A-(MCQs)

i) The main categories of waves are:

(Mark 1)

- A. 1
- B. 2
- C. 3
- D. 4

Answer:

- B. 2

ii) The intensity level of rusting of leaves is:

(Mark 1)

- A. 10 dB
- B. 20 dB
- C. 30 dB
- D. 40 dB

Answer:

- A. 10 dB

iii) The unit of sound intensity is:

(Mark 1)

- A. Wm
- B. Wm^{-1}
- C. Wm^2
- D. Wm^{-2}

Answer:

- D. Wm^{-2}

iv) The change in the focal length of the eye lens is called:

(Mark 1)

- A. Modification
- B. Induction

- C. Accomodation
- D. Distinct vision

Answer:

C. Accomodation

v) The unit of capacitance is:

(Mark 1)

- A. Ampere
- B. Farad
- C. Columb
- D. Volt

Answer:

B. Farad

vi) The formula of e.m.f is:

(Mark 1)

- A. $E = J/Q$
- B. $F = W / I$
- C. $E = W / Q$
- D. $E = Q / I$

Answer:

C. $E = W / Q$

vii) Transformer is used to change the value of:

(Mark 1)

- A. Charge
- B. Energy
- C. Power
- D. Voltage

Answer:

D. Voltage

viii) The principle of working of transformer is:

(Mark 1)

- A. Self-induction
- B. Electromagnetism
- C. Mutual induction
- D. Electrostatics

Answer:

C. Mutual induction

ix) In C.R.O, the potential of grid is:

(Mark 1)

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

Answer:

D. Negative

x) In computer terminology, the term machinery refers to: (Mark 1)

- A. Software
- B. Hardware
- C. Data
- D. Procedure

Answer:

- B. Hardware

xi) One byte is equal to: (Mark 1)

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

Answer:

- C. 8 bits

xii) To diagnose the brain tumour, it is used: (Mark 1)

- A. Iodine-131
- B. Phosphorus-32
- C. Cobalt-60
- D. Carbon-14

Answer:

- B. Phosphorus-32

Q.2 i) Define longitudinal waves. (Marks 2)

Q.2 ii) What do you mean by amplitude? (Marks 2)

Q.2 iii) Write two uses of ultrasound. (Marks 2)

Q.2 iv) Define pitch. (Marks 2)

Q.2 v) Define the intensity of sound. (Marks 2)

Q.2 vi) State laws of refraction. (Marks 2)

Q.2 viii) Define nearsightedness. (Marks 2)

Q.3 i) Explain any application of electrostatics. (Marks 2)

Q.3 ii) Explain the variable capacitor with an example. (Marks 2)

Q.3 iii) Define unit of current. (Marks 2)

Q.3 iv) Define Ohm. (Marks 2)

Q.3 v) If the length of copper wire is 1 m and its diameter is 2 mm. Find its resistance. (Marks 2)

- Q.3 vi) State right hand rule for straight conductor. (Marks 2)
- Q.3 vii) Write two ways to increase the magnetic force. (Marks 2)
- Q.3 viii) Write two factors affecting induced emf. (Marks 2)
- Q.4 i) Define electronics. (Marks 2)
- Q.4 ii) Define thermionic emission. (Marks 2)
- Q.4 iii) What do you mean by software? (Marks 2)
- Q.4 iv) What is meant by fax machine? (Marks 2)
- Q.4 v) Define information and communication technology. (Marks 2)
- Q.4 vi) Define half-life. (Marks 2)
- Q.4 vii) Define radioactive isotopes. (Marks 2)
- Q.4 viii) What do you mean by Carbon dating? (Marks 2)
- Q.5 a) Write a note on characteristics of sound. (Marks 4)
- Q.5 b) An object and an image in a concave mirror are of the same height, yet inverted when the object is 20.0 cm from the mirror. What is the focal length of the mirror? (Marks 5)
- Q.6 a) Write down the characteristics of a parallel combination of resistors. (Marks 4)
- Q.6 b) A capacitor 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 a charge? (Marks 5)
- Q.7 a) Define NAND gate, draw its symbol and write its truth table. (Marks 4)
- Q.7 b) Cobalt-60 is a radioactive element with half-life of 5.25 years. What fraction of the original sample will be left after 26 years? (Marks 5)

LAHORE BOARD

GRADE 10

PHYSICS

2017 GROUP 2

MCQ's

Section A-(MCQs)

i) The index of refraction depends upon: (Mark 1)

- A. Focal length
- B. The speed of light
- C. The image distance
- D. The object distance

Answer:

- B. The speed of light

ii) An electric current in a conductor is due to the flow of: (Mark 1)

- A. Positive ion
- B. Negative ion
- C. Positive charges
- D. Free electron

Answer:

- D. Free electron

iii) Capacitance is defined as (Mark 1)

- A. VC
- B. Q / V
- C. QV
- D. V / Q

Answer:

- B. Q / V

iv) What is the direction of the magnetic field lines inside a bar magnet:

(Mark 1)

- A. From north pole to south pole
- B. From south pole to north pole
- C. From side to side
- D. There are no magnetic field lines

Answer:

B. From south pole to north pole

v) Which form of energy is sound:

(Mark 1)

A. Electrical

B. Mechanical

C. Thermal

D. Chemical

Answer:

B. Mechanical

vi) The direction of induced e.m.f in a circuit is in accordance with conservation of:

(Mark 1)

A. Mass

B. Charge

C. Momentum

D. Energy

Answer:

D. Energy

vii) Which of the following characteristics of the wave is independent of the other:

(Mark 1)

A. Speed

B. Frequency

C. Amplitude

D. Wavelength

Answer:

C. Amplitude

viii) When Uranium (92 Protons) ejects a beta particle, how many protons will be in the remaining nucleus:

(Mark 1)

A. 89

B. 90

C. 91

D. 93

Answer:

D. 93

ix) For a normal person, audible frequency range for sound wave lies between:

(Mark 1)

A. 10 Hz and 10 KHz

B. 20 Hz and 20 KHz

C. 25 Hz and 25 KHz

D. 30 Hz and 30 KHz

Answer:

B. 20 Hz and 20 KHz

x) 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

xi) The particles emitted from hot cathode surface are:

(Mark 1)

A. Positive ions

B. Negative ions

C. Protons

D. Electrons

Answer:

D. Electrons

xii) In computer terminology, information means:

(Mark 1)

A. Any data

B. Raw data

C. Processed data

D. Large data

Answer:

C. Processed data

Q.2 i) Define simple pendulum and write the formula of its time period.

(Marks 2)

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

Q.2 iii) Calculate the frequency of sound wave of speed 340 ms^{-1} and wavelength 0.5 m. (Marks 2)

Q.2 iv) Name the two characteristics of sound.

(Marks 2)

Q.2 v) Differentiate between frequency and pitch.

(Marks 2)

Q.2 vi) State laws of reflection.

(Marks 2)

Q.2 vii) What is difference between concave and convex lens?

(Marks 2)

Q.2 viii) Define critical angle.

(Marks 2)

Q.3 i) Define the unit of electric field intensity.

(Marks 2)

- Q.3 ii) Write any two characteristics of electric field lines. (Marks 2)
- Q.3 iii) What is meant by electromotive force? (Marks 2)
- Q.3 iv) State Joule's law. (Marks 2)
- Q.3 v) What is difference between a cell and a battery? (Marks 2)
- Q.3 vi) Define electromagnet. (Marks 2)
- Q.3 vii) State Lenz's law. (Marks 2)
- Q.3 viii) Which device is used for converting electrical energy into mechanical energy and at what principle it works? (Marks 2)
- Q.4 i) Define thermionic emission. (Marks 2)
- Q.4 ii) Differentiate between digital and analogue quantities. (Marks 2)
- Q.4 iii) Construct truth table of AND gate. (Marks 2)
- Q.4 iv) Differentiate between RAM and ROM. (Marks 2)
- Q.4 v) Write two advantages of e-mail. (Marks 2)
- Q.4 vi) Define data. (Marks 2)
- Q.4 vii) Define fission reaction. (Marks 2)
- Q.4 viii) Write two uses of radio-isotopes. (Marks 2)
- Q.5 a) How can you define the term wave motion? Also elaborate the difference between mechanical waves and electromagnetic waves with suitable examples. (Marks 4)
- Q.5 b) An object 30 cm tall is located 10.5 cm from a concave mirror with focal length 16 cm.
- i) Where is the image located?
- ii) How high is it? (Marks 5)
- Q.6 a) What are the possible combination of resistors in a circuit? Calculate equivalent resistance for series combination. (Marks 4)
- Q.6 b) Two capacitors of capacitances $12\ \mu\text{F}$ and $6\ \mu\text{F}$ are connected in parallel with a 12 V battery. Find the equivalent capacitance of the combination. Find the charge and the potential difference across each capacitor. (Marks 5)
- Q.7 a) Draw the circuit diagram of AND operation and OR operation and also write the truth tables of both these operations. (Marks 4)
- Q.7 b) The activity of a sample of radio-active bismuth decreases to one-eighth of its original activity in 15 days. Calculate the half-life of the sample. (Marks 5)

