Rawalpindi BOARD

GRADE 10

PHYSICS

2018 GROUP 1

Section A-(MCQs)

i) Time period of simple pendulum of 1 m long is (Mark 1)

A. 2.53
B. 1.67
C. 1.99
D. 2.99

Answer:
C. 1.99

ii) One bel is equal to (Mark 1)

A. 1 dB
B. 10 dB
C. 100 dB
D. 1000 dB

Answer:
B. 10 dB

iii) Frequency of tuning fork depends upon (Mark 1)

A. length
B. weight
C. mass
D. both a and c

Answer:
D. both a and c

iv) Refractive index of water is (Mark 1)

A. 0.33
B. 1
C. 1.33
D. 1.5

Answer:
C. 1.33

v) How much energy (million joule) has a thunder of light? (Mark 1)

A. 1
B. 10
C. 100
D. 1000
Answer:
D. 1000

vi) Potential of neutral wire is (Mark 1)

A. 0 V
B. infinity
C. 1 V
D. none of the above
Answer:
A. 0 V

vii) Law of electromagnetic induction was given by (Mark 1)

A. Faraday
B. Maxwell
C. Ampere
D. Schrodinger
Answer:
A. Faraday

viii) MRI helps in diagnose the disorder of (Mark 1)

A. Heart
B. Kidney
C. Brain
D. Lungs
Answer:
C. Brain

ix) If x = A.B then x will be one when (Mark 1)

A. A = 1
B. B = 1
C. Both a and b
D. none of the above
Answer:
C. Both a and b

x) Radio waves are (Mark 1)

A. compressional waves
B. electromagnetic waves
C. a type of sound wave
D. both a and b
Answer:
B. electromagnetic waves

xi) E-mail stands for (Mark 1)

A. emergency mail
B. electronic mail

C. extra mail
D. external mail
Answer:
B. electronic mail

xii) The temperature at center of sun is (Mark 1)

A. 10 MK
B. 15 MK
C. 20 MK
D. 25 MK
Answer:
B. 15 MK

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

Q.2 ii) Define restoring force. (Marks 2)

Q.2 iii) What is the difference between music and noise? (Marks 2)

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

Q.2 v) Define intensity of sound and write its SI unit. (Marks 2)

Q.2 vi) State the difference between regular and irregular reflection. (Marks 2)

Q.2 vii) Define critical angle. (Marks 2)

Q.2 viii) State Snell's law and write its formula. (Marks 2)

Q.3 i) Define capacitor and write the names of its types. (Marks 2)

Q.3 ii) Define potential difference and write its unit. (Marks 2)

Q.3 iii) Describe the importance of fuse and electric current. (Marks 2)

Q.3 iv) State Joule's Law. (Marks 2)

Q.3 v) Define electric current and write its unit. (Marks 2)

Q.3 vi) Describe the working principle of D.C motor. (Marks 2)

Q.3 vii) What is basic difference between generator and motor.

Q.3 viii) What is magnetic resonance imaging? (Marks 2)

Q.4 i) Define thermionic emission. (Marks 2)

Q.4 ii) Give truth table of AND gate. (Marks 2)

Q.4 iii) Write two uses of computer. (Marks 2)

Q.4 iv) Difference between RAM and ROM. (Marks 2)

Q.4 v) Define data. (Marks 2)

Q.4 vi) What is meant by isotopes. Write the names of isotopes of hydrogen. (2 marks)

Q.4 vii) What is difference between atomic number and atomic mass. (Marks 2)

Q.4 viii) Define the half life of a radioactive element. (Marks 2)

Q.5 a) Define wave motion. Explain the types of mechanical waves in detail.
(Marks 4)

Q.5 b) A convex lens of focal length 6 cm is to be used to form a virtual image three times the size of the object. Where must the lens be placed.
(Marks 5)

Q.6 a) Write a note on 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 charge? (Marks 5)

Q.7 a) What are AND gate and OR gate? Explain them with a simple circuit and draw their logical symbols and truth tables. (Marks 4)

Q.7 b) The activity of a sample of a radioactive Bismuth decreases to one-eighth of its original activity in 15 days. Calculate the half life of the sample.
(Marks 5)

Section A-(MCQs)

i) If the length of a pendulum on earth is one meter, then its time period will be. (Mark 1)

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

Answer:
B. 2 s

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GRADE 10

PHYSICS

2018 GROUP 2

ii) Sound level of rustling of leaves is (Mark 1)

A. 1 db
B. 5 db
C. 10 db
D. 15 db

Answer:
C. 10 db

iii) At 25 ^{0}C speed of sound in wood (Mark 1)

A. 500 ms^{-1}
B. 1000 ms^{-1}
C. 1500 ms^{-1}
D. 2000 ms^{-1}

Answer:
D. 2000 ms^{-1}

iv) Refractive index of ethyl alcohol is (Mark 1)

A. 1.36
B. 2.36
C. 3.36
D. 4.36

Answer:
A. 1.36

v) Which thing is used as a dielectric in mica capacitors. (Mark 1)

A. water
B. oil
C. mica
D. air

Answer:
C. mica

vi) Specific resistance of copper is (Mark 1)

A. 1.69
B. 2.69
C. 3.69

D. 4.69

Answer:

A. 1.69

vii) Who presented the law of electromagnetic induction and electrolysis? (Mark 1)

A. Maxwel

B. Einstein

C. Faraday

D. Bohr

Answer:

C. Faraday

viii) Which device is prepared by the principle of electromagnetism? (Mark 1)

A. battery

B. RAM

C. electric motor

D. both a and c

Answer:

C. electric motor

ix) Number of input terminals in NOT gate is (Mark 1)

A. 1

B. 2

C. 3

D. 4

Answer:

A. 1

x) 1024 kilobyte is equal to (Mark 1)

A. 1 byte

B. 1 megabyte

C. 1 gigabyte

D. 1 terabyte

Answer:

B. 1 megabyte

xi) When C.D is made of soft elastic material then it is called (Mark 1)

A. DVD

B. Floppy Disk

C. Flash Drive

D. USB

Answer:

B. Floppy Disk

xii) Half life of iodine 131 is (Mark 1)

A. 8 minutes

B. 8 days

C. 8.07 days
D. 8.07 minutes
Answer:
C. 8.07 days

Section B-Q.2 i)

Q.2 i) Define simple pendulum. Write the formula of its time period.
(Marks 2)

Q.2 ii) Define transverse waves and give an example. (Marks 2)

Q.2 iii) In which medium sound wave move faster, solid or liquid and why?
(Marks 2)

Q.2 iv) What is meant by ultrasound? (Marks 2)

Q.2 v) On what factors does loudness of sound depend? (Marks 2)

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

Q.2 vii) Differentiate between concave and convex lens. (Marks 2)

Q.2 viii) Define critical angle. (Marks 2)

Q.3 i) What is SI unit of capacitance? Define it. (Marks 2)

Q.3 ii) Write down two characteristics of electric field lines. (Marks 2)

Q.3 iii) Define electric current and write its unit. (Marks 2)

Q.3 iv) What is meant by the non-ohmic conductor? (Marks 2)

Q.3 v) Differentiate between e.m.f and potential difference. (Marks 2)

Q.3 vi) Define mutual Induction. (Marks 2)

Q.3 vii) What is a transformer and on what principle does it work? (Marks 2)

Q.3 viii) Describe Lenz's law. (Marks 2)

Q.4 i) Give two reasons to support that cathode rays are negatively charged. (Marks 2)

Q.4 ii) What is meant by digital electronics. Also, give its one example. (Marks 2)

Q.4 iii) How many essential parts a communication system contains? Write their names. (Marks 2)

Q.4 iv) What is the difference between web browsing and e-mail? (Marks 2)

Q.4 v) Differentiate between a hard disk and a compact disk. (Marks 2)

Q.4 vi) What is the difference between natural and artificial radioactivity? (Marks 2)

Q.4 vii) Describe two uses of radioisotopes in research. (Marks 2)

Q.4 viii) Write the penetrating power of alpha particle and gamma-ray photon. (Marks 2)

Q.5 a) Write down important features of S.H.M and explain it with ball and bowl system. (Marks 4)

Q.5 b) A convex mirror is used to reflect light from an object placed 66 cm in front of the mirror. The focal length of the mirror is 46 cm. Find the location of the image. (Marks 5)

Q.6 a) Find equivalent resistance of a paraller circuit of resistance.

(Marks 4)

Q.6 b) The capacitance of a capacitor is 100 pF, if the potential difference between its plates is 50 V then find the quantity of charge stored on each plate. (Marks 5)

Q.7 a) What are three universal logic gates? Give their symbols and truth tables. (Marks 4)

Q.7 b) The activity of a sample of a radioactive Bismuth decrease to one-eighth of its original activity in 15 days. Calculate the half-life of the sample. (Marks 5)