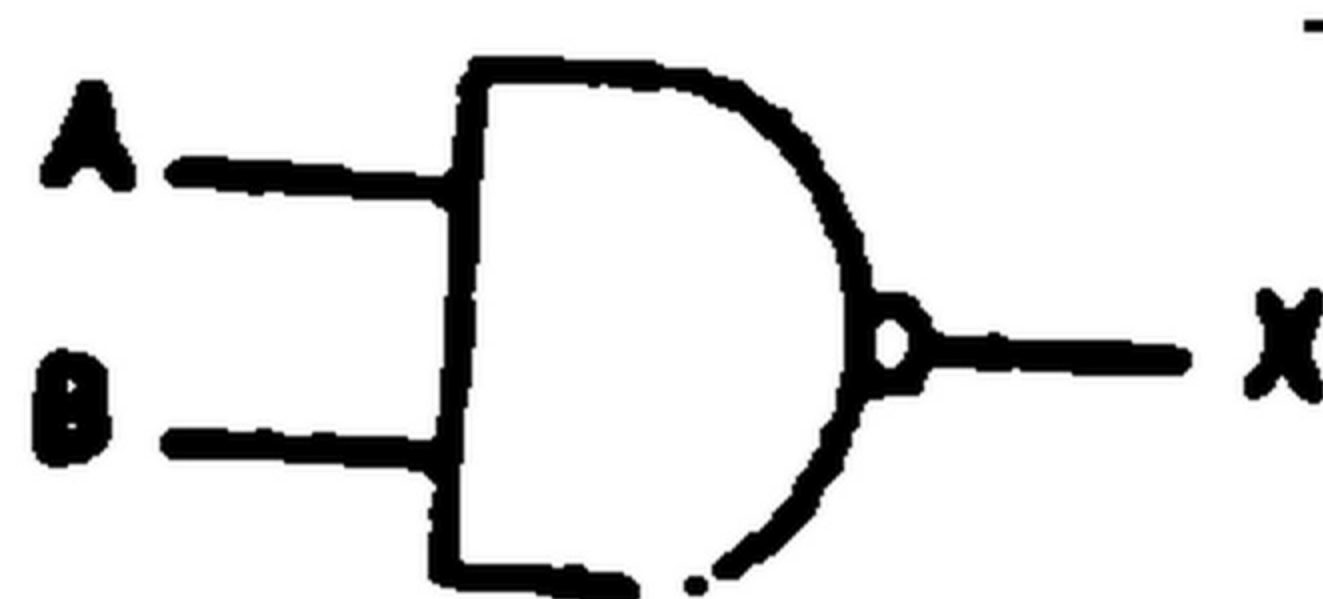


Note:

Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer book. Cutting or filling two or more circles will result in zero mark in that question.

- 1.1 The relation between v , f and λ of a wave is :
 - Ⓐ $vf = \lambda$
 - Ⓑ $f\lambda = v$
 - Ⓒ $\lambda v = f$
 - Ⓓ $v = \frac{\lambda}{f}$
- 2 The loudness of a sound is most closely related to its :
 - Ⓐ Frequency
 - Ⓑ Period
 - Ⓒ Wavelength
 - Ⓓ Amplitude
- 3 Image formed by a camera is:
 - Ⓐ Real, inverted and diminished
 - Ⓑ Virtual, upright and diminished
 - Ⓒ Virtual, upright and magnified
 - Ⓓ Real, inverted and magnified
- 4 Capacitance is defined as:
 - Ⓐ VC
 - Ⓑ QV
 - Ⓒ Q/V
 - Ⓓ V/Q
- 5 What happens to the intensity or the brightness of the lamps connected in series as more lamps are added:
 - Ⓐ Increases
 - Ⓑ Decreases
 - Ⓒ Remains the same
 - Ⓓ Cannot be predicted
- 6 The turn ratios of a transformer is 10. It means:
 - Ⓐ $I_s = 10 I_p$
 - Ⓑ $N_s = \frac{N_p}{10}$
 - Ⓒ $N_s = 10 N_p$
 - Ⓓ $V_s = \frac{V_p}{10}$
- 7 The logical operation performed by this gate is :



- Ⓐ NAND
 - Ⓑ NOR
 - Ⓒ AND
 - Ⓓ OR
- 8 From which of the following we can get information almost about every thing :
 - Ⓐ Books
 - Ⓑ Teacher
 - Ⓒ Computer
 - Ⓓ Internet
- 9 The half-life of a certain isotope is one day. What is the quantity of isotope after two days :
 - Ⓐ One-half
 - Ⓑ One-quarter
 - Ⓒ One-eighth
 - Ⓓ None of these
- 10 Which compound is used for diagnosis of brain tumor:
 - Ⓐ P-32
 - Ⓑ I-131
 - Ⓒ H-3
 - Ⓓ N-152
- 11 Which refers to computer programmes and the manuals that support them:
 - Ⓐ Data
 - Ⓑ Hardware
 - Ⓒ Software
 - Ⓓ Information
- 12 To make burglar alarm we use :
 - Ⓐ NOT gate
 - Ⓑ OR gate
 - Ⓒ NOR gate
 - Ⓓ NAND gate

Physics	Tenth, 2024 Lahore Board	Group – I
Time: 1.45 hrs.	Essay Type	Marks : 48

PART-I

Q.2 Write short answers to any FIVE (5) questions: 10

- i Define time period and frequency.
- ii If 100 waves pass through a point of a medium in 20 seconds. What is the frequency of the waves?
- iii Think of several examples of motion in every day life that are simple harmonic motion.
- iv Write some uses of capacitors.
- v Write two characteristics of series combination of capacitors.

vi What is difference between fixed capacitor and variable capacitor?

vii What is the difference between cell and battery?

viii Define resistance and write its unit.

Q.3 Write short answers to any FIVE (5) questions: 10

i Define loudness of sound. How does it change with the increase in amplitude?

ii How can you reduce the level of noise pollution?

iii What is meant by sonar (sound navigation and ranging)?

iv What is difference between data and information?

v How are light signals sent through optical fibre?

vi What is the difference between hardware and software?

vii Define atomic number and mass number.

viii How can the scientist estimate dead tree age by C-14?

Q.4 Write short answers to any FIVE (5) questions: 10

i Define power of lens, also write its formula.

ii According to sign conventions when object distance are taken positive and negative in spherical mirror.

iii Describe the principle focus of a convex lens by ray diagram.

iv Write two uses of logic gates.

v Draw the symbol of NOT gate and also write its truth table.

vi Define the term thermionic emission.

vii Write working principle of electric motor.

viii What is right hand rule to determine the magnetic poles of a current carrying coil?

PART-II

Note: Attempt any TWO questions.

Q.5(a) What is meant by refraction of wave? Explain the refraction of water waves diagrammatically by using ripple tank. 4

(b) Two capacitors of capacitances $6\mu F$ and $12\mu F$ are connected in series with 12V battery. Find the equivalent capacitance of the combination. Find the potential difference across each capacitor. 5

Q.6(a) Explain transmission of radio waves through space. 4

(b) A sound wave has a frequency of 2KHz and wavelength 35cm. How long will it take to travel 1.5km? 5

Q.7(a) What is an electron gun? How does it work in CRO? 4

(b) A step up transformer has turn ratio 1:100. An alternating supply of 20 V is connected across the primary coil. What is the secondary voltage? 5