CUET (UG)

Physics Sample Paper - 8

Solved

Time Allowed: 45 minutes **Maximum Marks: 200**

General Instructions:

1. The test is of 45 Minutes duration.
2. The test contains 50 questions out of which 40 questions need to be attempted.
3. Marking Scheme of the test:

a. Correct answer or the most appropriate answer: Five marks (+5).
b. Any incorrectly marked option will be given minus one mark (-1).
c. Unanswered/Marked for Review will be given zero mark (0).

Attempt any 40 questions

1. There are two types of electric charges positive charges and negative charges. The property which differentiates the two types of charges is: **[5]**

a) field of charge
b) strength of charge
c) amount of charge
d) polarity of charge

2. Match Column I with Column II with appropriate matching. **[5]**

Column I	Column II
a. $\vec{E}$	i. electric field lines
b. $\vec{p}$	ii. $\frac{q}{4\pi\varepsilon_0 r^3}\vec{r}$
c. Two lines of force do not intersect each other	iii. dipole field
d. Field produced by a dipole	iv. q $\times$ 2a$\hat{p}$

a) (a) - (iv), (b) - (i), (c) - (ii), (d) - (iii)
b) (a) - (iv), (b) - (iii), (c) - (i), (d) - (ii)
c) (a) - (ii), (b) - (iv), (c) - (i), (d) - (iii)
d) (a) - (iii), (b) - (i), (c) - (iv), (d) - (ii)

3. Law stating that force is directly proportional to the product of charges and inversely proportional to the square of the separation between them is called: **[5]**

a) Newton's law
b) Coulomb's law
c) Gauss's law
d) Ohm's law

4. The potential on the hollow sphere of radius 1 m is 1000 V, then the potential at $\frac{1}{4}$ m from the centre of the sphere is: **[5]**

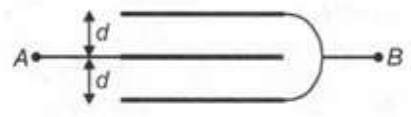
a) Zero V

b) 500 V

c) 1000 V

d) 250 V

5. Three plates of common surface area A are connected as shown in figure. The effective capacitance will be **[5]**



a) 3ε0 A/D

b) ε0 A/D

c) $\frac{3}{2}$ε0 A/D

d) 2ε0 A/D

6. The work done to move a charge along an equipotential surface from A to B **[5]**

a) is a negative quantity.

b) is a positive quantity.

c) cannot be defined.

d) is zero.

7. The SI unit of mobility of charge carriers is: **[5]**

a) $m\ s^{-1}\ V^{-1}$

b) Ωs^{-1}

c) Ωm

d) $m^2\ V^{-1}\ s^{-1}$

8. When a current flows in a wire, there exists an electric field in the direction of: **[5]**

a) flow of current

b) perpendicular to the flow of current

c) opposite to the flow of current

d) at an angle of 45° to the flow of current

9. What is the unit for specific resistivity? **[5]**

a) $ohm\ cm^{-1}$

b) $ohm\ cm^2$

c) ohm cm

d) $ohm\ cm^{-2}$

10. The resistance of an ideal voltmeter is **[5]**

a) zero

b) 100 Ω

c) 500 Ω d) infinity

11. 20 amp current is flowing in a long straight wire. The intensity of the magnetic field at a distance of 10 cm from the wire will be: **[5]**

a) 4×10^{-5} Wb/m^2 b) 2×10^{-5} Wb/m^2

c) 8×10^{-5} Wb/m^2 d) 6×10^{-5} Wb/m^2

12. The resistance of the coil of ammeter is R. The shunt resistance required to increase its range four fold should have a resistance equal to **[5]**

a) $\frac{R}{3}$ b) $\frac{R}{5}$

c) $\frac{R}{4}$ d) 4R

13. If a number of turns in the moving coil galvanometer becomes half, then the deflection for the same current will become: **[5]**

a) same b) half

c) double d) four times

14. The value of 1 Bohr magneton is: [Given h = 6.62×10^{-34} Js, e = 1.6×10^{-19} C and $m_e = 9.1 \times 10^{-31}$ kg] **[5]**

a) 7.27×10^{-24} Am^2 b) 9.27×10^{-24} Am^2

c) 10.57×10^{-24} Am^2 d) 8.57×10^{-24} Am^2

15. Two similar magnets of magnetic moments M_1 and M_2 are taken and vibrate in a vibration magnetometer with their **[5]**

i. like poles together

ii. unlike poles together. If the ratio of the time periods is $\frac{1}{2}$, then the ratio of M_1 and M_2 $\left(\text{i.e., } \frac{M_1}{M_2}\right)$ is

a) 0.5 b) $\frac{5}{3}$

c) 2 d) $\frac{1}{3}$

16. Which of the following is most suitable for the core of the electromagnets? **[5]**

a) Cu-Ni alloy b) Soft iron

c) Steel d) Air

17. A toroid wound with 60 turns/m of wire carries a current of 5.00 A. The torus is iron, which has a magnetic permeability of $\mu_m = 5000\mu_0$ under the given conditions. H and B inside the iron are **[5]**

a) 380A/m,1.98T b) 340A/m,1.88T

c) 300A/m, 1.88T d) 340A/m, 2.88T

18. What should be the core of an electromagnet? **[5]**

a) none of above b) soft iron

c) hard iron d) rusted iron

19. A closely wound solenoid of 800 turns and area of cross section $2.5 \times 10^{-4} m^2$ carries a current of 3.0 A. It is free to turn about the vertical direction and a uniform horizontal magnetic field of 0.25 T is applied. Magnitude of torque on the solenoid when its axis makes an angle of 30° with the direction of applied field is **[5]**

a) 0.075 J b) 0.09 J

c) 0.065 J d) 0.06 J

20. A closely wound solenoid of 2000 turns and area of cross-section $1.6 \times 10^{-4} m^2$, carrying a current of 4.0 A, is suspended through its centre allowing it to turn in a horizontal plane. What is the magnetic moment associated with the solenoid? **[5]**

a) $3.18\ Am^2$ b) $2.08\ Am^2$

c) $1.28\ Am^2$ d) $4.38\ Am^2$

21. A bar magnet having a magnetic moment of $2 \times 10^4\ JT^{-1}$ is free to rotate in a horizontal plane. A horizontal magnetic field B = 6×10^{-4} T exists in the space. The work done in taking the magnet slowly from a direction parallel to the field to a direction 60° from the field is **[5]**

a) 0.6 J b) 12 J

c) 2 J d) 6 J

22. The electric fan works on the principle of : **[5]**

a) Both electric motor and dynamo b) None of these

c) Electric motor d) Electric dynamo

23. The working of a dynamo is based on the principle of **[5]**

a) Chemical effect of current b) Electromagnetic induction

c) Magnetic effect of current d) Heating effect of current

24. The coefficient of mutual inductance, when magnetic flux changes by 2×10^{-2} Wb and current changes by 0.01 A in 1 sec is: **[5]**

a) 3 H b) 2 H

c) 4 H d) 28 H

25. If the rotational velocity of dynamo armature is doubled, then induced emf will become: **[5]**

a) two times b) half

c) unchanged d) four times

26. A transformer works on the principle of **[5]**

a) inverter b) converter

c) self induction d) mutual induction

27. The frequency of an alternating voltage is 50 cycles/sec and its amplitude is 120 V. Then its rms value will be: **[5]**

a) 84.8 V b) 42.4 V

c) 75.5 V d) 56.5 V

28. In which of the following circuit power dissipation is maximum? **[5]**

a) LR or CR circuit b) Pure capacitive circuit

c) Pure resistive circuit0 d) Pure inductive circuit

29. A series circuit consists of an ac source of variable frequency, a 115.0 Ω resistor, a 1.25 μF capacitor, and a 4.50-mH inductor. Impedance of this circuit when the angular frequency of the ac source is adjusted to twice the resonant angular frequency is **[5]**

a) 146 Ω b) 176 Ω

c) 166 Ω d) 156 Ω

30. X-rays are produced when an element of high atomic weight is bombarded by high energy **[5]**

a) electrons
b) neutrons
c) protons
d) photons

31. State the part of the electromagnetic spectrum to which 1057 MHz (frequency of radiation arising from two close energy levels in hydrogen known as Lamb shift) belongs to? **[5]**

a) Ultraviolet
b) Microwave
c) Radio
d) Visible

32. The frequency of e.m. wave which is best suited to observe a particle of radius 3×10^{-6} m, is of the order of **[5]**

a) $_{10}13$
b) $_{10}15$
c) $_{10}12$
d) $_{10}14$

33. A ray of light incident at an angle θ on a refracting face of a prism emerges from the other face normally. If the angle of the prism is 5° and the prism is made of a material of refractive index 1.5, the angle of incidence is **[5]**

a) 7.5°
b) 2.5°
c) 5°
d) 15°

34. The frequency of light in a material is 2×10^{14} Hz and wavelength is 5,000 $\mathring{A}$. The refractive index of the material will be **[5]**

a) $1 \cdot 40$
b) $3 \cdot 00$
c) $1 \cdot 50$
d) $1 \cdot 33$

35. When a ray of light enters a glass slab from air, **[5]**

a) its wavelength decreases
b) neither wavelength nor frequency changes
c) its wavelength increases
d) its frequency increases

36. The largest telescope in the world has a reflector with an aperture of 200 inches in order to achieve **[5]**

a) low dispersive power
b) least spherical aberration
c) high resolving power
d) high accommodation power

37. The relationship between phase difference $\Delta\phi$ and the path difference Δx between two interfering waves is given by: {λ = wavelength) **[5]**

a) $\Delta x = \left(\frac{2\pi}{\lambda}\right)\Delta\phi$
b) $\Delta\phi = (2\pi)\Delta x$
c) $\Delta x = \left(\frac{\lambda}{2\pi}\right)\Delta\phi$
d) $\Delta\phi = \left(\frac{\lambda}{\pi}\right)\Delta x$

38. Refractive index of material is equal to tangent of polarising angle. It is called: **[5]**

a) Bragg's law
b) Malus's law
c) Brewster's law
d) Lambert's law

39. The number of photo-electrons emitted for the light of a frequency ν (higher than the threshold frequency ν_0) is proportional to **[5]**

a) $\nu - \nu_0$
b) Threshold frequency (ν_0)
c) Intensity of light
d) Frequency of light (ν)

40. The wavelength of the photon is proportional to (where ν = frequency) **[5]**

a) ν
b) $\sqrt{\nu}$
c) $\frac{1}{\sqrt{\nu}}$
d) $\frac{1}{\nu}$

41. The work function of a photoelectric material is 3.32 eV. The threshold frequency will be equal to **[5]**

a) 6×10^{14} Hz
b) 7×10^{14} Hz
c) 8×10^{14} Hz
d) 9×10^{14} Hz

42. The wavelength of X-rays produced by electrons accelerated through a potential difference of V volts is directly proportional to **[5]**

a) $\frac{1}{V}$
b) $\sqrt{V}$
c) $\frac{1}{\sqrt{V}}$
d) V^2

43. According to Rutherford's atomic model, the electrons inside an atom are **[5]**

a) non centralized
b) non stationary
c) centralized
d) stationary

44. O_2 molecule consists of two oxygen atoms. In the molecule, nuclear force between the nuclei of the two atoms **[5]**

a) cancels the repulsive electrostatic force between the nuclei
b) is as important as electrostatic force for binding the two atoms
c) is not important because oxygen nucleus have equal number of neutrons and protons
d) is not important because nuclear forces are short-ranged

45. The wavelengths of K_α X-rays for lead isotopes Pb^{208}, Pb^{206}, and Pb^{204} are λ_1, λ_2 and λ_3 respectively. Then **[5]**

a) $\lambda_2 = \lambda_1\lambda_3$
b) $\lambda_2 = \sqrt{\lambda_1\lambda_3}$
c) $\lambda_2 = \frac{\lambda_1}{\lambda_3}$
d) $\lambda_2 = \lambda_1 + \lambda_3$

46. Which of the following has the highest neutron ratio? **[5]**

A. ${}_8O^{16}$
B. ${}_2He^4$
C. ${}_{26}Fe^{56}$
D. ${}_{92}U^{235}$

a) (C)
b) (B)
c) (D)
d) (A)

47. In a radioactive decay process, the negatively charged emitted β-particles are **[5]**

A. the electrons produced as a result of the decay of neutrons inside the nucleus
B. the electrons produced as a result of collisions between atoms
C. the electrons orbiting around the nucleus
D. the electrons present inside the nucleus.

a) (D)
b) (C)
c) (B)
d) (A)

48. At a specific instant, emission of radioactive compound is deflected in a magnetic field. The compound cannot emit **[5]**

a) neutrons b) electrons

c) protons d) He^{2+}

49. Radiowaves of constant amplitude can be generated with **[5]**

a) filter b) rectifier

c) oscillator d) FET

50. Any physical quantity like temperature can be converted to **[5]**

a) Constant electrical voltage b) Analog or digital electrical signal

c) Only analog electrical signal d) Only digital electrical signal

Solutions

1. **(d)** polarity of charge
   Explanation: The property which differentiates the two types of charges is called the polarity of charge.
2. **(c)** (a) - (ii), (b) - (iv), (c) - (i), (d) - (iii)
   Explanation: As we know that,
   $\vec{E} = \frac{q}{4\pi\varepsilon_0 r^3}\vec{r}, \vec{p}$ = q × 2a$\hat{p}$
   Field produced by a dipole is known as dipole field.
   Electric field lines do not intersect each other.
3. **(b)** Coulomb's law
   Explanation: Coulomb's law states that, the magnitude of the electrostatic force of attraction or repulsion between two point charges is directly proportional to the product of the magnitudes of charges and inversely proportional to the square of the distances between them. The force acts always along the line joining the two charges.
4. **(c)** 1000 V
   Explanation: Electrostatic potential remains constant at all the points inside the conductor and equals to the potential at the surface.
5. **(d)** 2ε0 A/D
   Explanation: The capacitance due to single capacitor is given as
   $C = \varepsilon_0 \frac{A}{d}$
   here 2 capacitors formed are in parallel
   so total capacitance = $C_1 + C_2 = \in_0 \frac{A}{d} + \in_0 \frac{A}{d} = 2 \in_0 \frac{A}{d}$
6. **(d)** is zero.
   Explanation: For an equipotential surface, $V_A = V_B$
   So, work done = 0
7. **(d)** $m^2 V^{-1} s^{-1}$
   Explanation: $m^2 V^{-1} s^{-1}$
8. **(a)** flow of current
   Explanation: We know that current flows in the direction of the flow of positive charge. Similarly, the electric field exists in the direction of the flow of positive charge. Therefore, the electric field exists in the direction of the flow of current.
9. **(c)** ohm cm

Explanation: The unit of resistivity is ohm cm.

10. **(d)** infinity
    Explanation: An ideal voltmeter should have an infinite resistance.
11. **(a)** 4×10^{-5} Wb/m^2
    Explanation: $B = \frac{\mu_0 I}{2\pi r} = \frac{2\times10^{-7}\times20}{0.10} = 4 \times 10^{-5}$ Wb/m^2
12. **(a)** $\frac{R}{3}$
    Explanation: Shunt Resistance, $S = \frac{I_g}{I-I_g}R$
    To increase the range of ammeter by n times, $I = nI_g$
    Thus, the resistance of the shunt becomes,
    Shunt Resistance, $S = \frac{R}{n-1} = \frac{R}{4-1} = \frac{R}{3}$
13. **(b)** half
    Explanation: $\alpha = \frac{NBA}{k}I \Rightarrow \alpha \propto N$
    When the number of turns becomes half, the deflection for the same current will also become half the original deflection.
14. **(b)** 9.27×10^{-24} Am^2
    Explanation: 1 Bohr magneton
    $= \frac{eh}{4\pi m_e}$
    $= \frac{1.6\times10^{-19}\times6.62\times10^{-34}}{4\pi\times9.1\times10^{-31}}$
    $= 9.27 \times 10^{-24}$ Am^2
15. **(b)** $\frac{5}{3}$
    Explanation: $\frac{M_1}{M_2} = \frac{T_2^2+T_1^2}{T_2^2-T_1^2}$
    $= \frac{1+\left(\frac{T_1}{T_2}\right)^2}{1-\left(\frac{T_1}{T_2}\right)^2} = \frac{1+\frac{1}{4}}{1-\frac{1}{4}} = \frac{5}{3}$
16. **(b)** Soft iron
    Explanation: Soft iron is preferred for the core of electromagnets because of its high permeability and low retentivity.
17. **(c)** 300A/m, 1.88T
    Explanation: H = nI = 60 × 5 = 300A/m
    B = $\mu_o\mu_r H = \mu_m H$
    = $5000 \times 300 \times 4\pi \times 10^{-7}$
    = 1.88 T

18.

(b) soft iron
Explanation: soft iron

19. **(a)** 0.075 J
Explanation: m = NIA = 0.6 J/T
Torque = mBsinθ = 0.6 $\times$ 0.25 $\times$ 0.5 = 0.075 J

20.

(c) 1.28 Am^2
Explanation: m = NIA
$= 2000 \times 1.6 \times 10^{-4} \times 4$
= 1.28 Am^2

21.

(d) 6 J
Explanation: W = $mB\left(\cos\theta_1 - \cos\theta_2\right)$
= $2 \times 10^4 \times 6 \times 10^{-4}$ (cos 0° - cos 60°) = 6J

22.

(c) Electric motor
Explanation: Electric motor

23.

(b) Electromagnetic induction
Explanation: Electromagnetic induction

24.

(b) 2 H
Explanation: Rate of change of flux = induced emf
Hence e = 2×10^{-2}
$\frac{di}{dt} = 0.01$
$M = \frac{e}{di/dt} = \frac{2\times10^{-2}}{0.01} = 2H$

25. **(a)** two times
Explanation: $\varepsilon = NBA\omega \sin\omega t$ i.e., $\varepsilon \propto \omega$
$\frac{\varepsilon_2}{\varepsilon_1} = \frac{2\omega}{\omega} = 2$

26.

(d) mutual induction
Explanation: A transformer works on the principle of mutual induction.

27. **(a)** 84.8 V
Explanation: V_{rms} = 0.707 V_0 = 0.707 $\times$ 120 V = 84.8 V

28.

(c) Pure resistive circuit0
Explanation: Since in pure resistive circuit the current and voltage are in phase, the power dissipation is maximum.

29. **(a)** 146 Ω
Explanation: $R = 115\Omega$
$C = 1.25\mu F = 1.25 \times 10^{-6} F$

$L = 4.5mH = 4.5 \times 10^{-3} H$

Resonant angular frequency,

$\omega_0 = \frac{1}{\sqrt{LC}} = \frac{1}{\sqrt{4.5 \times 10^{-3} \times 1.25 \times 10^{-6}}} = \frac{1}{7.5 \times 10^{-5}}$

Given that the angular frequency of the ac source, $\omega = 2\omega_0 = \frac{2}{7.5 \times 10^{-5}} = 26666.6 rad/s$

impedance,

$Z = \sqrt{R^2 + \left(\omega L - \frac{1}{\omega C}\right)^2} = \sqrt{115^2 + \left[(26666.6 \times 4.5 \times 10^{-3}) - \left(\frac{1}{26666.6 \times 1.25 \times 10^{-6}}\right)\right]^2}$

$Z = 146\Omega$

30. **(a)** electrons

    Explanation: X-rays are produced when an element of high atomic weight is bombarded by high energy electrons.

31. **(c)** Radio

    Explanation: Radio waves are the radiation arising from two close energy levels in hydrogen (known as Lamb's shift)

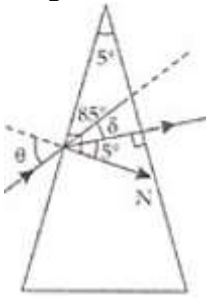
32. **(d)** 10^{14}

    Explanation: The particle can be obseved, when the wavelength of the light used is of the order of its size. Therefore, required frequency,

    $\nu = \frac{c}{\lambda} = \frac{c}{size\ of\ the\ object} = \frac{3 \times 10^8}{3 \times 10^{-6}} = 10^{14}$ Hz

33. **(a)** 7.5°

    Explanation:



A = 5^o

$\mu = 1.5$

$i_2 = 0^o$

$r_2 = 0^o$

$r_1 + r_2 = A$

$r_1 = A - r_2 = 5 - 0 = 5^o$

$\mu = \frac{\sin i_1}{\sin r_1}$

$\Rightarrow \sin i_1 = \mu \sin r_1$

$sini_1 = 1.5 \times \sin 5^\circ$

$sini_1 = 1.5 \times 0.087$

$\sin i_1 = 0.1305$

thus $i_1 = 7.5^o$

34. **(b)** 3 · 00

Explanation: Here, λ = 5,000 $\mathring{A}$ = 5 × 10^{-7} m and ν = 2 × 10^{14} Hz
Therefore, speed of light in the material,
v = $\nu \lambda$ = 2 × 10^{14} × 5 × 10^{-7} = 10^8 ms^{-1}
Hence, the refractive index of the material,
$\mu = \frac{c}{v} = \frac{3 \times 10^8}{10^8} = 3$

35. **(a)** its wavelength decreases
Explanation: The energy of the light is related to the frequency. When the light enters the medium, the apparent speed of light changes. If the frequency changed, the energy would not be conserved. The wavelength changes to balance the change in speed. When light enters from air to glass (from rarer to denser medium), its speed decreases as a consequence its wavelength also decreases.

36. **(c)** high resolving power
Explanation: Resolving power is directly proportinal to aperture.

37. **(c)** $\Delta x = \left(\frac{\lambda}{2\pi}\right) \Delta\phi$
Explanation: Phase difference = $\frac{2\pi}{\lambda}$ × Path difference
$\Delta\phi = \frac{2\pi}{\lambda} \times \Delta x$
or $\Delta x = \left(\frac{\lambda}{2\pi}\right) \Delta\phi$

38. **(c)** Brewster's law
Explanation: Brewster's law

39. **(c)** Intensity of light
Explanation: The number of ejected photoelectrons increases with the increase in the intensity of light.

40. **(d)** $\frac{1}{\nu}$
Explanation: $\lambda = \frac{c}{\nu}$ i.e., $\lambda \propto \frac{1}{\nu}$

41. **(c)** 8 × 10^{14} Hz
Explanation: $\phi_0 = h\nu_0$
$3.32 \times 1.6 \times 10^{-19} = 6.6 \times 10^{-34} \times \nu_0$
$\nu_0 = \frac{3.32 \times 1.6 \times 10^{-19}}{6.6 \times 10^{-34}} = 8 \times 10^{14} Hz$

42. **(a)** $\frac{1}{V}$
Explanation: $\lambda_{\min} = \frac{hc}{eV}$

i.e; $\lambda_{min} \propto \frac{1}{V}$

43. **(b)** non stationary
Explanation: According to the Rutherford model, the electrons inside an atom cannot be stationary. The electrostatic attraction between electrons and the nucleus gets used up in revolving the electrons around the nucleus.

44. **(d)** is not important because nuclear forces are short-ranged
Explanation: Nuclear forces are too much stronger. Only attractive force as compared to electrostatic repulsive force and nuclear force decreases to zero on increasing distance. So in the case of the oxygen molecule, the distance between atoms of oxygen is larger as compared to the distances between nucleons in a nucleus. So force between the nuclei of two oxygen atoms is not important as nuclear forces are short-ranged forces.

45. **(b)** $\lambda_2 = \sqrt{\lambda_1 \lambda_3}$
Explanation: Wavelengths of K_α lines for given isotopes of lead can be given by a general expression
$\frac{1}{\lambda} = \mathrm{R}(\mathrm{Z}-1)^2 \left(\frac{1}{1^2} - \frac{1}{2^2}\right)$
Where, R is Rydberg's constant, Z is atomic number of the isotopes (Z will be same for all the three isotopes, i.e 82)
$\frac{1}{\lambda_1} = \mathrm{R}(82-1)^2 \left(\frac{1}{1^2} - \frac{1}{2^2}\right) = \frac{3}{4}\mathrm{R}(81)^2$
Similarly, $\frac{1}{\lambda_2} = \frac{1}{\lambda_3} = \frac{3}{4}\mathrm{R}(81)^2$
$\Rightarrow \left(\frac{1}{\lambda_2}\right)^2 = \frac{1}{\lambda_1} \times \frac{1}{\lambda_3}$
$\Rightarrow \lambda_2 = \sqrt{\lambda_1 \lambda_3}$

46. **(c)** (D)
Explanation: The nucleus ${}_{92}\mathrm{U}^{235}$ has 234 - 92 = 142 neutrons. It has highest neutron to proton ratio (142 : 92).
It has highest neutron to proton ratio (142 : 92)

47. **(d)** (A)
Explanation: β-particles are the electrons produced as a result of the decay of neutrons inside the nucleus.

48. **(a)** neutrons
Explanation: Neutrons, being neutral, are not deflected by magnetic field.

49. **(c)** oscillator
Explanation: Radiowaves of constant amplitude can be generated by using an oscillator.

50. **(b)** Analog or digital electrical signal
Explanation: An electrical **transducer** is a device which is capable of converting the

physical quantity into a proportional electrical quantity such as voltage or electric current. Hence it converts any quantity to be measured into usable electrical signal. This physical quantity which is to be measured can be pressure, level, temperature, displacement etc. The output which is obtained from the transducer is in the electrical form and is equivalent to the measured quantity. For example, a temprature transducer will convert temperature to an equivalent electrical potential. This output signal can be used to control the physical quantity or display it.moreover this is of two type Digital or Analog electrical signals.