



SUBJECT:-PHYSICS- CLASS X

Revision Assignment - MCQs

Week: 23rd November to 27th November, 2020

ELECTRICITY

1. The length of a wire is doubled. By what factor does the resistance change?

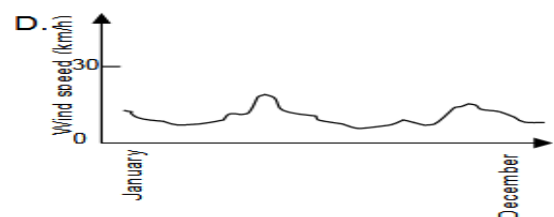
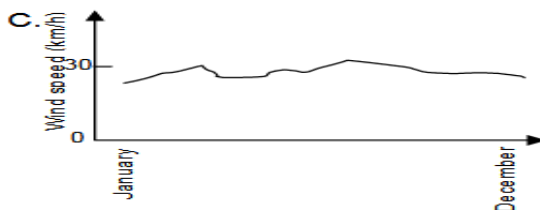
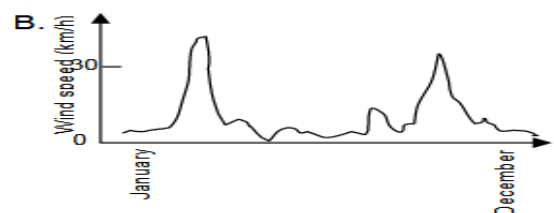
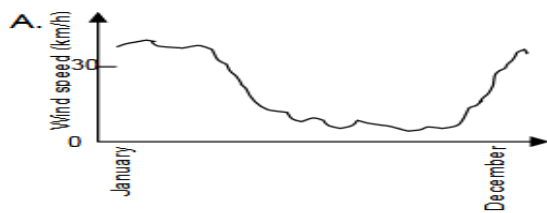
- (a) 4 time as large (b) twice as large (c) unchanged (d) half as large

2. Many people believe that wind should replace oil and coal as a source of energy for producing electricity. The structures in the picture are windmills with blades that are rotated by the wind. These rotations cause electricity to be produced by generators that are turned by the windmills.



A wind farm

The graphs below show the average wind speeds in four different places throughout a year. Which one of the graphs indicates the most appropriate place to establish a wind farm for generating electricity?



3. The proper representation of series combination of cells (Figure) obtaining maximum potential is:



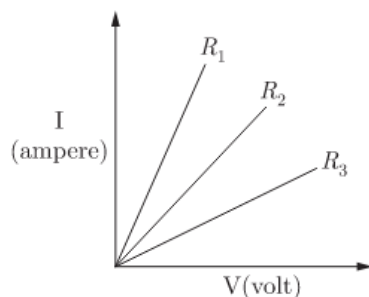
(a) 1

(b) 2

(c) 3

(d) 4

4. A student carries out an experiment and plots the V-I graph of three samples of nichrome wire with resistances R_1 , R_2 and R_3 respectively (Figure). Which of the following is true?



(a) $R_1=R_2=R_3$

(b) $R_1>R_2>R_3$

(c) $R_3>R_2>R_1$

(d) $R_2>R_3>R_1$

5. A wire of length l , made of material resistivity ρ is cut into two equal parts. The resistivity of the two parts is equal to:

(a) ρ

(b) $\rho/2$

(c) 2ρ

(d) 4ρ

6. A boy records that 4000 joule of work is required to transfer 10 coulomb of charge between two points of a resistor of $50\ \Omega$. The current passing through it is:

(a) 2 A

(b) 4 A

(c) 8 A

(d) 16 A

7. To get $2\ \Omega$ resistance using only $6\ \Omega$ resistors, the number of them required is:

(a) 2

(b) 3

(c) 4

(d) 6

8. The least resistance obtained by using $2\ \Omega$, $4\ \Omega$, $1\ \Omega$ and $100\ \Omega$ is

(a) $< 100\ \Omega$

(b) $< 4\ \Omega$

(c) $< 1\ \Omega$

(d) $> 2\ \Omega$

9. The resistivity of insulators is of the order of:

(a) $10^{-8}\ \Omega\text{-m}$

(b) $10^1\ \Omega\text{-m}$

(c) $10^{-6}\ \Omega\text{-m}$

(d) $10^6\ \Omega\text{-m}$

10. What is the commercial unit of electrical energy?

- (a) Joules (b) Kilojoules (c) Kilowatt-hour (d) Watt-hour

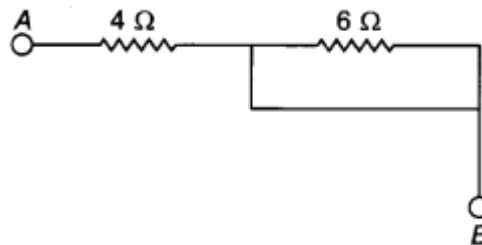
11. If the current I through a resistor is increased by 100 % (assume that temperature remains unchanged), the increase in power dissipated will be:

- (a) 100% (b) 200% (c) 300 % (d) 400 %

12. A cylindrical conductor of length l and uniform area of cross-section A has resistance R . Another conductor of length $2l$ and resistance R of the same material has area of cross-section:

- (a) $A/2$ (b) $3A/2$ (c) $2A$ (d) $3A$

13. The effective resistance between A and B is



- (a) $4\ \Omega$ (b) $6\ \Omega$ (c) May be $10\ \Omega$ (d) Must be $10\ \Omega$

MAGNETIC EFFECTS OF CURRENT

1. Inside the magnet, the field lines moves

- (a) from north to south (b) from south the north
(c) away from south pole (d) away from north pole

2. Relative strength of magnetic field at a point in the space surrounding the magnet is shown by the:

- (a) length of magnet (b) thickness of magnet
(c) degree of closeness of the field (d) resistance offered by the surroundings

3. Which of the following statements is not correct about the magnetic field?

- (a) Magnetic field lines form a continuous closed curve.
(b) Magnetic field lines do not intersect each other.
(c) Direction of tangent at any point on the magnetic field line curve gives the direction of magnetic field at that point.
(d) Outside the magnet, magnetic field lines go from South to North pole of the magnet.

4. The strength of magnetic field around a current carrying conductor is:

- (a) inversely proportional to the current but directly proportional to the square of the distance from wire.

- (b) directly proportional to the current and inversely proportional to the distance from the wire.
- (c) directly proportional to the distance and inversely proportional to the current
- (d) directly proportional to the current but inversely proportional to the square of the distance from the wire.
5. The factors on which the magnetic field strength produced by current carrying solenoids depends are:
- (a) Magnitude of current (b) Number of turns
(c) Nature of core material (d) All of the above
6. When current is parallel to magnetic field, then force experienced by the current carrying conductor placed in uniform magnetic field is:
- (a) Twice to that when angle is 60° (b) Thrice to that when angle is 60°
(c) zero (d) infinite
7. A positive charge is moving upwards in a magnetic field directed towards north. The particle will be deflected towards:
- (a) west (b) north (c) south (d) east
8. Direction of rotation of a coil in electric motor is determined by:
- (a) Fleming's right hand rule (b) Fleming's left hand rule
(c) Faraday law of electromagnetic inductors (d) None of the above
9. In an electric motor, to make the coil rotating continuously in the same direction, current is reversed in the coil after every half rotation by a device called:
- (a) carbon brush (b) commutator (c) slip ring (d) armature
10. We can induce the current in a coil by:
- (a) moving the coil in a magnetic field (b) by changing the magnetic field around it
(c) by changing the orientation of the coil in the magnetic field (d) All of the above
11. The direction of induced current is given by:
- (a) Fleming's right hand rule (b) Fleming's left hand rule
(c) Right hand thumb rule (d) Left hand thumb rule