(2 Marks Questions)

Q.1 What is the function of hydroelectric power generation?

Q.2 Consider two solar cookers, one covered with a plane glass plate and other kept open. Which of the two cooker would be more efficient and why?

Q.3 Give one reason how increasing dependence on nuclear power generation is a threat for future generation?

Q.4 Give two ways in which animal dung can be used as fuel. Which way is better and why?

Q.5 The wind velocity at three places A, B and C are 5Km/hr, 15Km/hr, 10Km/hr respectively. Which is the most suitable place for installing wind mill & why?

Q.6 What are two advantages of charcoal over wood as fuel?

Q.7 How difference in temperature helps to harness energy from ocean?

Q.8 Mention any two reasons, why wood is not preferred as fuel.

Q.9 Suppose you are sitting in a room facing one of the wall. An electron beam moving horizontally from your back goes towards the wall in front you and is deflected to your left, what is the direction of magnetic field in the room?

Q.10 A current through a horizontal power line flows in north to south direction. What is the direction of magnetic field (i) at a point directly below it and (ii) at a point directly above it?

Q.11 Electric appliances like electric -press, toaster, fans etc are connected to electric mains through three-pin plug. Why?

Q.12 A wire of resistance R is bent in form of a closed circle, what is the resistance across a diameter of
the circle?

Q-13. A charge of 6 C is moved between two points P and Q having potential 10V and 5V respectively. Find the amount of work done.

Q-14 Name the physical quantity whose SI unit is JC-1.

Q-15 Two wires of equal cross sectional area, one of copper and other of manganin have same resistance. Which one will be longer?

Q-16 A Rectangular block of iron has dimensions L X L X b. What is the resistance of the block measured between the two square ends? Given ρ = resistivity.

Q-17 Three equal resistances are connected in series then in parallel. What will be the ratio of their Resistances?

Q-18 Justify for any pair of resistance the equivalent resistance in series is greater equivalent resistance in parallel.

Q-19 How many bulbs of 8Ω should be joined in parallel to draw a current of 2A from a battery of 4 V?

Q-20 Two cubes A and B are of the same material. The side of B is thrice as that of A. Find the ratio RA/RB.

Q-21. $3 \times 10^{11}$ electrons are flowing through the filament of bulb for two minutes. Find the current flowing through the circuit. Charge on one electron=$1.6 \times 10^{-19}$ C.

(3 Marks Questions)

Q.1 Write three reasons why construction of Tehri Dam on river Ganga and Sardar Sarovar project on river Narmada is opposed by local people and environmentalist?

Q.2 Write three environmental consequences of the various source of energy we used? Ans - Green house effect, improper use of natural resources, pollution.

Q.3 Why does the bulk of iron fillings stick to the ends of a bar magnet and not at its centre?

Q.4 If the frequency of A.C. is 50 Hz. Then how many times it is changing its direction in 1 second?

Q.5 What is the pattern of the magnetic field lines around a straight conductor carrying current?

Q.6 If the current is flowing in the direction of advancement of screw, then what is the direction of magnetic field lines?
Q.7 How can you say that the magnetic field is uniform inside the solenoid.

Q.8 Which property of a proton will change while it moves freely in a magnetic field?

Q.9 According to Flemings right hand rule, which part of right hand indicate the movement of conductor?

Q.10 If the no. of turns of a circular current carrying coil are doubled, then how will the magnetic field produced by it changes?

Q.11 In which position the force on conductor is maximum when it is placed in uniform magnetic field?

Q.12 Consider a circular wire lying in the plane of the table and the direction of current in it is anticlockwise.(i) Draw the magnetic field lines produced around it. (ii) Why does magnetic field at the center of current carrying circular loop appear straight? Explain with diagram.

Q.13 If we place a compass needle near straight conductor carrying current (a) What happens to the deflection of the compass needle if the direction of current is reversed . (b)What change will you notice in the compass needle if it is moved away from conductor but the current through the conductor remains the same?

Q.14 Suppose your science teacher asks you to demonstrate the phenomena Of EMI with following materials: (a) Two different coils 1 and 2 of copper wire having large no. of turns 50 and 100 respectively. (b)A non conducting cylinder. (c)A battery (d) A plug key (e) A galvanometer (i) Draw a labeled diagram of your demonstration setup. (ii)How will you prove the phenomena of EMI?

Q.15 A nichrome wire of resistivity $100 \times 10^{-6}$ ohm-m and copper wire of resistivity $1.62 \times 10^{-8}$ ohm-m of same length and same area of cross section are connected in series , current is passed through them, why does the nichrome wire gets heated first?