

- Q1. What is the role of a plane mirror and a glass sheet in a solar cooker? (1)
- Q2. What is the commercial unit of electrical energy? Represent it in terms of joules. (1)
- Q3. Name the acids present in: (a) ant's sting and (b) vinegar. (1/2x2=1)
- Q4. Which part of the human brain is responsible for precision of voluntary actions? (1)
- Q5. What happens to the glucose that enters the nephron along with the filtrate? (1)

OR

Name the two major components of human urine.

- Q6. What are the limitations in obtaining energy from wind? (1+1=2)
- Q7. 15 mL of water and 10 mL of sulphuric acid are to be mixed in a beaker. (1+1=2)
- (a) State the method of mixing followed with a reason.
- (b) What is this process called?

OR

A student prepared solutions of (i) an acid and (ii) a base in two separate beakers. By mistake she forgot to label the solutions. Since both the solutions are colourless, how will she distinguish between the two? State any two suitable methods that will help her in identifying the solutions.

- Q8. On the basis of human excretory system name the: (1/2x4=2)
- (a) part where urine is produced. (b) part which stores the urine.
- (c) part which connects (a) and (b). (d) part from which urine is passed out.
- Q9. Two resistors of 3Ω and an unknown resistance are connected in series across a 12V (3) battery. If the voltage drop across the unknown resistor is 6V, find:
- (a) potential across 3Ω resistance. (b) the current through unknown resistor 'R'.
- (c) equivalent resistance of the circuit.

OR

A bulb is rated at 200V, 100W. Calculate its resistance. Five such bulbs are lighted for 4 hours daily. Calculate the units of electrical energy consumed per day. What would be the cost of using these bulbs per day at the rate of Rs.4.00 per unit?

- Q10. You have four different solutions A, B, C and D. The pH of solution A is 6, B is 9, C is 12 and D is 7. (1x3=3)
- (a) Identify the most acidic and most basic solutions.
- (b) Arrange the above four solutions in the increasing order of H^+ ion concentration.
- (c) State the change in colour of pH paper on dipping in solution C and D.

- Q11. Label the parts (a), (b), (c) and (d) and show the direction of flow of electrical signals in the given diagram. (2+1=3)



