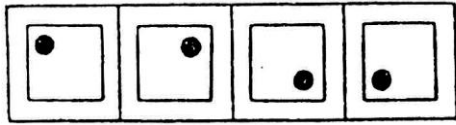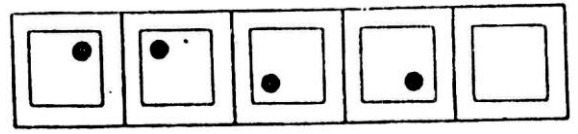## Sample Questions for Vidyalankar Scholarship cum Admission Test (V-SAT)

**Direction for Q. No. 1 to 6 :** What picture belongs to the next, the fifth, square of the problem figure? Choose the correct option from the answer figures.
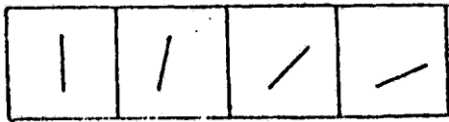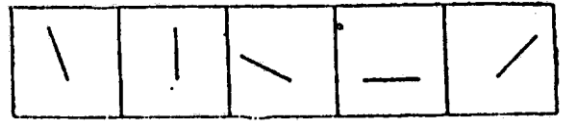
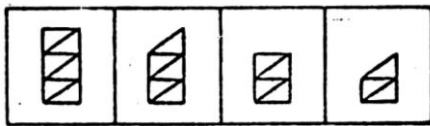1. **Problem Figure**                                    **Answer Figure**



2. **Problem Figures**                                    **Answer Figures**



3. **Problem Figures**                                    **Answer Figures**
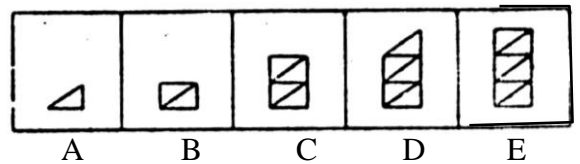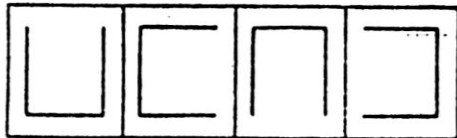


4. **Problem Figures**                                    **Answer Figures**
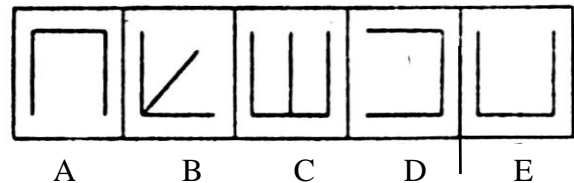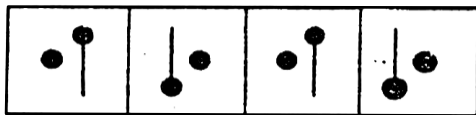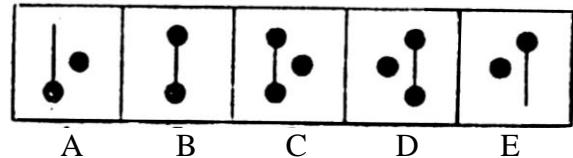


5. **Problem Figures**                                    **Answer Figures**
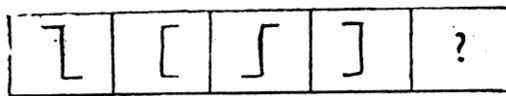


6. **Problem Figures**                                    **Answer Figures**
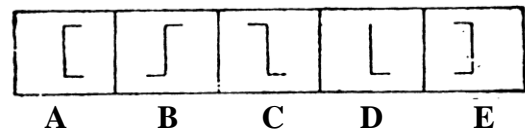


**Paragraph for Q. No. 7 & 8 :**

A painter buys RED, YELLOW, WHITE, ORANGE and PINK colors. ORANGE color can be also produced by mixing RED and YELLOW colors in equal proportions. Similarly, PINK color can also be produced by mixing equal amounts of RED and WHITE colors. Among other colors, CREAM color, (formed by mixing WHITE and YELLOW in the ratio 70 : 30) AVOCADO color (formed by mixing equal amounts of ORANGE and PINK color) and WASHEDORANGE color (formed by mixing equal amounts of ORANGE and WHITE color) can also be produced. The following table provides the price at which the painter buys colors.

| Color | Rs. / Litre |
|-------|-------------|
| RED | 20.00 |
| YELLOW | 25.00 |
| WHITE | 15.00 |
| ORANGE | 22.00 |
| PINK | 18.00 |

7. The cheapest way to make AVOCADO color would cost
   (A) Rs. 19.50 per litre
   (B) Rs. 19.75 per litre
   (C) Rs. 20.00 per litre
   (D) Rs. 20.25 per litre

8. Which of the color can be produced at the lowest cost?
   (A) AVOCADO
   (B) CREAM
   (C) WASHEDORANGE
   (D) Sufficient data is not available.

9. Which one of the following does not have any kind of enzyme ?
   (A) Gastric Juice     (B) Pancreatic Juice     (C) Bile Juice     (D) Saliva.

10. What is the fate of pyruvate in absence of oxygen in yeast?
    (A) Ethanol + $CO_2$ + 2ATP
    (B) Lactic acid + energy
    (C) $CO_2$ + Water + energy
    (D) Acetic acid + $CO_2$

11. The growth of pollen tube towards the ovule is an example of
    (A) Hydrotropic Movement.
    (B) Chemotropism Movement.
    (C) Gravitotropic Movement.
    (D) Phototropic Movement

12. What is /are gland of human male reproductive system which contribute to produce semen.
    (A) Seminal vesicle     (B) Prostate grand.     (C) Both A and B     (D) epididymis

13. A wave of wavelength 0.60 cm is produced in air and it travels at a speed of 300 m/s. The frequency of the wave is
    (A) 20000 Hz     (B) 100000 Hz     (C) 50000 Hz     (D) 10000 Hz

14. When a copper ball is heated, the largest percentage increase will occur in its
    (A) diameter     (B) area     (C) volume     (D) density

15. A body floats in a liquid contained in a beaker. The whole system shown in figure is falling under gravity. The upthrust on the body due to liquid is :
    (A) zero
    (B) equal to weight of liquid displaced
    (C) equal to weight of the body in air
    (D) equal to weight of the immersed body
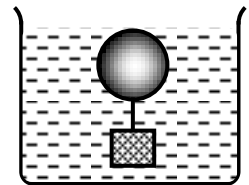
16. 10,000 small balls, each weighing 1g, strike one square cm of area per second with a velocity 100 m/s in a normal direction and rebound with the same velocity. The value of pressure on the surface will be :
    (A) $2 \times 10^3$ N/m$^2$     (B) $2 \times 10^5$ N/m$^2$     (C) $10^7$ N/m$^2$     (D) $2 \times 10^7$ N/m$^2$

17. Most favourable conditions for electrovalency are
    (A) Low charge on ions, large cation and small anion.
    (B) High charge on ions, small cation and large anion.
    (C) High charge on ions, large cation and small anion.
    (D) Low charge on ions, small cation and large anion.

18. The percentage of oxygen in NaOH is,   [Na = 23, O = 16, H = 1]
    (A) 16     (B) 40     (C) 20     (D) 50

19. A certain compound has the molecular formula $X_4O_6$. If 10 gm of compound contains 6.06 gm of X, the atomic mass of X is.
    (A) 32 amu     (B) 37 amu     (C) 42 amu     (D) 48 amu

20. The increasing order (lowest first) for the value of e/m (charge/mass) for electron (e), proton (p), neutron (n) and alpha particle ($\alpha$) is
    (A) e, p, n, $\alpha$     (B) n, p, e, $\alpha$     (C) n, p, $\alpha$, e     (D) n, $\alpha$, p, e

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