

1. **Which is the example of conditioned reflex ?**
 - (A) Eye closed when anything enter into it
 - (B) Hand took up when piercing with needle
 - (C) When you pick up a stone then dog runs away
 - (D) Digestion food goes forward in alimentary canal

2. **Biological Oxygen Demand (BOD) is a measure of**
 - (A) industrial wastes poured into water bodies
 - (B) extent to which water a polluted with organic compound
 - (C) amount of carbon monoxide inseparably combined with haemoglobin
 - (D) amount of oxygen needed by green plants during night

3. **Mosses and ferns are found in moist and shady places because both**
 - (A) require presence of water for fertilization.
 - (B) do not need sunlight for photosynthesis.
 - (C) depend for their nutrition on micro-organisms which can survive only at low temperature
 - (D) cannot compete with sun-loving plants

4. **Why pea plants were more suitable than dogs for Mendel's experiments ?**
 - (A) Dogs have many genetic traits
 - (B) Pea plants can be self fertilized
 - (C) There are no pedigree records of dogs
 - (D) The pea plants favour cross-fertilization

5. **Who and what are the Aurochs ?**
- (A) The ancestors of European cattle
 - (B) Special breeds of dogs used for hunting
 - (C) Places where cattle are kept hygienically
 - (D) Breeds of hens which lay more than a dozen eggs in a single day

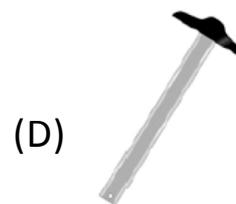
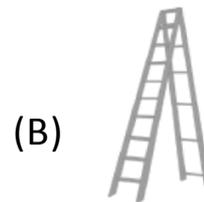
6. A parallel plate capacitor is charged and the battery used for charging is then disconnected. What happens if the plates of the capacitor are moved further apart by means of insulating handles ?
- (A) The voltage across the plates increases.
 (B) The charge on the capacitor increases.
 (C) The value of capacitor increases.
 (D) The electrostatic energy stored in the capacitor decreases.
7. Identify the factors on which the magnitude of the e.m.f. across the secondary of a transformer depends.
- (i) The magnitude of the e.m.f applied across the primary
 (ii) The resistance of the primary and the secondary
 (iii) The number of turns in the primary and the secondary
- (A) (i) and (ii) only (B) (ii) and (iii) only
 (C) (i) and (iii) only (D) (i), (ii) and (iii)
8. Two spheres of radii r and R carry charges q and Q respectively. When they are connected by a wire, for which condition given below will there be no loss of energy of the system ?
- (A) $qr = QR$ (B) $qR = Qr$
 (C) $qr^2 = QR^2$ (D) $qR^2 = Qr^2$

9. A rectangular coil of area A , of 'n' turns carrying a current I is placed in a magnetic field B . When is the torque on the coil doubled ?
- (A) Both A and I are doubled.
 - (B) Both A and B are doubled.
 - (C) Only A is doubled.
 - (D) Only n is halved.
10. Which of the following are usually preferred in the making of thermistors?
- (A) Metal oxides with high temperature coefficient of resistivity.
 - (B) Semiconducting materials having low temperature coefficient of resistivity.
 - (C) Metals with low temperature coefficient of resistivity.
 - (D) Metals with high temperature coefficient of resistivity.

11. The formation of cyanohydrin from a ketone is an example of
- (A) Electrophilic additon
 - (B) Nucleophilic addition
 - (C) Nucleophilic substitution
 - (D) Electrophilic substitution.
12. Which of the following is the ideal condition for the manufacture of H_2SO_4 by contact process ?
- (A) Low temperature, high pressure and high concentration of reactants.
 - (B) Low temperature, low concentration of reactants and low pressure.
 - (C) High temperature, high pressure and high concentration of reactants.
 - (D) Low temperature, low pressure and high concentration of reactants.
13. To what does the molecular weight of benzoic acid in benzene as determined by depression in freezing point method correspond ?
- (A) Ionization of benzoic acid.
 - (B) Dimerization of benzoic acid.
 - (C) Isomer of benzoic acid.
 - (D) Solvation of benzoic acid.

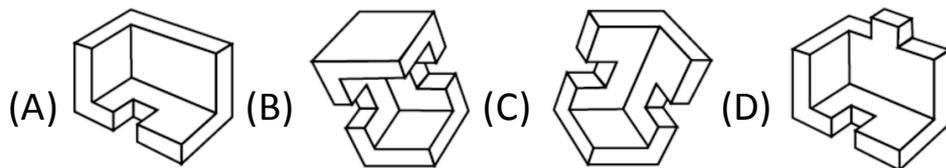
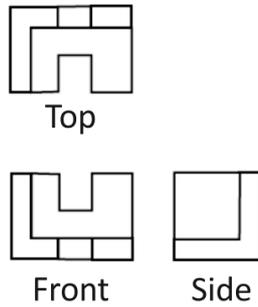
- 14. What are proteins ?**
- (A) Condensation polymers of – amino acids.
 - (B) Condensation polymers of – amino acids.
 - (C) Condensation polymers of – hydroxy acids.
 - (D) Condensation polymers of – hydroxy acids.
- 15. Why are amorphous solids considered to be super cooled liquids ?**
- (A) As they melt sharply at their melting points.
 - (B) As they exist in a solid state.
 - (C) As they soften on heating.
 - (D) As long range order is absent in them.

16. Recognize the tool in the question and choose the most closely related tool or object from the given choices.

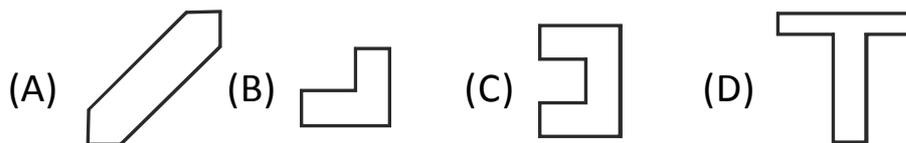
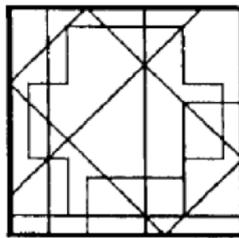


17. You are interviewed for a new job. Which of the following questions is most important to you ?
- (A) Opportunities for promotions.
 - (B) Remuneration you will be paid.
 - (C) Scope to develop your ideas and use them to improve the working of the organisation.
 - (D) All the above are equally important.

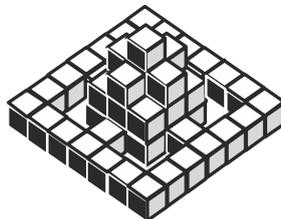
18. Identify the 3-dimensional object from the given three views.



19. The hidden figure in block 1 is



20. Count the number of blocks in the given figure.



(A) 50 (B) 51 (C) 52 (D) 53