



Four alternatives are given for each of the following questions / incomplete statements. Only one of them is correct or most appropriate. Choose the correct alternative and write the complete answer along with its letter of alphabet.

10 × 1 = 10

1. "Coal is a non-renewable source of energy." Because,
 - (A) coal is replenished soon in the nature
 - (B) coal is abundant in nature
 - (C) the reserves of coal are depleting at a fast rate and it is difficult to replenish
 - (D) coal leaves residue when burnt.

2. The living component of xylem tissue is
 - (A) xylem vessel
 - (B) xylem parenchyma
 - (C) xylem tracheid
 - (D) xylem fibre.

3. Identify a property of amorphous silicon in the following.
 - (A) Does not burn in the air
 - (B) Has dark grey colour
 - (C) Oxidizes at the surface level when heated in the air
 - (D) Less reactive.

4. A man who is standing at a distance of 850 m from a sound reflecting surface claps loudly. If the velocity of the sound in air is 340 ms^{-1} , then the time taken by the echo to reach him is
 - (A) 5 s
 - (B) 4 s
 - (C) 2.5 s
 - (D) 3 s.

5. If the stages of human evolution is written in the descending order according to their cranial capacity, then the correct order obtained is
- (A) Homo habilis, Homo erectus, Homo sapiens, Australopithecus
 - (B) Australopithecus, Homo habilis, Homo erectus, Homo sapiens
 - (C) Homo sapiens, Homo erectus, Australopithecus, Homo habilis
 - (D) Homo sapiens, Homo erectus, Homo habilis, Australopithecus.
6. Steam engine cannot be started instantaneously because,
- (A) the efficiency of the engine is low
 - (B) steam should be produced by heating water
 - (C) the engine is bulky
 - (D) there is no spark plug.
7. The principle of working of a motor is
- (A) there is a magnetic field around a current carrying conductor
 - (B) when a magnetic field linked with a conductor changes, an induced *emf* is generated in the conductor
 - (C) the change of current in one coil, induces *emf* in a neighbouring coil
 - (D) a conductor carrying electrical current experiences mechanical force if kept in a magnetic field.
8. Antheridium of pteridophytes can be compared to
- (A) Stamen of angiosperms
 - (B) Megasporophyll of gymnosperms
 - (C) Carpel of angiosperms
 - (D) Archegonium of bryophytes.

9. The gas released when the sunlight breaks down chlorofluorocarbons is
- (A) carbon dioxide (B) fluorine
(C) carbon monoxide (D) chlorine.
10. The group of compounds which dissociate partially in aqueous solutions is
- (A) Hydrochloric acid, Nitric acid
(B) Carbonic acid, Phosphoric acid
(C) Sodium chloride, Acetic acid
(D) Copper sulphate, Sugar solution.
11. The processes related to organic compounds are given in **Column-A** and their procedures are given in **Column-B**. Match them and write the answer along with its letters :
- 4 × 1 = 4

Column - A**Column - B**

- | | |
|--------------------------------|--|
| (A) Preparation of Methane gas | (i) Production of salts of fatty acids starting from oils or fats |
| (B) Substitution reaction | (ii) Conversion of liquid oils into solid saturated fats |
| (C) Hydrogenation | (iii) Heating fused sodium acetate with sodalime |
| (D) Saponification | (iv) Heating an aqueous solution of ammonium cyanate |
| | (v) Burning of methane in air |
| | (vi) Heating ethanol in the presence of acidified potassium permanganate |
| | (vii) Exposing the mixture of methane and chlorine to ultraviolet light. |

Answer the following questions.

$7 \times 1 = 7$

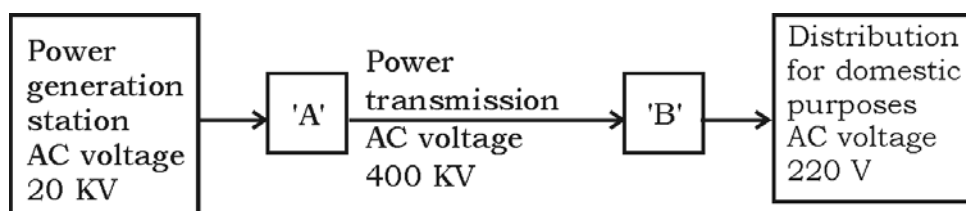
12. Nowadays bio-diesel is used in transportation vehicles as an alternate to diesel.

Write two advantages of this measure.

13. Write the circuit symbol of *p-n-p* transistor.

14. Name the family and the order to which man belongs.

15. The schematic diagram indicating the transmission of electricity is given below :



Name the devices to be used in the places indicated as 'A' and 'B'.

16. How is silicon carbide prepared ? Write one of its uses.

17. In the manufacture of sugar, the container of the sugarcane juice is connected to a vacuum pump. Why ?

18. A person is having the symptoms of thirst and frequent urination for a long time.

The blood capillaries in the retina of this person have ruptured causing blood entering into the vitreous humour making it opaque. Name the eye disorder found in this person.