

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

10 × 1 = 10

1. In Fleming's right hand rule middle finger indicates the direction of  
(A) magnetic field (B) induced electric current  
(C) mechanical energy (D) motion of the conductor.
2. Identify one of the uses of solar heater in the following.  
(A) Conversion of solar energy into electrical energy  
(B) Providing energy for artificial satellites  
(C) Desalination of marine water  
(D) Using in automatic streetlights.
3. Significant reduction in the platelet count of human blood is the main symptom of this disease.  
(A) Chikungunya (B) Dengue  
(C) Bird flu (D) Gonorrhoea.
4.  $\text{Si} + \text{C} \rightarrow \text{SiC}$ . This chemical reaction is an example for  
(A) exothermic reaction (B) endothermic reaction  
(C) dissociation reaction (D) displacement reaction.
5. No image is formed on the blind spot of human eye because,  
(A) cones are absent (B) rods are absent  
(C) rods and cones are absent (D) optic nerve is absent.
6. A domestic electrical appliance requires alternating current of 15 V. If 220 V of alternating current is supplied to the house, then the device that helps in the functioning of that electrical appliance is  
(A) induction coil (B) step-up transformer  
(C) AC dynamo (D) step-down transformer.

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( SPACE FOR ROUGH WORK )



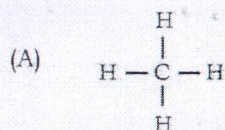
7. While doing the experiment of copper voltameter, in which of the following cases, more amount of copper gets deposited at cathode ?
- (A) 2 amperes of electric current is passed for 30 minutes
  - (B) 4 amperes of electric current is passed for 20 minutes
  - (C) 0.5 amperes of electric current is passed for 80 minutes
  - (D) 1.5 amperes of electric current is passed for 30 minutes.
8. Identify the correct complementary base pairing among the following.
- (A) Adenine — Thymine and Guanine — Cytosine
  - (B) Adenine — Guanine and Thymine — Cytosine
  - (C) Adenine — Cytosine and Thymine — Guanine
  - (D) Guanine — Adenine and Cytosine — Adenine.
9. Find out the most efficient engine in the following.
- (A) an engine converts 80 KJ of heat energy into 20 KJ of work
  - (B) an engine converts 50 KJ of heat energy into 15 KJ of work
  - (C) an engine converts 30 KJ of heat energy into 6 KJ of work
  - (D) an engine converts 60 KJ of heat energy into 24 KJ of work.
10. Haemoglobin levels in the blood samples of two persons A and B are found to be 9 gm/dL and 13 gm/dL respectively. Which statement is true with respect to the amount of oxygen supply in their body ?
- (A) More in person B than in person A
  - (B) More in person A than in person B
  - (C) Equal in person A and person B
  - (D) No correlation between oxygen supply and the level of haemoglobin.

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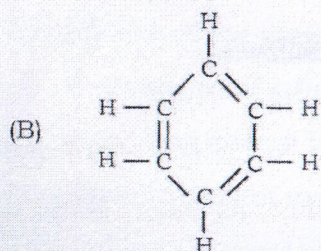
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11. The structural formulae of hydrocarbons are given in **Column-A** and their uses are given in **Column-B**. Match them and write the answers along with its letters 4 × 1 = 4

**Column - A****Column - B**

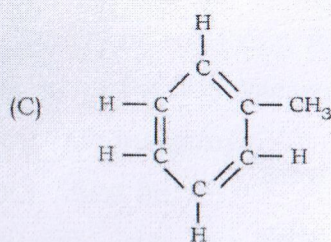
(i) preparation of moth balls



(ii) solvent for lacquers

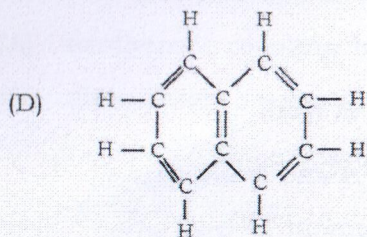
(iii) preparation of soap

(iv) dry cleaning



(v) used as fuel

(vi) preparation of esters



(vii) preparation of aspirin.

Answer the following questions :

7 × 1 = 7

12. Write any two advantages of bio-energy.
13. What is red shift ?
14. Name the two important non-metallic oxides which cause acid rain.
15. Mention the properties of silica due to which it is used as sand bath in laboratory.

( SPACE FOR ROUGH WORK )