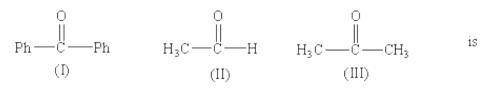
CHEMISTRY

- A) 0
- B) 1
- C) 2
- D) 3

2. Identify the lanthanide which is obtained only by synthesis.

- A) Lu
- B) Pm
- C) Pr
- D) Gd
- 3. Which one of the following compounds shows Frenkel defect?
 - A) ZnS
- B) CsCl
- C) FeO
- D) NaCl
- A cylinder of cooking gas supplied by Indian Oil Corporation is assumed to contain 14 kg of butane (ΔH_c for 4. C₄H₁₀ = - 2600 kJ mol⁻¹). If a small family of three persons, requires 10,000 J of heat energy per day for cooking, the gas in the cylinder would last for
 - A) 44 days
- B) 54 days
- C) 72 days
- D) 63 days
- The molar conductivities of infinite dilution for sodium iodide, sodium acetate and aluminium acetate are 5. 12.69, 9.10 and 24.52 S cm² mol⁻¹ respectively at 25 °C. What is the molar conductivity of All₃ at infinite dilution?
 - A) 35 S cm² mol⁻¹

- B) $32 \text{ S cm}^2 \text{ mol}^{-1}$ C) $28 \text{ S cm}^2 \text{ mol}^{-1}$ D) $40 \text{ S cm}^2 \text{ mol}^{-1}$
- 6. The number of structural isomers for the alcohols with the formula C₅H₁₁OH is
 - A) 4
- B) 6
- C) 8
- D) 10
- 7. The best reagent to convert pent-3-en-2-ol into pent-3-en-2-one is
 - A) pyridinium chloro-chromate B) acidic dichromate C) acidic permanganate D) chromic anhydride in glacial acetic acid
- 8. The correct order of reactivity of PhMgBr with



- A) I > II > III
- B) III > II > I
- C) || > ||| > |
- D) I > III > II
- 9. The product Z in the following reaction sequence is

CH₃COOH
$$\xrightarrow{\text{NH}_3}$$
 X $\xrightarrow{\triangle}$ Y $\xrightarrow{\text{P}_2\text{O}_5}$ Z

- A) CH₃CN
- B) CH₃OH
- C) CH₃CONH₂
- D) CH₃CH₂OH
- An unknown amine is treated with an excess of methyl iodide. Two equivalents of methyl iodide react with the amine. The amine is treated with silver oxide and water, and then heated to 120 °C. The resulting products are trimethylamine and ethylene. The unknown amine is
 - A) CH₃CH₂NHCH₃ B) CH₃CH₂NH₂
- C) $CH_2 = CHNH_2$
- D) CH₂ = CHNHCH₃