1. **ENGINEERING MATERIALS**

***Objective Questions:***

1. Which of the following constituents of cement contains least heat of hydration? **[b]**

**a.** C2S **b.** C4AF **c.** C3A **d.** C2A

1. The percentage constituent in cement is **[c]**

**a.** Tricalcium aluminate **b.** Dicalcium aluminate

**c.** Tricalcium silicate **d.** Dicalcium silicate

1. The major component in Portland cement is **[a]**

**a.** CaO **b.** MgO **c.** 3CaO.SiO2 **d.** SiO2

1. Which of the following is semi solid lubricant **[b]**

**a.** Vegetable oil **b.** Grease

**c.** MoS2 **d.** Graphite

1. A suitable lubricant for watches is **[d]**

**a.** Coconut oil **b.** Grease

**c.** Graphite **d.** Hazel nut oil

1. Another name of thin film lubrication is [d]

**a.** Hydro dynamic lubrication **b.** Fluid film lubrication

**c.** Both **d.** Boundary lubrication

1. What is the percentage of calcium oxide in cement **[b]**

**a.** 40-50% **b.** 60-70%

**c.** 50-60% **d.** 20-40%

1. Which of the following is liquid lubricant **[a]**

**a.** Vegetable oil **b.** MoS2

**c.** Grease **d.** Graphite

1. Which of the following example of Refractory materials **[a]**

**a.** Silica brick **b.** CaSO4

**c.** MgCl2 **d.** MgSO4

1. Another name of thick film lubrication is **[c]**

**a.** Hydro dynamic lubrication **b.** Fluid film lubrication

**c.** Both **d.** Boundary lubrication

1. What is approximate composition of silicon dioxide (SiO2)present in ordinary **[b]**

Portland cement

* 1. 40-50% **b.** 17-25% **c.** 3-8% **d.** 60-67%

1. Which of the following is the temperature at which lubricant will start to flow [d]

when poured?

**a.** Viscosity **b.** Flash point **c.** Oiliness **d.** Pour point

1. Which type of lubricant are calcium and sodium [d]

**a.** Permanent **b.** Liquid **c.** Solid **d.** Semi-solid

1. Which of the following is a characteristic of alumina? [b]

**a.** Poor wear resistance **b.** Excellent hardness  
**c.** Good tensile strength **d.** Good toughness

1. Which of the following material is acidic refractory [a]

a. Al2O3 b. MgO **c.** CaO d. None of the above

***Fill in the blanks:***

1. Major component of the Portland cement is**\_Tricalcium silicate \_.**
2. Example for solid lubricant**\_Graphite & MoS2\_\_.**
3. Another name of thin film lubrication **\_\_Boundary lubrication\_.**
4. In the case of liquid lubricant, fire point is **\_\_higher\_\_** than the flash point.
5. The chemical formula of limestone is **\_\_CaO\_.**
6. The chemical formula of gypsum is **\_\_CaSO4.2H2O\_.**
7. Lubricant is normally used to **\_avoid friction\_.**
8. With increase in temperature, the viscosity of lubricant oil is **\_Decreases \_.**
9. Extreme pressure additives are used for **\_\_High Load & High Speed engine \_.**
10. Pour point of a lubricant should be**\_\_lower than\_** the operating temperature.
11. **\_High Alumina\_** bricks are used in the burning zone of a cement rotary kiln.
12. **\_\_SiC\_\_** is the example for Neutral refractories.
13. 'Super refractories' are made from pure**\_\_Oxides\_\_.**
14. **\_Carbon\_\_** bricks should not be used in oxidizing atmosphere.
15. An ideal refractory should have high **\_Fusion Point.**