Memory Based Question for KVPY-2014 (Interview)

Physics-

- Q.1) Earth's rotation around the sun is SHM or not?
- Q.2) What is Refractive Index?
- Q.3) When light goes from one medium to another, Does its colour change?
- Q.4) Thermodynamics 1st law.
- Q.5) What is relation between DG, DH & D U?
- Q.6) Work done by Isothermal, Adiabatic, Isobaric & Isochoric process.
- Q.7) If a spring is put on lift & lift is accelerated, then what will be the effect on time period?
- Q.8) The energy gap between the conduction band & valence band?

Chemistry-

- Q.1) What is the Isomer of acetaldehyde?
- Q.2) From which are Aluminium & Iron extracted? Also tell the formulae.

Maths-

- Q.1) In how many ways we can arrange the word MATHEMATICS?
- Q.2) If we throw a dice & six comes then what is the probability of winning the 1st player out of 3 players?

Q.3)
$$\lim_{x\to 0} \frac{f(2x)-f(x)}{f(x)-f_0} = ?$$

- Q.4) Ax + By + C=0, A,B,C are in Arithmetic Progression. Then, Ax+By+C will pass through which co-ordinate?
- Q.5) What is the probability in leap year of:- a) 53 Sundays b) 53 sunday or 53 monday.
- Q.6) Choose two like & two unlike words in MATHEMATICS. How many words we can create?
- Q.7) In a watch, a minutes hand length is given. In 7 minutes how much area it will cover?