Exercise 1

1. Find the radiocarbon age of a sample whose radiocarbon content is now 1/16th of what it was initially?
2. If radiocarbon-free carbon is added to a sample, will the apparent age increase or decrease and why?
3. Calculate the mass of 10,000 pollen grain of 200 micron dia and spherical shape. Take the density to be 1 g/cc.
4. Write a brief essay on 'Appropriate dating methods for glacial sites', in say 500 words.

Exercise 2

5. Which of the 3 carbon isotopes is radioactive?
6. Why is C^{14} known as radiocarbon?
7. What is the half life of radiocarbon?
8. How much old sample (upper limit) may be dated by this method (upper limit)?
9. Name 3 types of material for dating by C^{14}?
10. What do BP & BC stand for?
11. Can pure steel be dated by C^{14} method ?
12. Can charcoal be dated by C^{14} method?
13. Arrange Pb^{210}, radiocarbon and Be^{10} in descending order of half life?
14. Which is the main target for C14 production in earth's atmosphere?

Exercise-3

1. What parameters are measured in TL and OSL methods?
2. Name 2 minerals suitable for OSL dating and explain which of the 2 is better for glacial moraine?
3. What happens if the grain used for dating by OSL was not fully bleached in nature?
4. What is the approximate range of dating in years for OSL?