

CASE STUDY QUESTION 09

Read the following and answer any four questions from (i) to (v)

A girl met with an accident and his leg fractured. She went to orthopedics doctor for treatment. On examination, the doctor mixed the white power in water and applied to her leg along with the cotton and gauze. After a while, it turned into white, solid, hard mass. He said that it would support her fractured bone in the right position.



(i) After treatment, the doctor repacked the white powder back into moisture proof, airtight container. Why?

- (a) The fungus growth will occur in open
- (b) The powder would react to moisture and turn into solid mass
- (c) The powder will react to sunlight and turn into solid mass
- (d) To prevent the stealing of the powder as it is very expensive

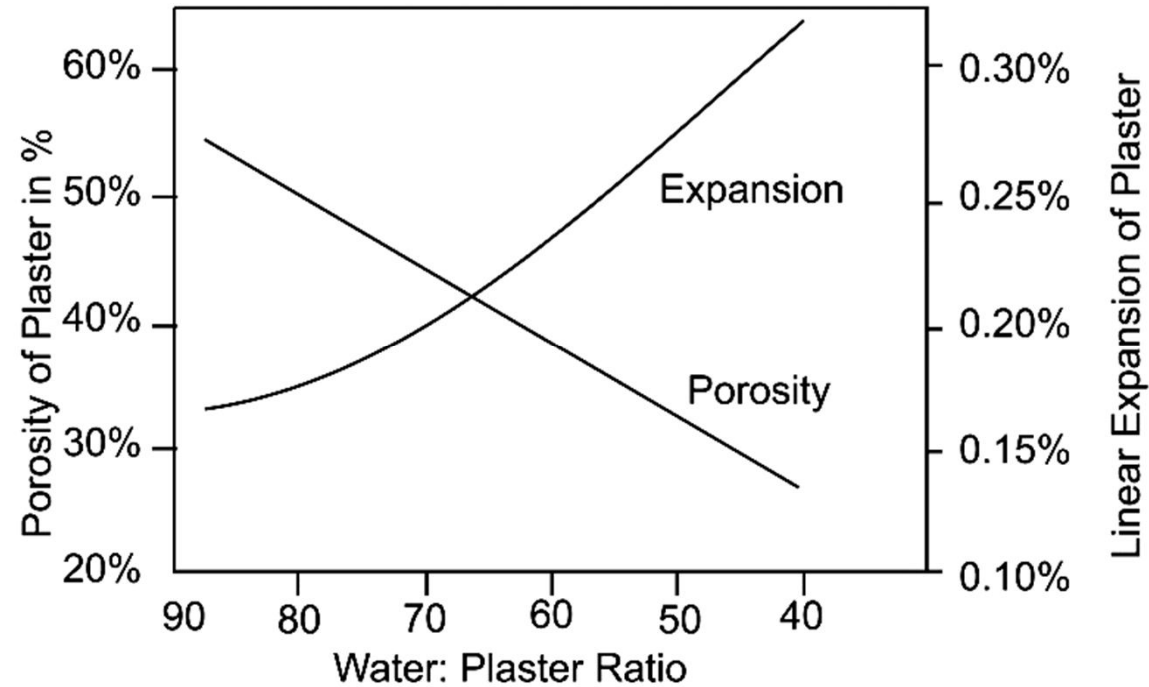
Ans: (b) The powder would react to moisture and turn into solid mass

(ii) What is 'white, solid hard mass' called as?

- (a) Talcum powder
- (b) Paris of Plaster
- (c) Plaster of Paris
- (d) Copper sulphate

Ans: (c) Plaster of Paris

(iii) The graph shows the porosity and expansion of plaster with respect to water content.



At what temperature, the reaction would occur?

- (a) 373K (b) 673K (c) 273K (d) 573K

Ans: (a) 373K

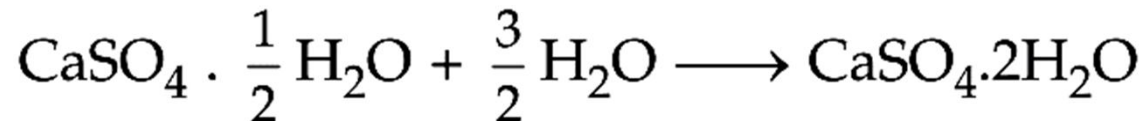
(iv) The reaction involved in the formation of white mass is:

- (a) Combustion (b) Oxidation (c) Mineralisation (d) Crystallisation

Ans: (d) Crystallisation

Crystallization is defined as a process by which a chemical is converted from a liquid solution into a solid crystalline state.

(v) Study the following reaction and choose the correct option:



- (a) Reactant is calcium hemihydrate, product is Gypsum
(b) Reactant is Gypsum, product is calcium hemihydrate
(c) Reactant is Gypsum, product is calcium sulphate hemihydrate
(d) Reactant is calcium sulphate hemihydrate, product is Gypsum

Ans: (d) Reactant is calcium sulphate hemihydrate, product is Gypsum