



6. The Lewis number is the ratio of CO3- R  
 (a) mass diffusivity to mass diffusivity  
 (b) thermal diffusivity to mass diffusivity  
 (c) mass diffusivity to momentum diffusivity  
 (d) momentum diffusivity to thermal diffusivity
7. Milk powder is made from milk by drying in a CO4- R  
 (a) drum drier            (b) rotary drier            (c) freeze drier            d) spray drier
8. All moisture in a non CO4- R  
 (a) bound moisture    (b) free moisture    (c) unbound moisture    (d) equilibrium moisture
9. Crystal phases can be inter-converted by varying CO5- R  
 (a) temperature            (b) pressure            (c) size            (d) viscosity
10. The size of a crystal may be specified by CO5- R  
 (a) length            (b) sphericity            (c) particle size            (d) all the above

PART – B (3 x 8= 24 Marks)

**(Answer any three of the following questions)**

11. Obtain an expression for mass flux under steady state diffusion of liquid A through B with two cases (i) stagnant B diffusion (ii) equimolar counter diffusion. CO1- U    (8)
12. Discuss various theories of mass transfer relating diffusivity and mass transfer coefficient and its importance in diffusion phenomena CO2- U    (8)
13. Explain the theory of wet bulb temperature and derive an equation to determine wet bulb depression CO3- U    (8)
14. Explain the working principle of rotary dryer with neat sketch CO4-U    (8)
15. With a help of a neat sketch explain the construction and working of a Swenson-walker crystallizer CO5- U    (8)