

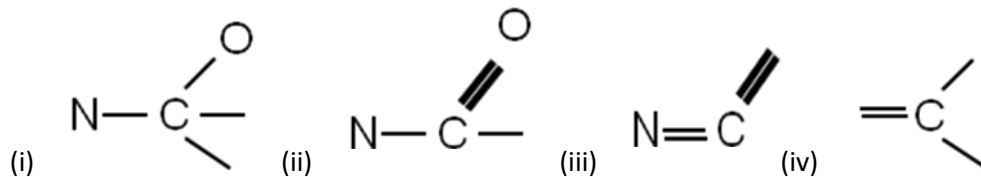
QUIZ IV

(1 mark each)

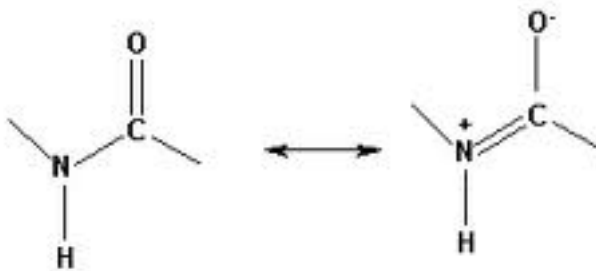
1. Stern layer is made up of

(i) negative ions (ii) positive ions (iii) neutral ions (iv) hydrophobic groups

2. which structure contains the peptide bond



3. The following reaction happens at



(i) neutral pH (ii) acidic pH (iii) alkaline pH (iv) pH has no effect

4. salting out is because of

(i) pH change (ii) Change in dielectric constant (iii) Ionic strength change (iv) Change in water availability

5. In salting out high molecular weight protein precipitates

(i) before low molecular weight proteins (ii) after low molecular weight proteins (iii) both precipitate at the same time (iv) molecular weight has no effect

6. A tetragonal crystal has

(i) $a=b=c$ (ii) $a=b \neq c$ (iii) $a \neq b \neq c$ (iv) $a \neq b = c$

7. How many classes of crystal are there

(i) 14 (ii) 6 (iii) 7 (iv) 8

8. If the rate of increase in crystal size is 2 mm/hr, How long will it take for the crystal size to increase from 4 mm to 6 mm

(i) 2 hr (ii) 1 hr (iii) 4 hr (iv) 6 hr

9. If a crystallization is carried out in a stirred tank and if the rate of increase in crystal size is 2 mm/hr, what will be the dominant crystal size after 6 hrs

(i) 24 mm (ii) 30 mm (iii) 12 mm (iv) 36 mm

10. Indirect contact drying heat is provided through

(i) convection (ii) conduction (iii) radiation (iv) steam

11. which drying is not based on convection

(i) tray (ii) fluidized bed (iii) spray (iv) drum

12. What will be the change in area /volume of droplet if 2 μ droplet is reduced to 1 μ droplet in a spray dryer

(i) decrease by a factor of 2 (ii) increase by a factor of 2 (iii) increase by a factor of 4 (iv) decrease by a factor of 4

13. What will be the rate of heat transfer due to conduction if the temperature difference is reduced by half and area increase by a factor of three

(i) 2 (ii) 3 (iii) 1.5 (iv) 0.67

14. critical point of water considers

(i) liquid and vapour (ii) liquid vapour and solid (iii) vapour and solid (iv) liquid and solid

15. Retention time of solute increases with (which statement is not correct)

(i) increasing length of the column (ii) decreasing flow rate of mobile phase (iii) decreasing column length (iv) increasing length of the stationary phase

16. HETP is a term not used in

(i) chromatography (ii) distillation (iii) absorption (iv) filtration

17. The retention time of a solute is 10 min and the maximum concentration of the peak is 0.1 mM. If 50% of this concentration is reached in 8 min, determine the standard deviation

(i) 1.823 (ii) 1.698 (iii) 1.455 (iv) 1.321

18. Total amount of solute present in the stationary phase to that in the mobile phase is called

(i) separation factor (ii) Capacity factor (iii) Efficiency factor (iv) partition factor