

CHEMISTRY IN EVERYDAY LIFE

1. Match the following :

- | | |
|--------------------|-----------------|
| (i) Riboflavin | (a) Beriberi |
| (ii) Thiamine | (b) Scurvy |
| (iii) Pyridoxine | (c) Cheilosis |
| (iv) Ascorbic acid | (d) Convulsions |

(1) (i)-(c), (ii)-(a), (iii)-(d), (iv)-(b)

(2) (i)-(c), (ii)-(d), (iii)-(a), (iv)-(b)

(3) (i)-(d), (ii)-(b), (iii)-(a), (iv)-(c)

(4) (i)-(a), (ii)-(d), (iii)-(c), (iv)-(b)

2. The number of sp^2 hybridised carbons present in "Aspartame" is _____.

3. The number of chiral centres in penicillin is _____.

4. The mass percentage of nitrogen in histamine is _____.

5. Glycerol is separated in soap industries by :

- (1) Steam distillation
- (2) Differential extraction
- (3) Distillation under reduced pressure
- (4) Fractional distillation

6. The antifertility drug 'Novestrol' can react with :

- (1) Br_2 /water; $ZnCl_2/HCl$; $FeCl_3$
- (2) Alcoholic HCN; NaOCl; $ZnCl_2/HCl$
- (3) Br_2 /water; $ZnCl_2/HCl$; NaOCl
- (4) $ZnCl_2/HCl$; $FeCl_3$; Alcoholic HCN

7. Match the following drugs with their therapeutic actions :

- | | |
|------------------------------------|--------------------|
| (i) Ranitidine | (a) Antidepressant |
| (ii) Nardil
(Phenelzine) | (b) Antibiotic |
| (iii) Chloramphenicol | (c) Antihistamine |
| (iv) Dimetane
(Brompheniramine) | (d) Antacid |

(e) Analgesic

(1) (i)-(a); (ii)-(c); (iii)-(b); (iv)-(e)

(2) (i)-(e); (ii)-(a); (iii)-(c); (iv)-(d)

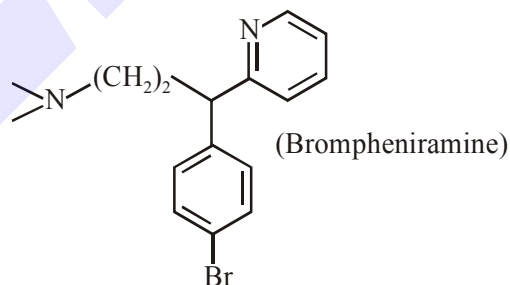
(3) (i)-(d); (ii)-(a); (iii)-(b); (iv)-(c)

(4) (i)-(d); (ii)-(c); (iii)-(a); (iv)-(e)

8. If a person is suffering from the deficiency of nor-adrenaline, what kind of drug can be suggested ?

- (1) Anti-inflammatory
- (2) Analgesic
- (3) Antihistamine
- (4) Antidepressant

9. The following molecule acts as an :



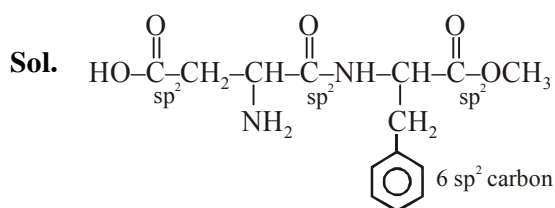
- (1) Antiseptic
- (2) Anti-bacterial
- (3) Anti-histamine
- (4) Anti-depressant

SOLUTION

1. NTA Ans. (1)

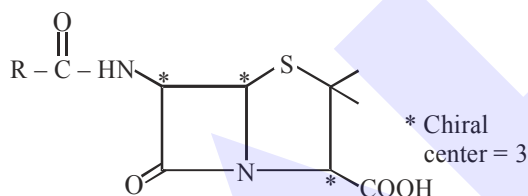
Sol. (i) Riboflavin \longrightarrow (c) Cheilosis(ii) Thiamine \longrightarrow (a) Beriberi(iii) Pyridoxin \longrightarrow (d) Convulsions(iv) Ascorbic acid \longrightarrow (b) Scurvy

2. NTA Ans. (9.00)

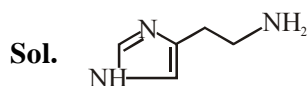
no. of sp^2 -carbon \rightarrow 9

3. NTA Ans. (3.00)

Sol. The structure of penicillin is



4. NTA Ans. (37.80 to 38.20)

M.F. of Histamine is $C_5H_9N_3$

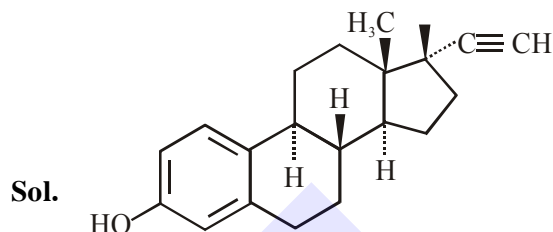
Molecular mass of Histamine is 111

$$\begin{aligned} \text{Now, mass \% of nitrogen} &= \left(\frac{42}{111} \right) \times 100 \\ &= 37.84\% \end{aligned}$$

5. Official Ans. by NTA (3)

Sol. Glycerol is separated by reduced pressure distillation in soap industries.

6. Official Ans. by NTA (1)



Ethynylestradiol (novestrol)

gives (1) $Br_2 + H_2O$ test(2) Lucas test with $ZnCl_2 + HCl$ (3) $FeCl_3$ test of phenolic group.

7. Official Ans. by NTA (3)

Sol. Ranitidine \rightarrow AntacidNardil \rightarrow AntidepressantChloramphenicol \rightarrow AntibioticDimetane \rightarrow Antihistamine

8. Official Ans. by NTA (4)

Sol. Anti depressant \rightarrow drug which enhance the mood. Non adrenaline is neurotransmitter and its level is low in body due to some reason then person suffers from depression and in that situation anti depressant drug is required.

9. Official Ans. by NTA (3)