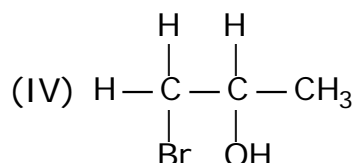
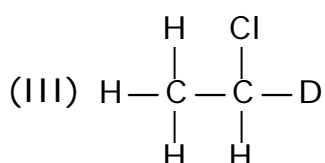
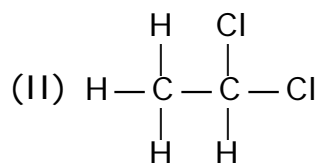
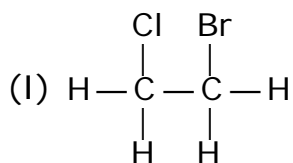


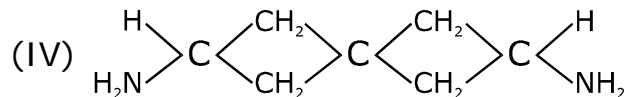
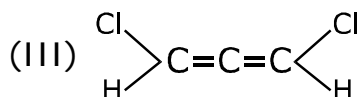
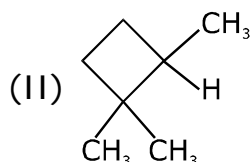
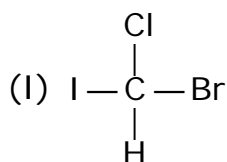
CHIRAL CENTRE AND CHIRAL MOLECULE

Q.1 Which has chiral carbon atom -



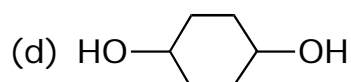
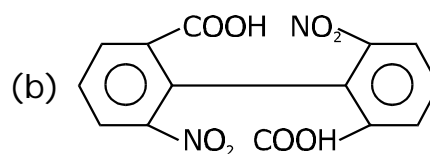
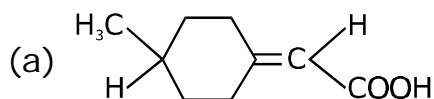
- (A) (I, II) (B) (II, III) (C) (III, IV) (D) (II, IV)

Q.2 Identify the chiral molecule



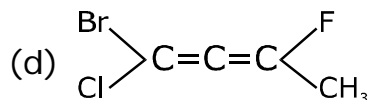
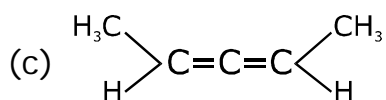
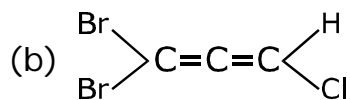
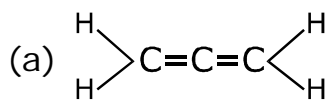
- (A) (I, II) (B) (II, III) (C) (I, II, III) (D) All

Q.3 Identify the chiral molecule



- (A) a, b, c (B) a, b, d (C) b only (D) a, b, c, d

Q.4 Identify the chiral molecule



- (A) a, b, c, d (B) a, c (C) c, d (D) b, d

Q.5 Identify the chiral molecule

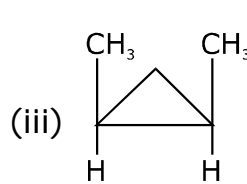
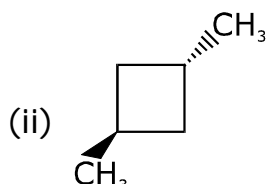
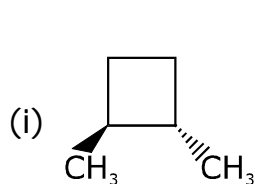
(A) secbutyl amine

(B) Trimethyl amine

(C) n-propyl amine

(D) Active amyl amine

Q.6 Which of the following structures are chiral



- (A) i (B) i, ii, iii (C) ii, iii (D) i, ii

Q.7 Like carbon, which other elements show chirality.

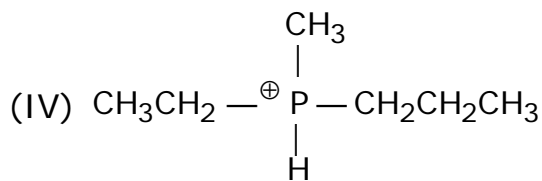
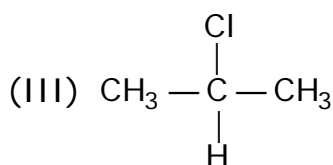
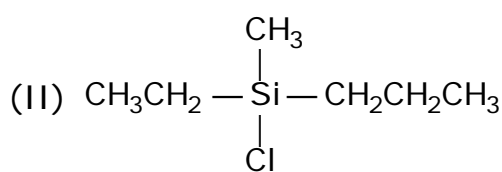
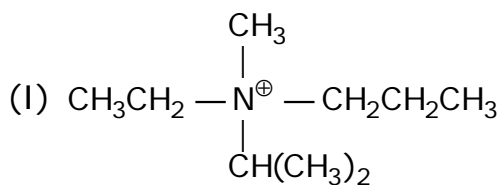
(A) Nitrogen

(B) Phosphorus

(C) Sulphur

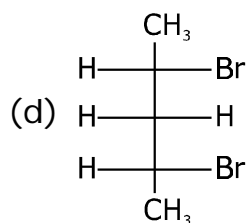
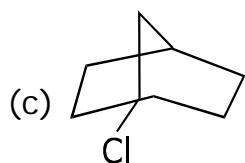
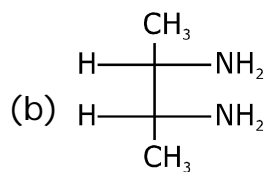
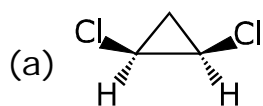
(D) All

Q.8 Identify the achiral molecule



- (A) III (B) II, III (C) I, III (D) IV

Q.9 Which of the following molecules are achiral



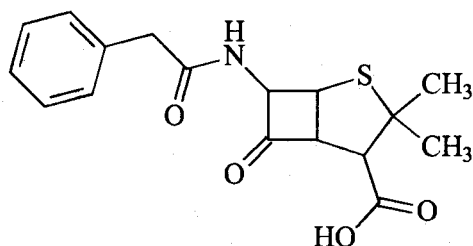
(A) 1 & 2

(B) Only 2

(C) 1, 2 & 3

(D) All

Q.10 Penicillin, the drug shown below, was first discovered by Alexander Fleming. It has been widely used for numerous decades for the treatment of microbial infections. How many stereogenic carbons are in penicillin ?



(A) 2

(B) 3

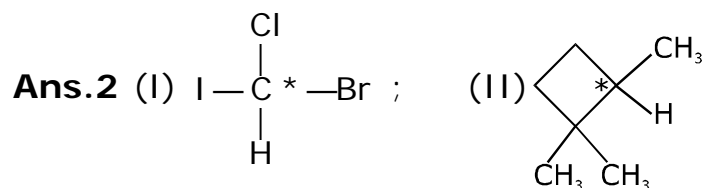
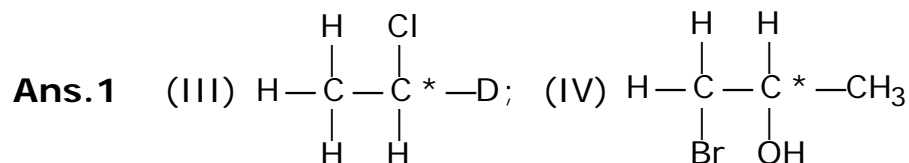
(C) 4

(D) 5

ANSWER KEY

Q.No.	1	2	3	4	5	6	7	8	9	10
Ans.	C	D	A	C	A	A	D	A	D	C

SOLUTIONS (CHIRAL CENTRE AND CHIRAL MOLECULE)



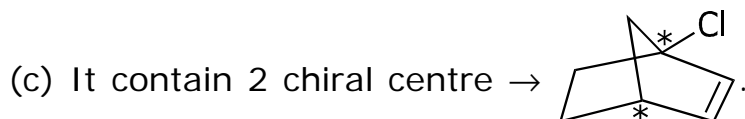
III = allene; IV = spiran

Allene & spiran are optically active provided that two groups attached to each terminal carbon are different.

Ans.3 In (a) Replacement of a double bond in allene by a ring does not change the basic geometry of allene. Hence

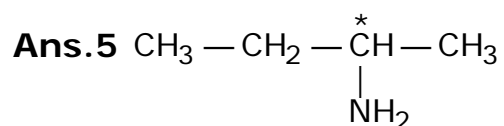
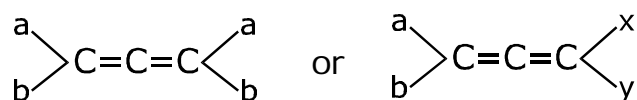
(a) is chiral like allene

(b) ortho disubstituted biphenyls are optically active due to restricted rotation.



(d) It has no chiral centre.

Ans.4 Allenes are optically active if -



Ans.6 (i) has a chiral centre

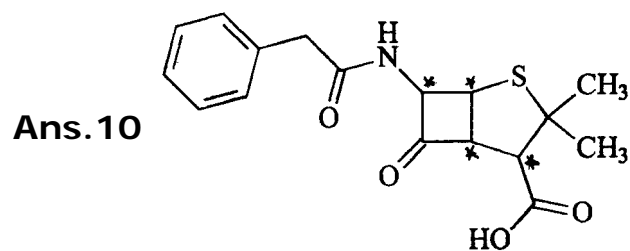
(ii) has no chiral centre

(iii) has a plane of symmetry.

Ans.7 Like C, N, P, S, Si series as stereocentres showing sp^3 hybridisation (Tetrahedral in its compounds) -

Ans.8 III has no chiral carbon atom.

Ans.9 All molecules contains plane of symmetry hence Achiral.



Carbons with asterisk are stereogenic carbons.