

Topic : IUPAC Nomenclature & Isomerism
Type of Questions

Single choice Objective ('-1' negative marking) Q.1 to Q.3

Assertion and Reason (no negative marking) Q.4

Multiple choice objective ('-1' negative marking) Q.5

Comprehension ('-1' negative marking) Q.6

Subjective Questions ('-1' negative marking) Q.7

Match the Following (no negative marking) Q.8

(3 marks, 3 min.)

(3 marks, 3 min.)

(4 marks, 4 min.)

(3 marks, 3 min.)

(4 marks, 5 min.)

(8 marks, 10 min.)

M.M., Min.

[9, 9]

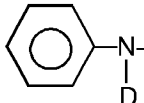
[3, 3]

[4, 4]

[3, 3]

[4, 5]

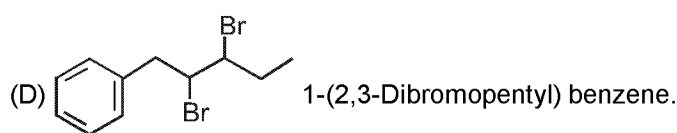
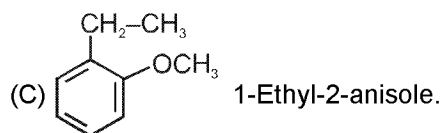
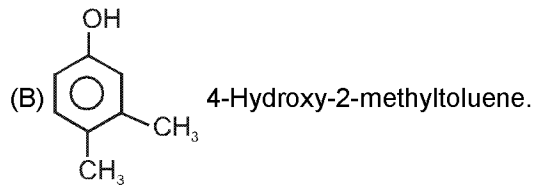
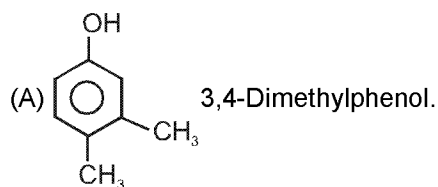
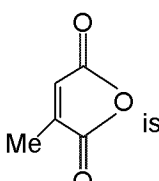
[8, 10]

 1. IUPAC name of  is

- (A) N-Deutero-N-formylbenzenamine
 (C) N-Deutero-N-phenylmethanamide

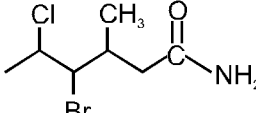
- (B) N-Phenylamino-N-deuteromethanal
 (D) N-Deutero benzene carboxamide

2. Which of the following is correct IUPAC name :


 3. Correct IUPAC name of the compound  is

- (A) 2-Methylbutenedioic anhydride
 (C) 2-Methyl-1,4-diketobutene epoxy

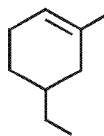
- (B) 3-Methylbutenedioic anhydride
 (D) 2-Methylcyclopentanoxy-1,4-dione

 4. **Statement-1 :**  3-Bromo-2-chloro-4-methylpentanamide is incorrect IUPAC name.

Statement-2 : In case of chain terminating senior most functional group numbering starts from itself.

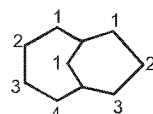
- (A) Statement-1 is True, Statement-2 is True; Statement-2 is a correct explanation for Statement-1.
 (B) Statement-1 is True, Statement-2 is True; Statement-2 is NOT a correct explanation for Statement-1.
 (C) Statement-1 is True, Statement-2 is False.
 (D) Statement-1 is False, Statement-2 is True.

5.* Which of the following is/ are incorrect IUPAC name :

- (A) $\text{CH}_3 - \overset{\text{O}}{\underset{\text{O}}{\parallel}} \text{C} - \underset{\text{CH}_3}{\text{CH}} - \text{CH}_3$ 2-Methylbutan -3-one
- (B) $\text{CH}_3 - \underset{\text{OH}}{\text{CH}} - \text{COOH}$ 2-Hydroxypropanoic acid
- (C)  5-Ethyl-1-methylcyclohex-1-ene
- (D) $\text{CH}_3 - \underset{\text{CH}_3}{\text{CH}} - \overset{\text{O}}{\parallel} \text{C} - \underset{\text{CH}_3}{\text{CH}} - \text{OH}$ 4-Methyl-3-oxopentan-2-ol

6. Comprehension

Bicyclo compounds are named by using the alkane name to designate the total number of carbon and bicyclo is used as prefix. While naming the bicycloalkane we write an expression between the word bicyclo and alkane (in square bracket), that denotes the number of carbon atoms in each bridge. The numerals are written in descending order and the numbers are separated by full stops.

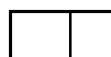


Bicyclo [4. 3. 1] decane

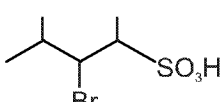
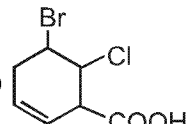
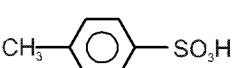
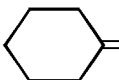
(a) The compound  is known by which of the following name :

- (A) Bicyclo [2. 2. 2] octane (B) Bicyclo [2. 2. 1] octane
(C) Bicyclo [2. 2. 1] heptane (D) Bicyclo [2. 1. 2] heptane

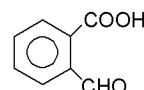
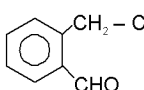
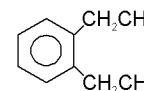
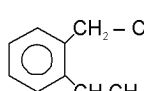
(b) The structure of bicyclo [1. 1. 0] butane is :

- (A)  (B)  (C)  (D) 

7. Write the IUPAC name of the following compound :

- (i)  (ii)  (iii)  (iv) 

8. Match the following compound with their IUPAC name :

Compound	IUPAC Name
(P) 	(W) 3-[2-(2-Oxoethyl)phenyl]propanoic acid
(Q) 	(X) 2-[2-(3-Oxopropyl)phenyl]ethanoic acid
(R) 	(Y) 2-(2-Formylphenyl)ethanoic acid
(S) 	(Z) 2-Formylbenzenecarboxylic acid

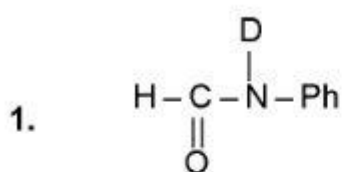
Answer Key

DPP No. # 5

- | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|--|-----|-----|--------|
| 1. | (C) | 2. | (A) | 3. | (A) | 4. | (A) | 5.* | (A, D) |
| 6. | (a) | (C) | (b) | (C) | 8. | (P → Z) ; (Q → Y) ; (R → W) ; (S → X). | | | |

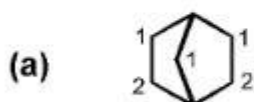
Hints & Solutions

DPP No. # 5

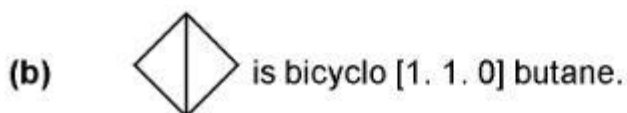


N-Deutero-N-phenylmethanamide.

6.



Bicyclo [2. 2. 1] heptane



7. (i) 3-Bromo-4-methylpentane-2-sulphonic acid
 (ii) 5-Bromo-6-chlorocyclohex-2-ene-1-carboxylic acid
 (iii) 4-Methylbenzene-1-sulphonic acid
 (iv) Methylenecyclohexane