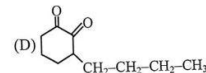
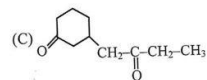
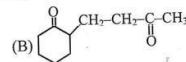
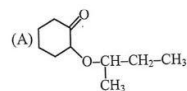


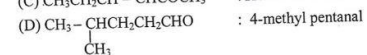
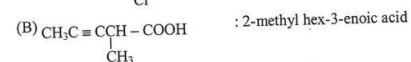
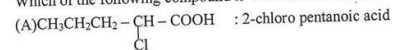
Classification & Nomenclature

Single Correct Option Type Questions

Q.1 The structure of 2-(3'-Oxobutyl) cyclohexane-1-one is -



Q.2 Which of the following compound is **WRONGLY** named?



Q.3 How many different structural isomers of molecular formula C_7H_{16} are possible, which contains five membered Parent Chain ?

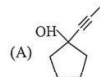
(A) 4

(B) 5

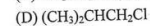
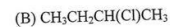
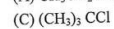
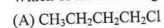
(C) 6

(D) 7

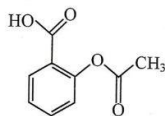
Q.4 Among the following compounds, which is not a structural isomers of others ?



Q.5 Which of the following is tert-butyl chloride ?

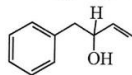


Q.6 Which is the correct IUPAC name of Aspirin ?



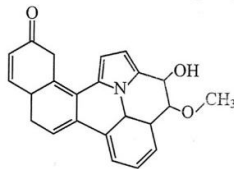
- (A) 2-carboxybenzenecarboxylate
 (B) 2-Ethanoyloxy benzene carboxylic acid
 (C) 2-Ethoxycarbonyl benzene carboxylic acid
 (D) 2-carboxyphenylethanoate

Q.7 Choose the correct IUPAC name for the following compound :



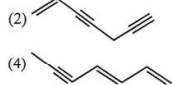
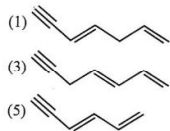
- (A) 4-phenyl-3-buten-1-ol
 (B) 1-phenyl-2-buten-3-ol
 (C) 4-phenyl-3-buten-2-ol
 (D) 1-phenyl-3-buten-2-ol

Q.8 Find the DBE(Double Bond Equivalent) value of the following compound ?



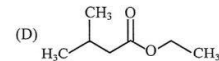
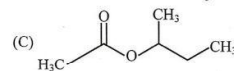
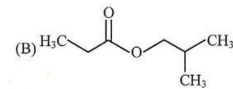
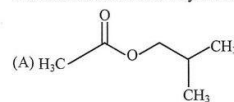
- (A) 13
 (B) 14
 (C) 15
 (D) 16

Q.9 Which of the following is an acceptable structure for Hepta-3, 6-dien-1-yne ?

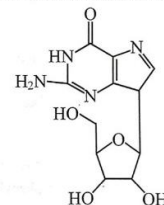


- (A) 1 & 3 both
 (B) 1 only
 (C) 4 only
 (D) 2 & 5 both

Q.10 The correct structure for ethyl 3-methylbutanoate is :

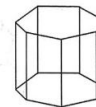


Q.11 How many Amide functional groups are present in the molecule of Guanosine shown below ?



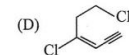
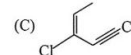
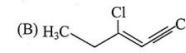
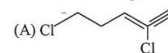
- (A) 0
 (B) 1
 (C) 2
 (D) 4

Q.12 What is the index of Hydrogen Deficiency (I.H.D) or Double Bond Equivalent (D.B.E) for the following compound ?



- (A) 6
 (B) 7
 (C) 8
 (D) 9

Q.13 Which structure represents 1, 4-dichlorohex-3-en-1-yne ?

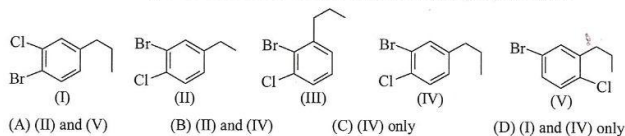


Q.14 What is the sum of positions assigned to Bromine while numbering the Parent Chain in the below compounds ?

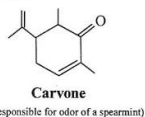


- (A) 13
 (B) 14
 (C) 15
 (D) 16


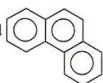
Q.15 Which of the following compounds corresponds to 2-bromo-1-chloro-4-propyl benzene ?



Q.16 What is the Molecular formula of Carvone?

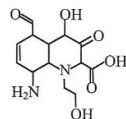


- (A) $C_8H_{10}O$ (B) $C_{10}H_{14}O$ (C) $C_{11}H_{16}O$ (D) $C_9H_{12}O$

Q.17 The difference in Double Bond Equivalent (DBE) value between  and  is

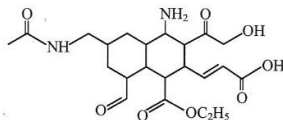
- (A) 0 (B) 1 (C) 2 (D) 3

Q.18 Find the sum of total number of different Functional groups and Double bond equivalent (DBE) value.



- (A) 12 (B) 13 (C) 14 (D) 15

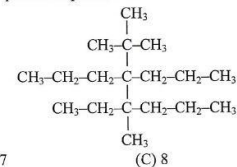
Q.19



Sum of total number of functional groups and Double bond equivalent (DBE) value in given compound is (Excluding = bond as a F.G.)

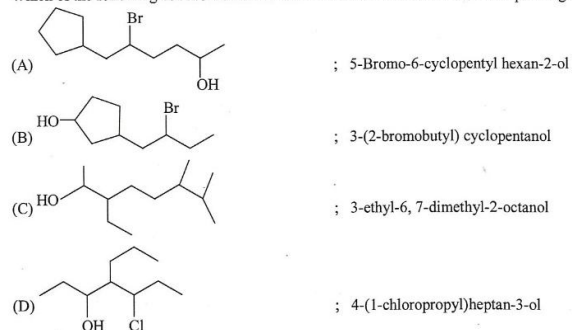
- (A) 13 (B) 14 (C) 15 (D) 16

Q.20 Total number of carbon atoms present in parent chain is :

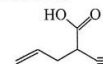


Multiple Correct Option Type Questions

Q.21 Which of the following IUPAC names are **CORRECTLY** written for the corresponding structures :

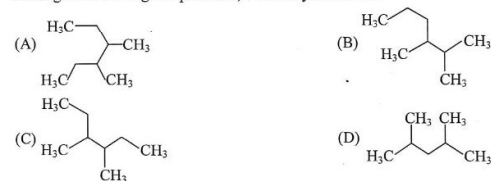


Q.22 Which of the following statement (s) is/are correct?

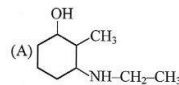
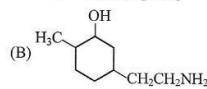
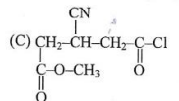
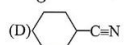


- (A) Double bond equivalent (DBE) value of the compound is 4
 (B) Total 3 different functional groups are present
 (C) Correct IUPAC name is 2-(prop-2-ynyl) pent-4-enoic acid
 (D) Correct IUPAC name is 2-(prop-2-enyl) pent-4-ynoic acid

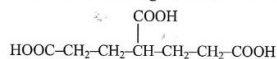
Q.23 Among the following compounds 3, 4-dimethylhexane is :



Q.24 Which is/are the incorrect IUPAC name of the corresponding structures ?

- (A)  → 3-(N-ethylamino)-2-methyl cyclohexanol
- (B)  → 3-amino ethyl-2-methyl cyclohexanol
- (C)  → Methyl-3-cyano-4-chloro carbonyl butanoate
- (D)  → cyclohexanenitrile

Q.25 Which of the following names are correct for the compound ?



- (A) Pentane-1,3,5-tricarboxylic acid
(B) 4-Carboxy heptane-1,7-dioic acid
(C) Heptane-1,4,7-trioic acid
(D) All are correct

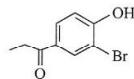
Passage Based Questions

Passage # 1 (Ques. 26- 28)

Chemist overwhelmingly use the nomenclature system devised and maintained by the International Union of Pure and Applied Chemistry, or IUPAC.

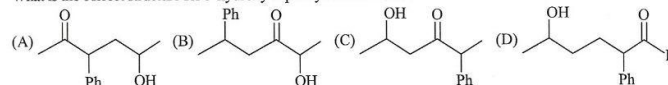
Naming a monofunctional compound and unsaturated hydrocarbon are reasonably straight forward but, even experienced chemists often encounter problems when faced with naming a complex polyfunctional compound. Take the following questions and choose the correct option accordingly.

Q.26 What is the IUPAC name for

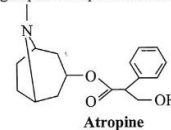


- (A) m-Bromo-p-hydroxypropiophenone
(B) 2-Bromo-4-propanoyl phenol
(C) 3-Bromo-4-hydroxy phenyl propan-1-one
(D) 2-Hydroxy-5-propanoyl bromo benzene

Q.27 What is the correct structure for 5-hydroxy-2-phenyl hexan-3-one ?



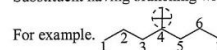
Q.28 Which of the functional group is NOT present in **Atropine** ?



- (A) Amine
(B) Phenol
(C) Ester
(D) Benzene ring

Passage # 2 (Ques. 29 - 30)

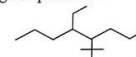
Substituent having branching within the side chain is known as complex substituent



Name of substituent is 1, 1-dimethyl ethyl OR tert-butyl

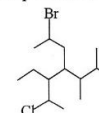
IUPAC name is 4-(1, 1-Dimethylethyl) heptane OR 4-Tert-butyl heptane

Q.29 Correct IUPAC name of the following compound is –



- (A) 4-(1, 1-dimethylethyl) -5-ethyloctane
(B) 5-ethyl- 4-(1, 1-dimethylethyl)octane
(C) 5-(1, 1-dimethylethyl) -4-ethyloctane
(D) 5-ethyl-5-(1, 1-dimethylethyl)octane

Q.30 How many total number of substituents are present in the following compound?

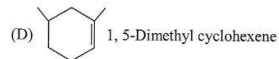
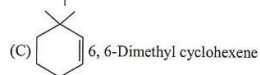
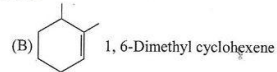


- (A) 3
(B) 4
(C) 5
(D) 6

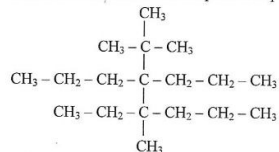
Passage # 3 (Ques. 31 - 32)

To avoid having to memorize the names of thousands of structural units, chemists have devised rules that name compounds on the basis of their structures. That way, only the rules have to be learned. Because the name is based on the structure, these rules make it possible to deduce the structure of a compound from its name. This method of nomenclature is called **systematic nomenclature**. It is also called **IUPAC nomenclature**.

Q.31 Which of the following name will be NOT CORRECT



Q.32 Total number of carbon atoms present in parent chain is :



(A) 5

(B) 6

(C) 7

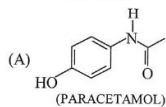
(D) None of these

Column Matching Type Questions

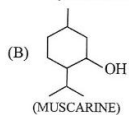
Q.33

Column I

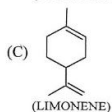
Column II



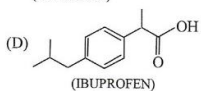
(P) 6 carbons in Parent Chain



(Q) 3 carbons in Parent Chain



(R) D.B.E.(Double bond equivalent) value is 5



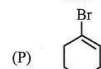
(S) Only 1 type of functional group is present

(T) IUPAC name is 2-[4-(2-methylpropyl)phenyl] propanoic acid

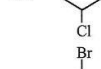
Q.34

List - I

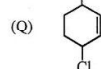
List - II



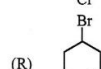
(1) 1-Bromo-4-chlorocyclohexene



(2) 1-Bromo-4-chlorocyclohexene



(3) 3-Bromo-6-chlorocyclohexene



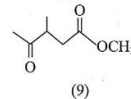
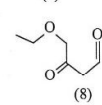
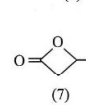
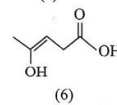
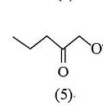
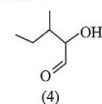
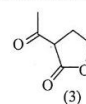
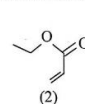
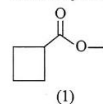
(4) 4-Bromo-1-chlorocyclohexene

Codes :

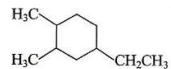
	P	Q	R	S
(A)	3	2	1	4
(B)	4	3	2	1
(C)	2	1	4	3
(D)	2	3	4	1

Numeric Response Type Questions

Q.35 How many compounds shown below can be classified as an ester as well as a ketone ?

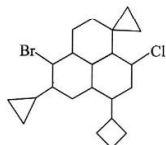


Q.36



When IUPAC name of above compound is given, then substituents gets respectively (x, y and z) number, so the sum of (x + y + z) will be

Q.37 Total number of 2° carbon present in given compound is x, so the value of $x - 7$ is :



ANSWER KEY

Single Correct Option type Questions

- | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|
| 1. (B) | 2. (B) | 3. (B) | 4. (B) | 5. (C) | 6. (B) | 7. (D) |
| 8. (B) | 9. (B) | 10. (D) | 11. (B) | 12. (C) | 13. (B) | 14. (C) |
| 15. (C) | 16. (A) | 17. (A) | 18. (C) | 19. (C) | 20. (C) | |

Multiple Correct Option type Questions

- | | | | | |
|-------------|-----------|-----------|-------------|-----------|
| 21. (A,B,C) | 22. (A,B) | 23. (A,C) | 24. (B,C,D) | 25. (A,B) |
|-------------|-----------|-----------|-------------|-----------|

Passage Based Questions

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|---------|---------|---------|---------|---------|---------|---------|
| 26. (C) | 27. (C) | 28. (B) | 29. (A) | 30. (B) | 31. (C) | 32. (D) |
|---------|---------|---------|---------|---------|---------|---------|

Column Matching Type Questions

33. [A → R; B → P,S; C → P,S; D → Q,R,T]

34. (D)

Numerical Response Type Questions

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|---------|---------|---------|
| 35. (4) | 36. (7) | 37. (6) |
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