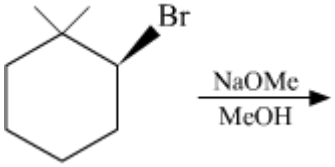
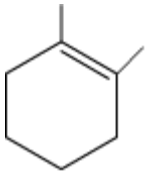
Organic Chemistry: Some Basic Principles and Techniques

Q.No.1: The major product of the following reaction is : **JEE 2018**



A.


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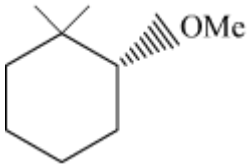

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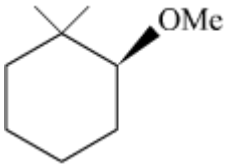
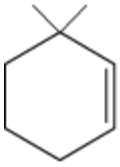


D.


Q.No.2: An aqueous solution contains an unknown concentration of Ba^{2+}. When 50 mL of a 1 M solution of Na_2SO_4 is added, $BaSO_4$ just begins to precipitate. The final volume is 500 mL. The solubility product of $BaSO_4$ is 1×10^{-10}. What is the original concentration of Ba^{2+}? **JEE 2018**

A. 1.1×10^{-9} M

B. 1.0×10^{-10} M

C. 5×10^{-9} M

D. 2×10^{-9} M

Q.No.3: Which amongst the following is the strongest acid? **JEE 2019**

A. $CHBr_3$

B. CHI_3

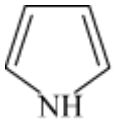
C. $CH(CN)_3$

D. $CHCl_3$

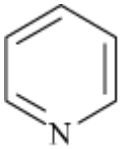
Q.No.4: Which of the following compounds is not aromatic? **JEE 2019**

A.

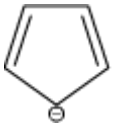
B.



C.



D.



Q.No.5: If dichloromethane (DCM) and water (H_2O) are used for differential extraction, which one of the following statements is correct? **JEE 2019**

A. DCM and H_2O would stay as lower and upper layer, respectively in the separating funnel (S.F.).

B. DCM and H_2O will make turbid/colloidal mixture.

C. DCM and H_2O would stay as upper and lower layer, respectively in the separating funnel (S.F.).

D. DCM and H_2O will be miscible clearly.

Q.No.6: The correct match between item 'I' and item 'II' is:

Item 'I' (compound)	**Item 'II' (compound)**
(A) Lysine	(P) 1-naphthol

(B)	Furfural	(Q)	ninhydrin
(C)	Benzyl alcohol	(R)	$KMnO_4$
(D)	Styrene	(S)	Ceric ammonium nitrate

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A. (A) → (Q); (B) → (P); (C) → (S); (D) → (R)
B. (A) → (Q); (B) → (P); (C) → (R); (D) → (S)
C. (A) → (R); (B) → (P); (C) → (Q); (D) → (S)
D. (A) → (Q); (B) → (R); (C) → (S); (D) → (P)

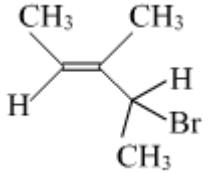
Q.No.7: Sodium metal on dissolution in liquid ammonia gives a deep blue solution due to the formation of :

JEE 2019

A. sodium-ammonia complex
B. sodamide
C. sodium ion-ammonia complex
D. ammoniated electrons

Q.No.8: What is the IUPAC name of the following compound?

JEE 2019



A. 3-Bromo-1, 2-dimethylbut-1-ene
B. 3-Bromo-3-methyl-1, 2-dimethylprop-1-ene
C. 2-Bromo-3-methylpent-3-ene
D. 4-Bromo-3-methylpent-2-ene

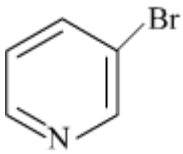
Q.No.9: The correct match between items I and II is:

	Item - I (Mixture)		**Item - II (Seperation method)**
(A)	H_2O : Sugar	(P)	Sublimation
(B)	H_2O : Aniline	(Q)	Recrystallization
(C)	H_2O : Toluene	(R)	Steam distillation
		(S)	Differential extraction

JEE 2019

A. (A) → (S); (B) → (R); (C) → (P)
B. (A) → (Q); (B) → (R); (C) → (S)
C. (A) → (R); (B) → (P); (C) → (S)
D. (A) → (Q); (B) → (R); (C) → (P)

Q.No.10: Which of the following compounds will produce a precipitate with $AgNO_3$? **JEE 2019**

A.


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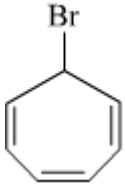

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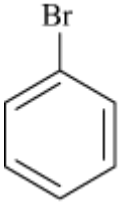

D.