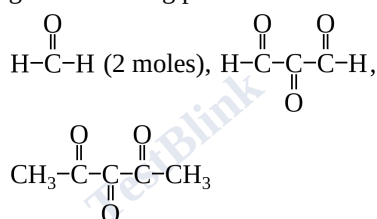


JEE MAIN HYDROCARBONS — CHEMICAL PROPERTIES OF ALKENES — PYQS

Max. Marks: 40
Questions: 10

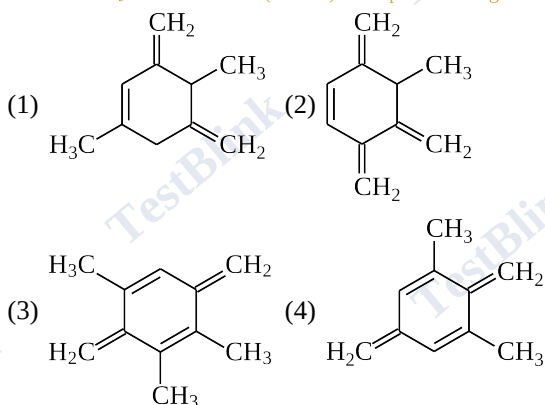
Section A (MCQ) — 9 questions

Q.1 An alkene (X) on ozonolysis followed by reduction gives following products.



The alkene (X) is :

[JEE Main 2026 (Online) 4th April, Morning Shift]



Scan or tap for the full solution



Q.2 $\text{Ph}-\text{CH}=\text{CH}_2 \xrightarrow[\text{HBr}]{(\text{PhCOO})_2}$ Product

Consider the above reaction

- The reaction proceeds through a more stable radical intermediate.
- The role of peroxide is to generate $\text{H}^\cdot$ (Hydrogen radical).
- During this reaction, benzene is formed as a byproduct.
- 1-Bromo-2-phenylethane is formed as the minor product.
- The same reaction in absence of peroxide proceeds via carbocation intermediate.

Identify the correct statements.

Choose the correct answer from the options given below :

[JEE Main 2026 (Online) 28th January Morning Shift]

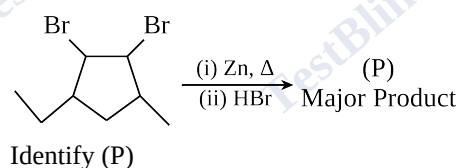
- (1) A & E Only
(3) A, C & E Only

(2) A, B & D Only
(4) C, D & E Only

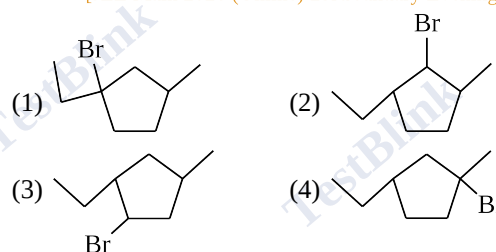
Scan or tap for the full solution



Q.3



[JEE Main 2026 (Online) 23rd January Evening Shift]

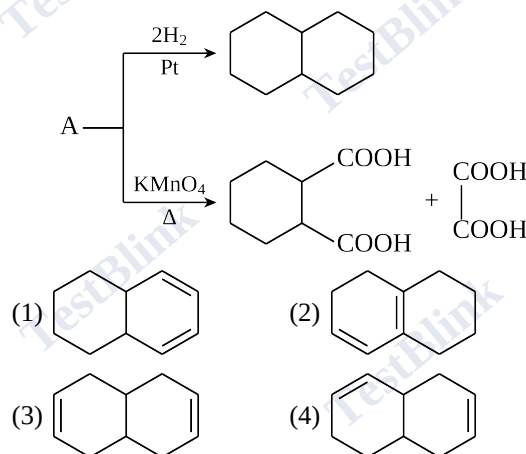


Scan or tap for the full solution



Q.4 Identify A in the following reaction.

[JEE Main 2026 (Online) 21st January Morning Shift]



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Q.5

Given below are two statements:

Statement-I: Ozonolysis followed by treatment with $\text{Zn}, \text{H}_2\text{O}$ of cis-2-butene gives ethanal.

Statement-II: The product obtained by ozonolysis followed by treatment with $\text{Zn}, \text{H}_2\text{O}$ of 3,6-dimethyloct-4-ene has no chiral carbon atom.

In the light of the above statements, choose the correct answer from the options given below

[JEE Main 2025 (Online) 7th April Morning Shift]

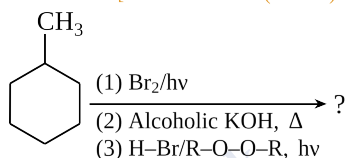
- (1) Statement-I is false but Statement-II is true
 (2) Both Statement-I and Statement-II are false
 (3) Statement-I is true but Statement-II is false
 (4) Both Statement-I and Statement-II are true

Scan or tap for the full solution



Q.6 Predict the major product of the following reaction sequence:

[JEE Main 2025 (Online) 4th April Morning Shift]

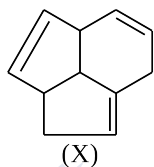


- (1)
 (2)
 (3)
 (4)

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Q.7 Consider the following molecule (X).



The major product formed when the given molecule (X) is treated with HBr (1 eq) is :

[JEE Main 2025 (Online) 4th April Evening Shift]

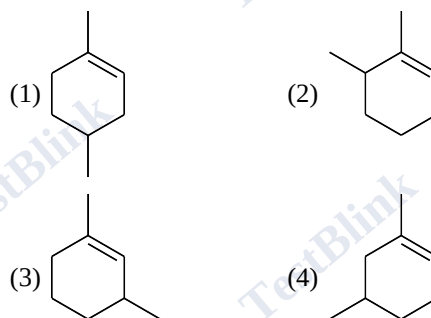
- (1)
 (2)
 (3)
 (4)

Scan or tap for the full solution



Q.8 Which compound would give 3-methyl-6-oxoheptanal upon ozonolysis?

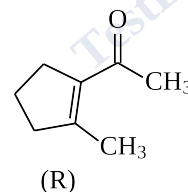
[JEE Main 2025 (Online) 3rd April Morning Shift]



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Q.9 A molecule (P) on treatment with acid undergoes rearrangement and gives (Q). (Q) on ozonolysis followed by reflux under alkaline condition gives (R). The structure of (R) is given below.



The structure of (P) is

[JEE Main 2025 (Online) 28th January Morning Shift]

- (1)
 (2)
 (3)
 (4)

Scan or tap for the full solution



Section B (Numerical) — 1 question

Q.10 The cycloalkene (X) on bromination consumes one mole of bromine per mole of (X) and gives the product (Y) in which C:Br ratio is 3:1. The percentage of bromine in the product (Y) is _____. (Nearest integer)
 (Given : molar mass in g mol^{-1}
 H:1, C:12, O:16, Br:80)

[JEE Main 2026 (Online) 22nd January Morning Shift]

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ANSWER KEY**Section A (MCQ) — 9 questions**

Ques.	1	2	3	4	5	6	7
Ans.	4	3	4	1	3	2	1
Ques.	8	9					
Ans.	1	1, 4					

Section B (Numerical) — 1 question

Ques.	10									
Ans.	66									