

Name of the Student: _____

Max. Marks : 20 Marks

Time : 20 Minutes

Mark Schemes

Q1.

- (a) Single bonds only /no double or multiple bonds; 1

Contains carbon and hydrogen only;
C and H only
not C and H molecules 1

Alkanes; 1

- (b) (1) Fractions or hydrocarbons or compounds have different boiling points/ separation depends on bp;
Ignore mp and vdw 1

(2) bp depends on size/ M_r / chain length;
If refer to bond breaking/cracking/ blast furnace/oxygen/air 2 max 1

(3) Temp gradient in tower or column / cooler at top of column or vice versa;
QWC 1

(4) Higher bp / larger or heavier molecules at bottom (of column) or vice versa;
Not increasing size of fraction
Not gases at top 1

- (c) Large molecules or compounds or long chain hydrocarbons (broken) into smaller molecules or compounds or smaller chain hydrocarbons;
QWC 1

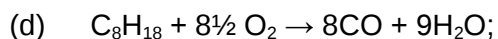
Zeolite or aluminosilicate (catalyst); 1

$C_{14}H_{30} \rightarrow C_8H_{18} + C_6H_{12}$;
Only 1

Smaller chain molecules are in more demand or have higher value or vice versa;

Insufficient to say more useful/have more uses

1



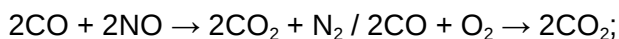
Allow multiples

1

Rh/ Pd/Pt/Ir or in words;

Penalise contradiction of name and symbol

1



Allow multiples

1

Greenhouse gas/ absorbs infrared radiation;

1

- (e) car less powerful/ car stops/ reduced performance/ won't run smoothly/ can't accelerate;

Not incomplete combustion or bad effect on engine

Not doesn't go as far.

1

Test it (before sale) /Quality control etc;

1

- (f) (compounds with) same molecular formula / same no and type of atoms;

Not atoms/elements with same molecular formula.

If same chemical formula, can allow M2

1

And different structure/ structural formula;

M2 consequential on M1

Allow displayed formula for M2

1

2,2,4-trimethylpentane;

Only (but allow numbers in any order)

1

[20]