

(Polymers: addition and condensation polymers)

Q1. (2018)

water

Q2. (2018)

single C–C bond and nothing
added to the trailing bonds

$3 \times \text{H}$ and CH_3 correct

n at bottom right

Q3. (2018)

any **four** from:

advantages of polyester

- better flame resistance (so burns less easily)
- higher melting point (so melts less easily)
- absorbs water so less likely to ignite

disadvantages of polyester:

- high density so uniform is heavy
- absorbs water so firefighter gets wet
- absorbs water so uniform becomes heavy
- justified conclusion

Q4. a). (2019)

C=C bond in correct position

3× C-H **and** 1× C-C bond in correct positions

Q4. b). (2019)

carboxylic acid (group)

Q4. c). (2019)

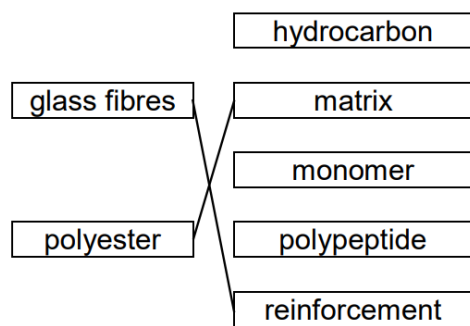
water

Q4. d). (2019)

(polyester is) thermosoftening

(polyester has) no cross-links

Q4. e). (2019)

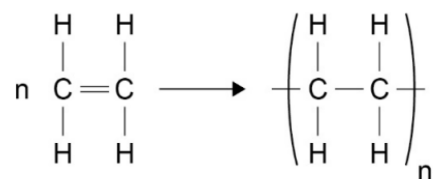


Q4. f). (2019)

any **two** from:
(to make the board)

- harder
- stronger
- tougher
- more rigid
- waterproof

Q5. (2021)



Q6. (2021)

(poly(ethene)) melts

(so) can be reshaped (into new products)

Q7. (2021)

use different (reaction) conditions

Q8. (2021)

(in HDPE) polymer chains / molecules are closer together

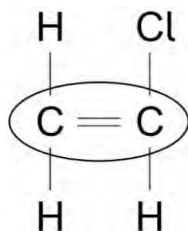
(so) more atoms per unit volume

Q9. (2022)

C=C bond

2x C-H bonds **and** 2x C-CH₃ bonds

Q10. (2023)



Q11. (2023)

C-C bond

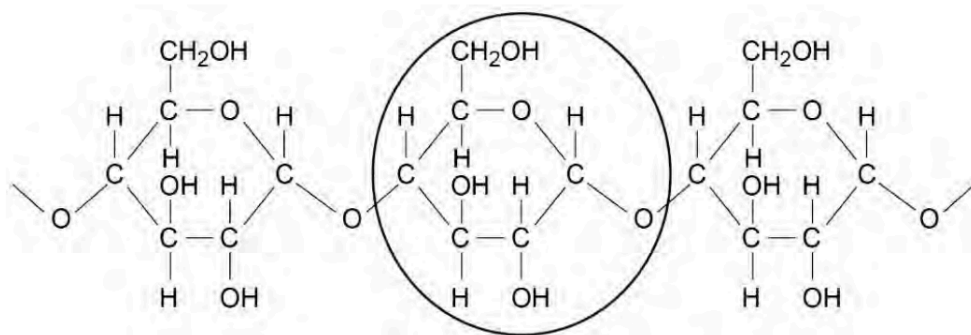
3x C-H **and** 1x C-Cl bonds

2x single bonds extending
through brackets

and

n below halfway

Q12. a). (2023)



Q12. b). (2023)

starch

Q13. a). (2023)

nucleotides

Q13. b). (2023)

double helix