A Level Physics A

H556/01 Modelling physics

Question Set 10

1 **(a)** Define the *internal energy* of a substance. **[1]**

The sum of the randomly distributed kinetic and potential energies associated with the atoms or molecules which make up the substance

(b) A block of paraffin wax is melting at a constant temperature of 52 °C. Use the behaviour of paraffin molecules to describe and explain the changes to the internal energy of the molecules of the paraffin wax as it melts. **[4]**

- The KE will not change as it melts, since the temperature remains constant.
- However, the PE of the molecules will increase as it melts
- Therefore, the internal energy will increase

Total Marks for Question Set 10: 5

OCR
Oxford Cambridge and RSA

Copyright Information

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website (www.ocr.org.uk) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact The OCR Copyright Team, The Triangle Building, Shaftesbury Road, Cambridge CB2 8EA.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge