

Cambridge International AS & A Level

INFORMATION TECHNOLOGY**9626/04**

Paper 4 Advanced Practical

May/June 2026**2 hours 30 minutes**

You will need: Candidate source files (listed on page 2)

INSTRUCTIONS

- Carry out every instruction in each task.
- Save your work using the file names given in the task as and when instructed.
- You must **not** have access to either the internet or any email system during this examination.
- You must save your work in the correct file format as stated in the tasks. If work is saved in an incorrect file format, you will **not** receive marks for that task.

INFORMATION

- The total mark for this paper is 90.
- The number of marks for each question or part question is shown in brackets [].

This document has **12** pages. Any blank pages are indicated.

You have been supplied with the following source files:

Atmosphere.png
 Bang.png
 CarbonAtom.png
 ChemDeptScores.xlsx
 ChemicalReaction.gif
 Flame.png
 HydrogenAtom.png
 OxygenAtom.png
 TIULogo.png

Create a folder called **Examination**

You must save all your work in this folder.

Copy these files into this folder.

Do **not** delete these source files when submitting your work.

You must use the most efficient methods to solve each task.

All work produced must be of a professional standard and contain your candidate details.

Task 1

- (a) Create this document. The logo is provided in the file **TIULogo.png**

You will use this document to complete a mail merge in task 1(c).

Student ID:

Student name:



Year 3 Academic record.

Module	Score %	Result Credit/Pass/Fail
Spectroscopy and Molecular Structure		
Advanced Organic Synthesis		
Computational Chemistry		
Medicinal Chemistry		
Polymer Chemistry		

For any queries email: records@tiu.ac.tw

Save the document as **MergeDoc**_centre number_candidate number
 For example, MergeDoc_ZZ999_9999

- (b) You will need to identify the merge fields required for the mail merge data source. Open and examine all the worksheets in **ChemDeptScores.xlsx**. The file contains the results of module tests for students on a 3-year course. You will process the results for Year 3 only.

The scores are recorded as percentages, with the results awarded as Credit, Pass or Fail.

The thresholds for the results are:

Credit	70% and above
Pass	45% and above
Fail	Below 45%

Create the necessary data for the merge fields in new columns in the *Data* worksheet. Hide all columns that are **not** needed for the mail merge. Save your spreadsheet.

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- (c) The document created in task 1(a) will be edited to include: scores, results, and conditional text where appropriate.

The text in italics shows where conditional text must be placed.

Student ID:

Student name:

Year 3 Academic record.

Module	Score %	Result Credit/Pass/Fail
Spectroscopy and Molecular Structure		
Advanced Organic Synthesis		
Computational Chemistry		
Medicinal Chemistry		
Polymer Chemistry		

Closing conditional text here

For any queries email: records@tiu.ac.tw



Add additional columns to your data source to identify the conditional text needed.

For modules that have been failed, the conditional text must record whether the student must retake the module or must resit the test.

The rules for the module conditional text are:

- If a student fails the module test but scores more than 35%, the text must be:
You must resit the test.
- If a student scores 35% or less, the text must be:
You must retake the module.

Edit the document to include merge fields for:

- the Student ID
- the student's full name
- the module test scores
- the results
- the appropriate conditional text.

The rules for the closing conditional text are:

- If any of the modules have been failed, the text must be:
Please contact your tutor, <merge field(s) for the tutor's full name>, to discuss your next steps.
- If any student has 3 or more credits, and did **not** fail any modules, the text must be:
Congratulations on an excellent year's work.

Edit the document to include merge field(s) for the closing conditional text.

Save the document as **Y3MergeDoc**_centre number_candidate number
For example, Y3MergeDoc_ZZ999_9999

Example of a merged document:

Student ID: 2023014			
Student name: Sofia Alexander			
Year 3 Academic record.			
Module	Score %	Result Credit/Pass/Fail	
Spectroscopy and Molecular Structure	70	Credit	
Advanced Organic Synthesis	40	Fail	You must resit the test.
Computational Chemistry	54	Pass	
Medicinal Chemistry	33	Fail	You must retake the module.
Polymer Chemistry	48	Pass	
Please contact your tutor, Iona Carr, to discuss your next steps.			
For any queries email: records@tiu.ac.tw			

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- (d) Perform the merge to create the documents for only the students with **Nova Bourd** as the tutor.

Save the documents as **NBO_Y3Results**_centre number_candidate number
For example, NBO_Y3Results_ZZ999_9999

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Task 2

- (a) Create this vector image of a sphere.

The sphere must be coloured red (RGB 255,0,0) with light 'blooms' as shown and a slight darkening gradient to RGB 166,0,0

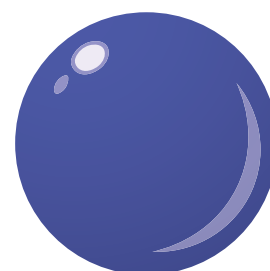
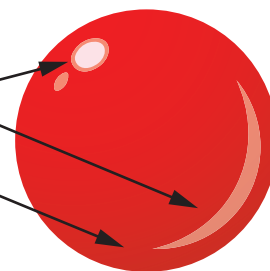
Save the image as a portable network graphic with the file name **Proton**_centre number_candidate number
For example, Proton_ZZ999_9999

Recolour the image to RGB 67,57,255

Save the image as a portable network graphic with the file name **Neutron**_centre number_candidate number
For example, Neutron_ZZ999_9999

Recolour the image to RGB 147,200,36
Reduce the image to half size.
Add the black rectangle as shown.

Save the image as a portable network graphic with the file name **Electron**_centre number_candidate number
For example, Electron_ZZ999_9999



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- (b) Create this image with a dark green fill.

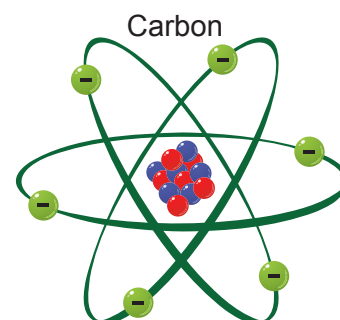
Save the image as a portable network graphic with the file name **Orbit**_centre number_candidate number
For example, Orbit_ZZ999_9999



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- (c) Use your saved images to create an image like this.
The nucleus in the centre must contain 6 protons and 6 neutrons.

Save the image as a portable network graphic with the file name **CarbonStructure**_centre number_candidate number
For example, CarbonStructure_ZZ999_9999



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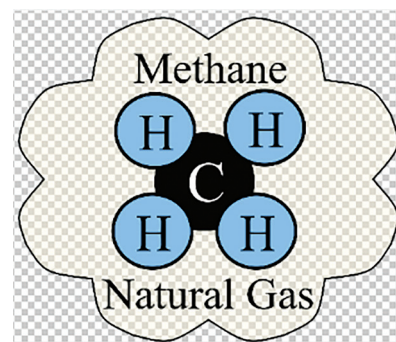
Turn over

Task 3

Create this image to represent a 'cloud' of methane gas using **CarbonAtom.png** and **HydrogenAtom.png**. The 'cloud' must have a transparency of 50%.

Save the image as a portable network graphic with the file name **Gas_centre number_candidate number**. For example, Gas_ZZ999_9999

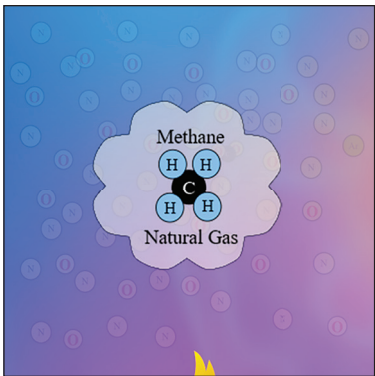
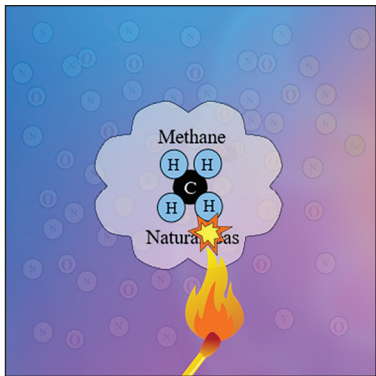
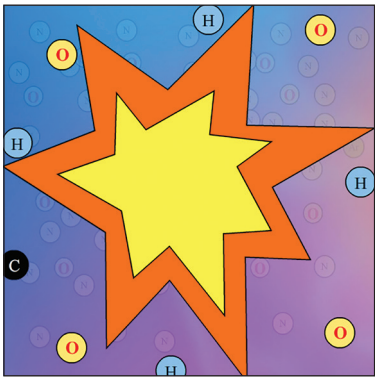
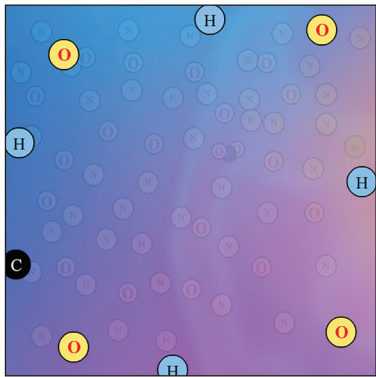
Open **ChemicalReaction.gif** in a media player. You are required to create a similar animation.

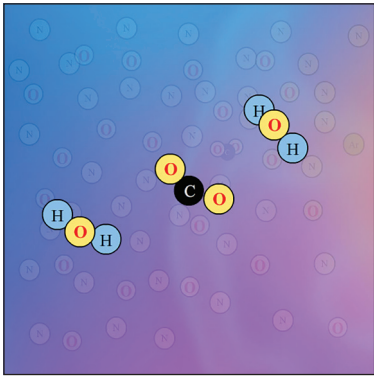
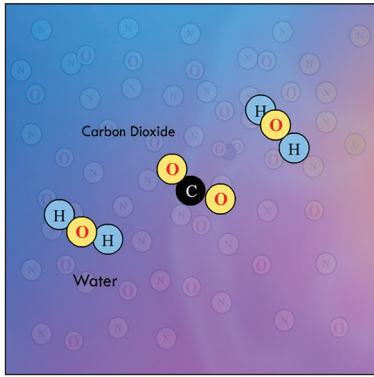


In an animation application set a frame size of 500 pixels by 500 pixels. Use **Atmosphere.png** as the background. Resize the image to fit the frame.

Create the animation using the images: **Flame.png**, **Bang.png**, **CarbonAtom.png**, **HydrogenAtom.png** and **OxygenAtom.png**

The animation must run as follows:

 time: 1 second	 time: 2 seconds
Your gas image must have moved into the frame from the bottom-left corner and taken 1 second to reach the centre of the frame.	The flame image must have risen from the bottom of the frame and taken 1 second to reach the edge of the gas image. The bang image must then appear.
 time: 2.5 seconds	 time: 3 seconds
The bang image must have taken half a second to grow and cover most of the frame. The individual atoms must have appeared.	The bang image must have disappeared.

	
time: 5 seconds	
The atom images must take 2 seconds to move to the positions shown.	The text Water and Carbon Dioxide must then appear.
time: 6 seconds	time: 8 seconds
The text must then take 1 second to grow to the size shown.	The animation must start again from the beginning.

Save your animation as an animated gif with the file name
Oxidation_centre number_candidate number
 For example, Oxidation_ZZ999_9999

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