

Biological molecules – 2022 June O Level 5090**1. June/2022/Paper_11/No.10**

Four food tests were each carried out on four different white powders, **A**, **B**, **C** and **D**.

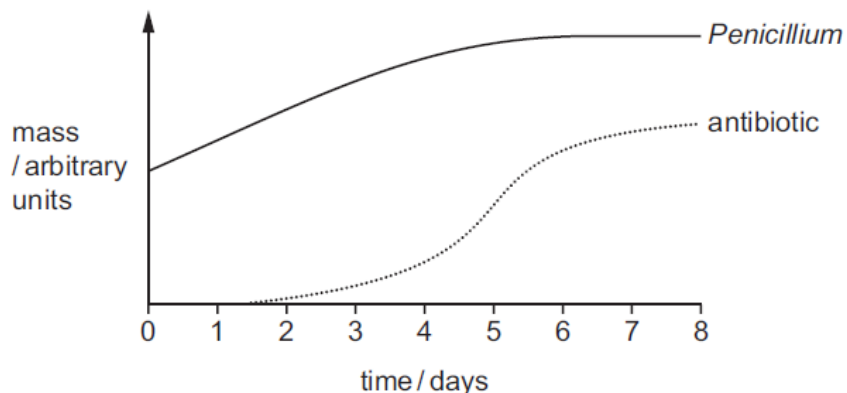
The results are shown in the table.

Which powder contains a carbohydrate, a fat and a protein?

	results of tests on the powders			
	Benedict's test	biuret test	ethanol emulsion test	iodine solution test
A	blue colour	violet colour	milky	blue-black colour
B	orange colour	blue colour	milky	blue-black colour
C	red colour	violet colour	clear	yellow colour
D	green colour	blue colour	clear	yellow colour

2. June/2022/Paper_11/No.29

The graph shows the mass of *Penicillium* grown in a fermenter and the mass of antibiotic produced.



When is the *Penicillium* producing antibiotic most rapidly?

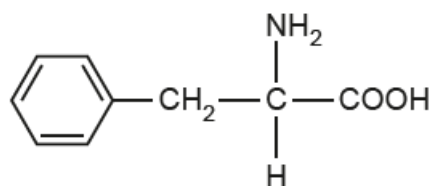
- A** day 1 **B** day 3 **C** day 5 **D** day 8

3. June/2022/Paper_22/No.4(a)

There are many different types of amino acid.

One of these is phenylalanine.

The diagram shows the structure of a molecule of phenylalanine.



(a) Phenylalanine is metabolised by an enzyme with the name PAH.

(i) Name the human organ that metabolises amino acids such as phenylalanine.

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[1]

(ii) Explain how the shape of a PAH enzyme molecule is important to enable phenylalanine to be metabolised.

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[3]