

CANDIDATE
NAME

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CENTRE
NUMBER

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CANDIDATE
NUMBER

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INFORMATION TECHNOLOGY

9626/32

Paper 3 Advanced Theory

February/March 2019

1 hour 45 minutes

Candidates answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your centre number, candidate number and name in the spaces at the top of this page.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, glue or correction fluid.

DO NOT WRITE IN ANY BARCODES.

Answer **all** the questions.

Calculators must not be used on this paper.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

Any businesses described in this paper are entirely fictitious.

This document consists of **17** printed pages and **3** blank pages.

- 1 Errors in JavaScript code can cause the code to fail to execute when run by a web browser. The code shown is intended to display a table on a web page when run in a web browser. The line numbers are shown only for your convenience when referencing the code in your answers.

```
1 <html>
2 <body>
3 <script language="JavaScript">
4 tableout = "<table border='1' width='300' cellspacing='0'
  cellpadding='3'>"
5 for (b = 1; b <= 10; b++) {
6 tableout = tableout + "<tr>":
7 for (g = 1; g <= 10; g++) {
8 tableout = tableout + "<td>" + b * g + "</td>";
9 }
10 tableout = tableout + "</tr>";
11 }
12 tableout = tableout + "</table>";
13 document.write (tableout);
14 </script>
15 </body>
16 </html>
```

- (a) The code does not run as intended in web browsers because there is an error in the code.

Describe how the error in the code prevents the web browser from running as intended.

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..... [2]

4 Layers can be used when editing digital images.

(a) Describe what is meant by a 'layer' in computer graphics.

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..... [1]

(b) Describe how layers could be used to enhance a digital image.

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..... [4]

5 3D printing is used in medicine.

(a) Describe **two** benefits of being able to produce artificial blood vessels by 3D printing.

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..... [2]

(b) Describe how 3D printing could be used, apart from producing drugs at home, to improve the effectiveness of the manufacture of prescription drugs.

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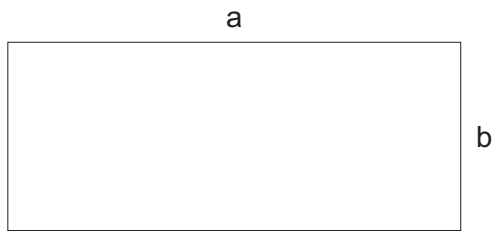
.....

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..... [4]

- 6 A company sells glass for installation into rectangular windows. The company cannot make glass for windows with dimensions smaller than width 12cm and height 8cm. The price of a window is calculated by working out the area of the window and multiplying it by the cost per square centimetre (cm^2), which is 20₹.



$$\text{Area of window} = a \times b$$

$$\text{Price} = \text{area} \times \text{cost per cm}^2$$

A spreadsheet with formulas has been created to carry out these calculations.

	A	B	C	D
1				
2	Input a	14	cm	
3	Input b	9	cm	
4				
5				
6	Area is:	126	cm^2	
7	Cost per cm^2 is:	20	rupees	
8	Price is:	2520	rupees	
9				
10				

These cells will be validated using a range check

A test plan must be created to fully test the spreadsheet before the company use it.

Use this table to design a suitable test plan for this spreadsheet.

[8]

- 9 The manager of a small shop is creating a new relational database that will store details of the goods sold by the shop. It will also store details of the suppliers of these goods. The manager collects the details that are shown on the labels attached to the goods. He gathers the details of the suppliers from a notebook that he keeps. Five examples of labels are shown:

Item	Beans
Quantity in pkt	100g tin
Price	\$2
Sell by date	N/A
Cost per 1000g	\$20

Item	Flour
Quantity/pkt	2 kg sack
Price	\$3
Sell by date	Dec 2019

Item	Sugar
Quantity in pkt	2 kg bag
Price	\$3
Sell by date	March 2020

Item	Soya
Amount in pkt	1000 g bag
Price	\$5.46
Cost per 1000g	\$5.46
Sell by date	20 Nov 2019

Item	Rice
Quantity/pkt	5 ½kg sack
Price	440 cents
Sell by date	07 June 2029

The shop can obtain all of its goods from any of these four suppliers:

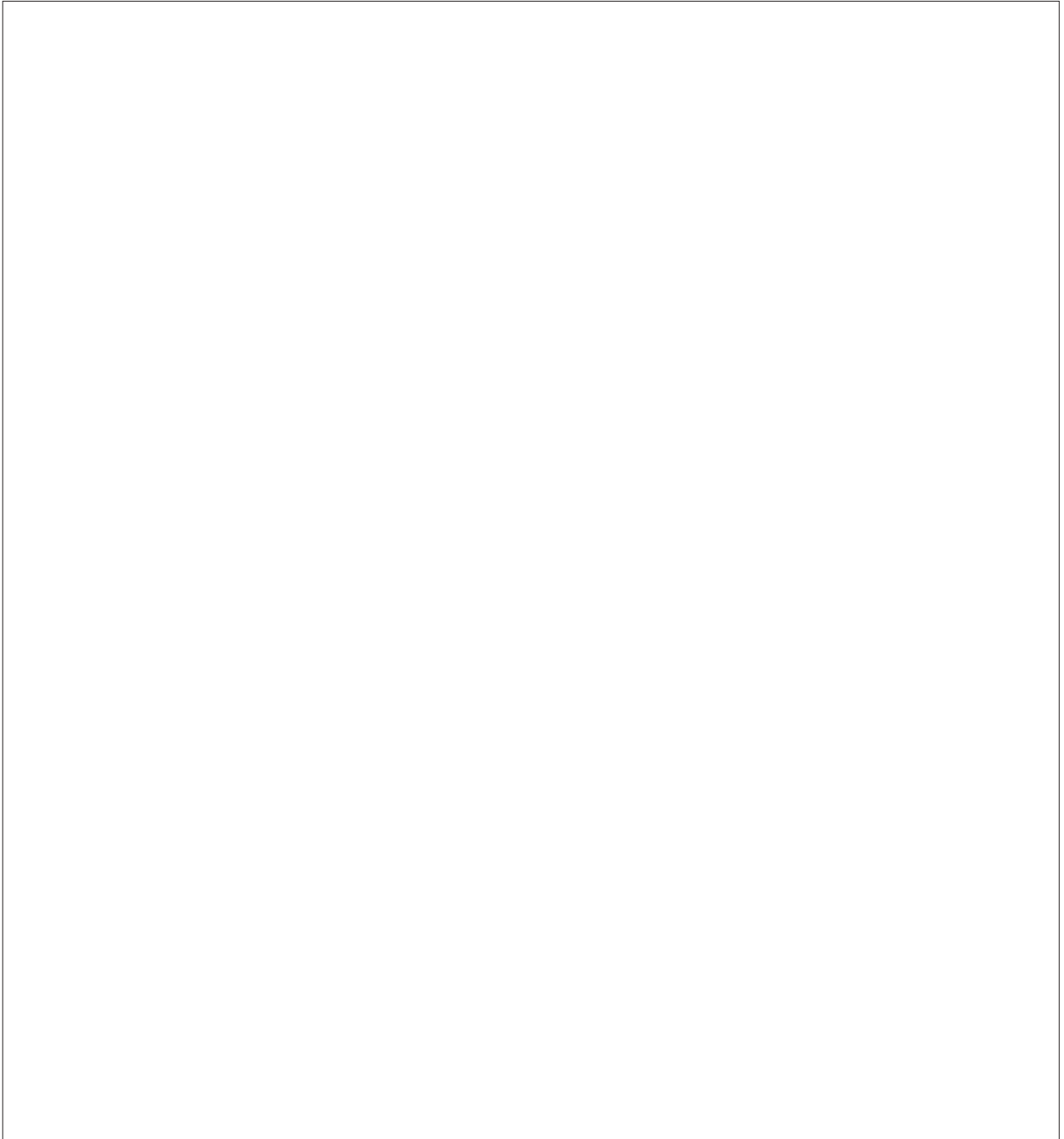
Shop Suppliers Inc
PO Box 2300
Pennsylvania Av
Washington DC
20500

Sugar Suppliers plc
Bury St Edmunds
Suffolk
IP66 7ES

General Shop
Wholesalers
2500 Newmarket Rd
Cambridge
CB6 5PE
United Kingdom

Cash & Carry Goods
65a Board View
Milford Haven
Dyfed
UK
SA85 2NX

Create a suitable data dictionary for the new relational database to store the shop's goods and supplier details.



[8]

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