

Context – B & R Engineering Ltd

James Broadfield founded Broadfield Engineering, just outside Birmingham, in 1946. In 1962, Paul Rose joined the flourishing business as a partner and it was renamed B & R Engineering. It is near to its main customers, the Midland car industry and its raw material suppliers, the steel industry, making this an ideal location.

In 1984, Paul's son, Andrew, joined the business straight from school at 16. Today, following the retirement of both James and Paul, Andrew is the Managing Director and sole shareholder of B & R Engineering Ltd at its new bigger factory also just outside Birmingham.

B & R Engineering Ltd specialises in the manufacture of machine press tools and prototype parts. Its main customers are component companies that produce components, such as gear boxes, clutches and brake assemblies, for the motor car industry nationally and internationally (see chart).

The company has increased its turnover by 40% in the last 18 months and is now planning further investment in new technology to ensure it stays competitive. It has also invested heavily in CAD/CAM, using American software which has been specially developed for its needs.

The workforce consists of

Andrew Rose – Managing Director and owner

Peter Daniels – Works Manager

Shefali Mir – Accountant/Office Manager

5 Machine Tool Makers

3 CNC Operators*

Joe Jopling – Workshop Support Technician

Mary Boyd – Receptionist/WP Operator

Andrea Kitchen – part-time Wages Clerk

Many of the machines are on an automated 24-hour cycle, so staff work shifts to oversee the machines. Early shift 6 am – 2 pm, afternoon shift 2 pm – 10 pm, night shift 10 pm – 6 am.

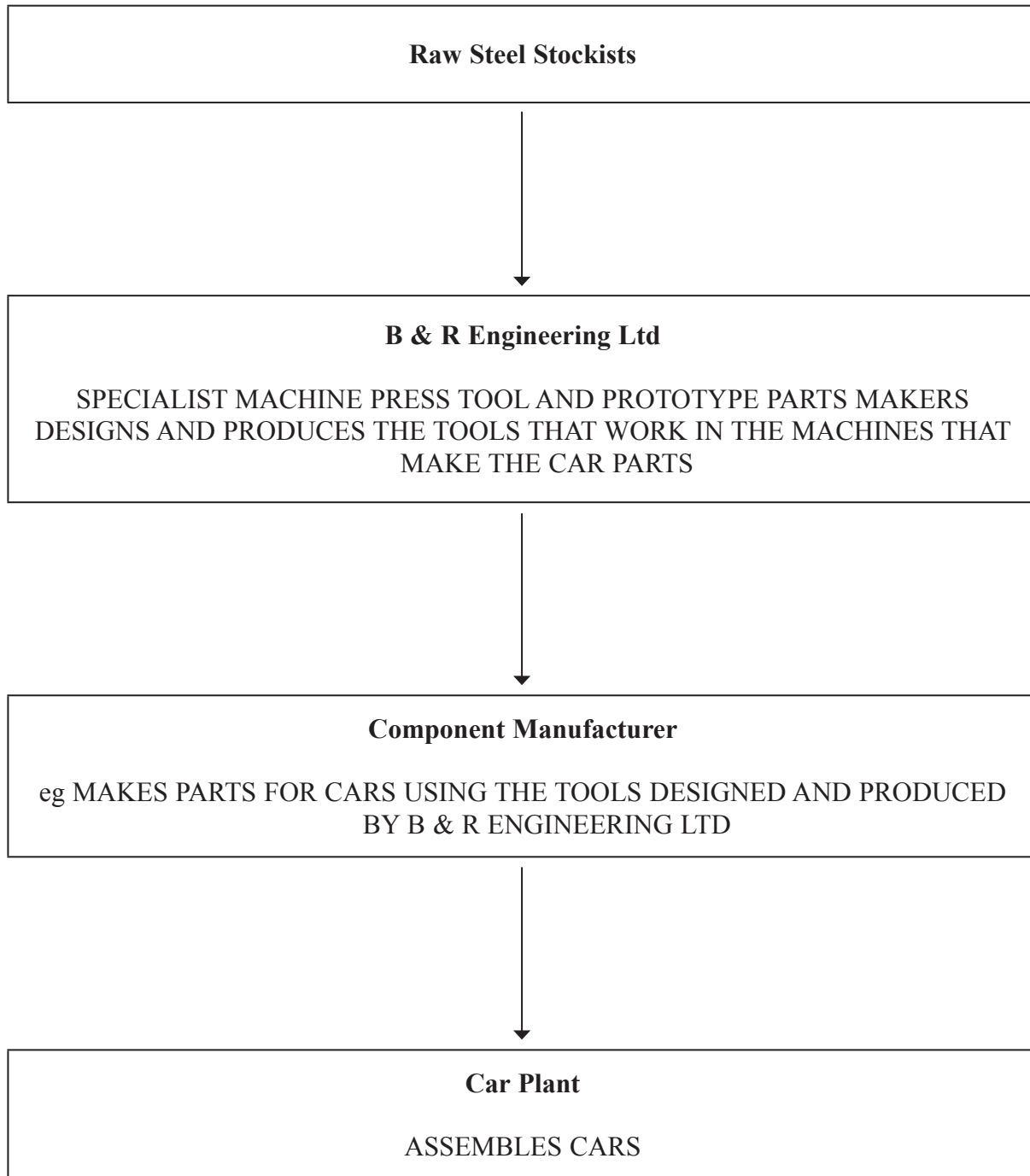
The machine tool makers and CNC operators are very highly skilled and, along with Joe Jopling, trained to use the machinery.

B & R Engineering Ltd relies heavily on electronic communication and, because the factory is potentially a dangerous environment, there are many health and safety notices around the factory.

* CNC stands for computer numerical control and refers to a computer that drives a machine tool – candidates only need to know that a CNC operator operates the computer which drives the machine tool.



The following chart shows where the business fits into the chain of production for the car manufacturing industry.



Answer ALL questions.

1. B & R Engineering Ltd has a very good Health and Safety record. Staff are regularly sent on training courses to ensure that this record is maintained. Shefali Mir, the Office Manager, keeps a database of the training courses used. The following are new training courses.

Duration	Venue	Title	Price £	Date
1 day	B & R Premises	Fire Wardens	120	2 Oct
4 days	Northampton	Managing Safely	855	12 Sept
2 hrs	B & R Premises	Fire Safety Awareness	22	27 June
4 days	Gravelly Park	Auto-Handling Basics	720	6 July
2 days	Birmingham	First Aid at Work	205	9 Nov
5 days	Coventry	Fork Lift Truck – Novice	390	9 July

- (a) (i) Using this information, create a database with the following fields in this order – **TITLE, VENUE, DURATION, DATE, PRICE £** and enter the details given above. Add the heading **TRAINING COURSES – 2009** in bold.

Print out a copy of the database, showing all fields. The copy should be clearly marked with the question number, centre number, your name and candidate number.

(7)

- (ii) The Fire Wardens’ course has changed venue to Redditch. Amend this record.

(1)

- (iii) The First Aid at Work course will now be held in Jan 2010. Delete this record.

(1)

- (b) (i) A new 1 day course which will be held in Worcester has been introduced. The title will be Emergency First Aid – Refresher, the price will be £85 and the date will be 30 Aug. Create a new record for this course.

(3)

- (ii) Carry out an ascending sort on the **TITLE** field.

Print out a copy of the database, showing all fields. The copy should be clearly marked with the question number, centre number, your name and candidate number.

(1)

- (c) Search the database for courses where the price is greater than £120.

Print out a copy showing the **TITLE, DATE** and **PRICE £** fields only. The copy should be clearly marked with the question number, centre number, your name and candidate number.

(2)

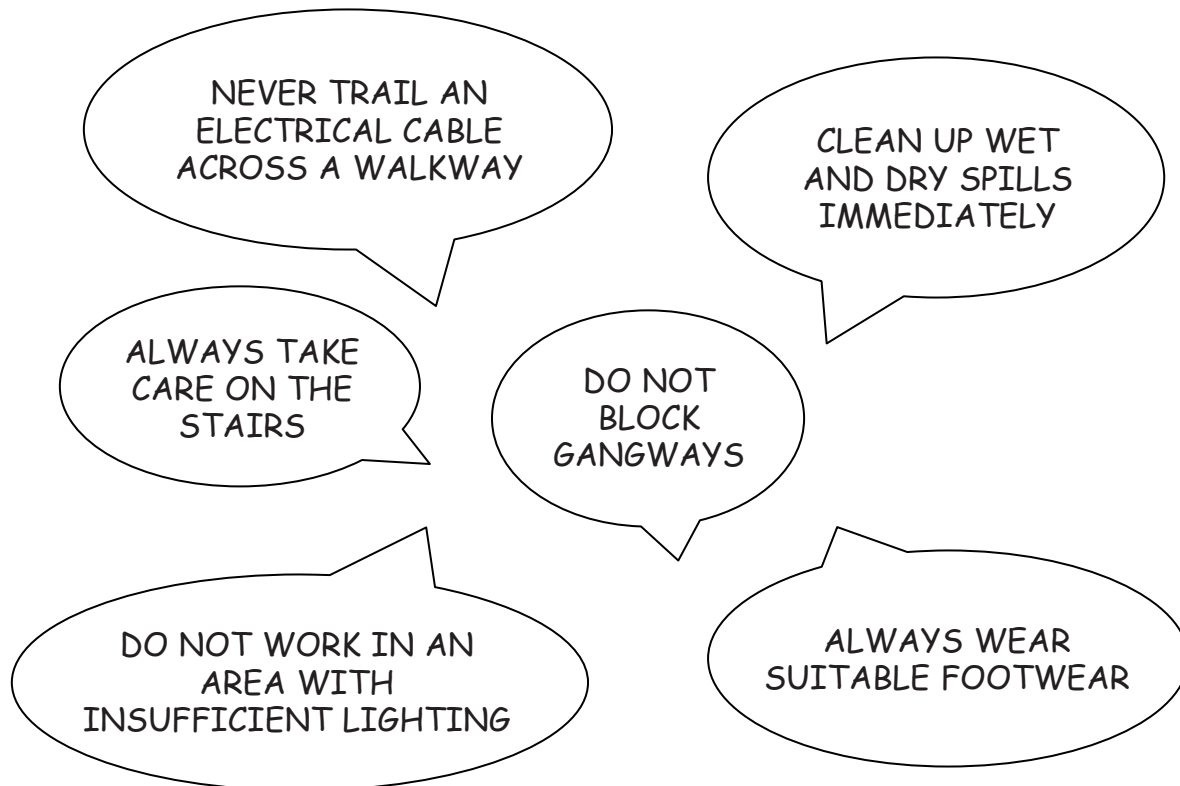
Q1

(Total 15 marks)



2. Slips, trips and falls are all hazards in the workplace. B & R Engineering Ltd intend to put up a poster to remind the workforce of the part everyone can play in the prevention of this type of accident.

The following information is to be included in the poster.



When the poster is being prepared, the following points must also be taken into account:

- poster should be eye-catching and well laid out
- each of the six items is to have a suitable graphic or a box to show the position of a graphic alongside it
- include a suitable heading which must be in a different font size and style to the rest of the poster
- poster to be surrounded by a decorative border
- include other suitable features.

Using appropriate software, create a poster to fit one side of A4 landscape paper.

Print out a copy of the poster. The copy should be clearly marked with the question number, centre number, your name and candidate number.

Q2

(Total 15 marks)



3. B & R Engineering Ltd buys steel on-line from its main supplier. The following materials are needed for an express assignment:

15 sheets of Stainless Steel Sheet 1.5 mm, size 2.50 x 1.25 m

10 rounds of Stainless Steel Round 40 mm, size 3.0 – 3.2 m

Shefali asks you to order them on-line using the following instructions:

Instructions

- insert 6 column headings in bold, STOCK NUMBER, DESCRIPTION, SIZE, QUANTITY, UNIT PRICE, TOTAL PRICE
 - right justify currency columns and format to show 2 decimal places and a £ sign
 - left justify all other columns
 - order should fit on one side of A4 paper.
- (a) (i) Load the spreadsheet file ONLINE and create the order using the instructions given above.
- (ii) Complete the order by selecting full details for the items required from the list below showing totals for each item and a final total. The customer reference number is BR27428 and the order number will be 659. The order should be dated with today's date.

STOCK NUMBER	DESCRIPTION	SIZE	UNIT PRICE
326355	Stainless Steel Sheet 1.5 mm	2.00 x 1.00 m	£86.72
742718	Stainless Steel Sheet 1.5 mm	2.50 x 1.25 m	£94.16
862961	Stainless Steel Round 4 mm	3.0 – 3.2 m	£3.20
882639	Stainless Steel Round 40 mm	3.0 – 3.2 m	£113.80
547828	Stainless Steel Round 16 mm	3.0 – 3.2 m	£27.45
425009	Stainless Steel Sheet 0.9 mm	2.50 x 1.25 m	£82.62

Print out a copy of the order. The copy should be clearly marked with the question number, centre number, your name and candidate number.

(9)



Shefali asks you to prepare a memorandum for her to send to the Works Manager informing him that the steel for the express assignment has been ordered and giving him the date it will be delivered. She tells you the delivery date will be 2 days after the date of the order.

- (b) Using appropriate software and the information above, prepare a memorandum which should be addressed to the Works Manager by his full name.

Print out a copy of the memo. The copy should be marked with the question number, centre number, your name and candidate number.

(6)

Q3

(Total 15 marks)

TOTAL FOR PAPER: 45 MARKS

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