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PROPERTIES & PERFORMANCE OF TEXTILES.

Q15 a) Technological Advances in Machinery

There have been many technological advances in machinery used in the production of textile items. A lot of these advances are in conjunction with the introduction of computers into the industry. Some examples of technologically advanced machinery are: computer linked sewing machines, computerised cutting machines, and ink-jet printers.

- Computer linked Sewing Machines - these machines are generally used for mass production items involving embroidery. These machines can embroider a multitude of mediums including beads, sequins, metallic threads etc. This increases the rate of production as embroidery that would normally take someone days, weeks to produce by hand can now be produced in minutes to hours. The designs can also be duplicated with the touch of a button.

- Computerised Cutting Machines - these cutting machines are also connected to computers. The computers automatically calculate the shortest cutting

distance for the blade to take. Multiple layers are cutt simultaneously, by being covered with plastic and having the air sucked out (~~placed~~ creating a vacuum). This saves time and so increases the production rate. ~~This also reduc~~ The cutting machine also has a guiding sensor which decreases the occurance of ~~er~~ errors. ~~This~~ This eliminates waste and also reduces the need for monitoring staff.

- Ink-Jet Printers - These are also connected to computers. Ink-jet printers produce an extremely accurate print ~~that~~ that can ~~be~~ be made without the need of constructing screens (for screen printing) or rollers (for roller printing) to test a design. Ink-jet printers can be used to make samples to discover whether a design is viable. This reduces waste and also increase rate of production. However, this method is extremely expensive and so is not viable for large amounts of products.

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Q15 b) IMPACT ON CHANGING NATURE.

The textile industry is constantly changing in nature. It used to be highly labour intensive, with high production costs, mainly due to the high labour costs.

However, as technology is advancing, the textile industry is adapting the technology for its specific uses. In general, these technological advances, reduce the need for labour, increase quality, and increase the production rate. ~~Technology~~ Technologically focused businesses in the textile industry also experience a high financial ~~outl~~ outlay for the machinery when setting up the business, but the reduced ongoing costs compensate for this large outlay.

- Reduced need for labour - as seen in the linked sewing machines and computerised cutter, there is a reduced need for labour. Embroidery can be produced in simultaneous amounts in a fraction of the time, and so ~~redu~~ reduce the need for labour for this purpose. The use of

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computerised cutters also reduce the need of labour as they can cut multiple amounts simultaneously and also require very little monitoring due to the sensor tray guide.

- Increase Quality - As technology improves, it also improves the quality it can create. As with the ink-jet printing, this added quality also comes with a price.
- Increased Production Rate - if the production rate increases, the cashflow for the business also increases. This improves the competitiveness of the business and the industry. This is shown through the linked sewing machines & computerised cutters.

The financial outlay for setting up the business is extremely large, ~~the~~ if the latest technologically advanced equipment & machinery is to be used. Ultimately, the general decrease in production costs and increase in rate of production results in

more competitive business and industry. As the industry is trying to become more competitive, the movement towards technology is the obvious result.