

**The Open University of Sri Lanka**



**Department of Textile and Apparel Technology**

**Post-Graduate Diploma in Technology / Master of Technology**

**Final Examination - 2010/2011**

**TTX7139 – Product Development**

**Duration- 3 Hours**

**Date: 10<sup>th</sup> March 2011**

**Time: 1330 - 1630 Hours**

Total number of questions = 07

**Number of questions to be answered = 05**

Marks for each question are indicated at the end of the question.

- Q1. (a)** According to BS7000, product development process is divided into four phases. What are these four (04) phases and explain the various activities included in each of these phases. (08 marks)
- (b)** Explain what you understand by “Design Driver” and its purpose in designing a new product. (04 marks)
- (c)** During designing a product, designer can be inspired by several factors. With the help of suitable examples, explain four (04) such factors. You may use the examples to describe how they could inspire the designer. (08 marks)
- Q2. (a)** Explain the importance of consumer analysis in product development process. (02 marks)
- (b)** Competitor analysis can be done in several stages. Explain these stages and discuss the advantages of doing competitor analysis. (08 marks)
- (c)** In market research, niche marketing is an important concept. Explain its involvement and disadvantages in marketing any product. Briefly describe the five (05) niche marketing strategies that can be used in market research. (10 marks)

- Q3. (a) Briefly explain five (05) main principles of fashion designing. (06 marks)
- (b) Explain the factors to be considered in the selection of colour for a particular garment design. You may give specific examples to explain your answer. (06 marks)
- (c) What do you understand by product -range (mix), -line, -style, -depth and -width in product range planning? Explain how you could apply these concepts in product range planning. You may use suitable diagrams to describe the application. (08 marks)
- Q4. (a) What do you understand by the following elements of production costs? (06 marks)
- (i) Fixed costs      (ii) Variable costs      (iii) Overhead costs      (iv) Disposal costs
- (b) A garment retailer has fixed costs amounting to Rs. 360,000/= per annum and he has to pay Rs. 150,000/= for his sales assistants per month as fixed salaries. He purchases 10,000 items of stock at Rs. 220.00 (excluding VAT) a piece.
- (i) Calculate the minimum price (excluding VAT) that must be charged by the retailer to cover the costs, assuming that he sells all the garments within a month. (04 marks)
- (ii) If the retailer decides to charge Rs. 280.00 (including 12% of VAT) per item, what is the number of garments he should sell to break-even? (04 marks)
- (iii) If he sells the entire stock of 10,000 garments, at Rs. 280.00 (including 12% of VAT) how much profit would he make? (03 marks)
- (iii) If the variable cost per garment increases by 20%, what is the break-even point in sale price. (03 marks)
- Q5. (a) What is the difference between cost and price of a product? Explain the concept of "Elasticity of Demand". (04 marks)
- (b) Give two (02) external and internal factors each that can influence pricing of a product and explain how each of them influence the pricing a product. (08 marks)
- (c) Companies use various pricing strategies. Explain any four (04) of them. (08 marks)

- Q6. (a)** What do you understand by the term “Brand Equity”? Explain three (03) perspectives, from which to view the brand equity of a product. (06 marks)
- (b)** “Brand positioning is not what you do to a product, but it is what you do to the mind of the prospects”. Explain this statement with suitable examples. (08 marks)
- (c)** Explain any three (03) areas related to apparel manufacture in which “Green Concept” could be used. (06 marks)
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- Q7. (a)** Explain three (03) types of wastes identified in application of lean manufacturing, and state how would these wastes influence the productivity of a garment factory. Explain the ways of minimizing these wastes in the factory. (08 marks)
- (b)** Even though lean manufacturing is a generic management philosophy derived mainly from Toyota Production System (TPS), there are certain differences between them. Explain three (03) of these differences. (06 marks)
- (c)** Explain any three (03) distinctions between Quick Response Manufacturing (QRM) and Lean Manufacturing concepts. (06 marks)