TXL 777   PRODUCT DESIGN DEVELOPMENT

MAJOR TEST

Full Marks : 40

Date : 22.03 2016

Answer all questions.

Q.1 What are requirements of architectural fabric used as roof cover? Give reason for each
requirement.   (8)

Q.2.   A worker is involved in the maintenance work in a textile mill. An uniform has to be designed
for him.   Based on the requirement develop a Need - metrics matrix for the uniform.
                                                                                                                (8)

Q.3.   A nonwoven polypropylene fabric has to be designed. It has to hold 10g of water /g of fabric.
The polypropylene fibre density is 0.90 g/cm³. If the fabric GSM is fixed at 100, what will be the
thickness of the nonwoven fabric?
                                                                                                                (8)

Q.4. A sleeping bag has to be made whose thermal insulation is 1.5 Clo. While sleeping only face has to
remain open which is 6% of the total body surface area. What would be thickness of the sleeping bag?
Which fibres are preferred in sleeping bag and why?
                                                                                                                (8)

Q.5. Trousers are returned from various stores to the manufacturer. The customer complain is
bagginess of the fabric near the knee area. What can be done to tackle this problem?

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