

BOARD OF STUDIES
NEW SOUTH WALES

HIGHER SCHOOL CERTIFICATE EXAMINATION

1999

TEXTILES AND DESIGN

3 UNIT (ADDITIONAL)

*Time allowed—One hour and a half
(Plus 5 minutes reading time)*

Directions to Candidates

- Attempt TWO questions, ONE from each Section.
- All questions are of equal value.
- Answer each question in a SEPARATE Writing Booklet.
- Pages 10 and 11 contain outlines, which may be used as a guide when answering questions. Do NOT hand in these sheets with the Writing Booklets.
- You may ask for extra Writing Booklets if you need them.

SECTION I—SCIENCE AND TECHNOLOGY

Attempt ONE question.

QUESTION 1 Fibre Structure

EITHER

- (a) To fully appreciate the properties of fibres, a thorough knowledge of their molecular and morphological structures is required.
- (i) Describe the methods used to investigate the molecular and morphological structures of fibres.
 - (ii) Compare and contrast the differences in the morphological and molecular structures of ONE natural, ONE regenerated and ONE synthetic fibre.
 - (iii) Select an appropriate textile end use for EACH of the fibres discussed in part (ii). Justify your choices.

OR

- (b) The morphological and molecular structures of fibres influence their properties.
- (i) Explain in detail how molecular structure can influence the properties of wool and silk fibres.
 - (ii) Compare the morphological structure of flax and wool fibres. Outline the effect of the structure on each fibre's properties.
 - (iii) Describe the molecular and morphological changes that result from the mercerisation of cotton fibres.

QUESTION 2 Colour

EITHER

- (a) Demonstrate your understanding of colour by explaining ALL of the following, using specific examples and diagrams where appropriate:
- spectral distribution curves
 - colour specification
 - metamerism.

OR

- (b) Many department stores displaying white or pastel-coloured textile products are lit with floodlights, spotlights or fluorescent lighting.
- (i) With reference to spectral distribution curves, explain why certain colours vary under different illuminants.
 - (ii) Explain the advantage of displaying white and pastel-coloured textile products under floodlights, spotlights or fluorescent lighting as opposed to incandescent lighting.
 - (iii) Outline how technological developments in colour measurement may overcome the problems of colour perception and identification.

QUESTION 3 Technological Developments

EITHER

- (a) New uses of textiles continue to evolve from innovations in materials and processing in order to meet the changing needs of society.

Discuss this statement with reference to non-apparel uses of textiles in THREE of the following:

- drainage and filtration
- protection in the workplace
- medical applications
- transportation
- sport and leisure
- protection from environmental conditions.

OR

- (b) (i) Describe in detail the methods of production of EACH of the following technological developments:
- bi-component fibres
 - open-end spinning
 - computerised jacquard knitting
 - spun-bonded nonwovens.
- (ii) Select TWO of the above methods of production and discuss their advantages with respect to productivity and end uses.

SECTION II—DESIGN

Attempt ONE question.

QUESTION 4 History of Clothing Design

EITHER

- (a) Clothing designs have been greatly influenced by technological developments and economic patterns.

Discuss this statement with reference to the development of clothing design in different cultures.

OR

- (b) In 1999, the 'Year of the Older Person', we are celebrating with those who have seen many changes throughout the twentieth century.
- (i) Select a decade of fashion from the twentieth century and describe the distinctive fashion trends. Sketch and label an outfit that is indicative of this decade.
 - (ii) Design, sketch and label a complete outfit for someone who is to attend a gala ball to celebrate the 'Year of the Older Person', that is clearly inspired by the decade described in part (i).
 - (iii) Justify your design in terms of its suitability for the occasion and its reflection of the decade described in part (i).

QUESTION 5 Theatrical design

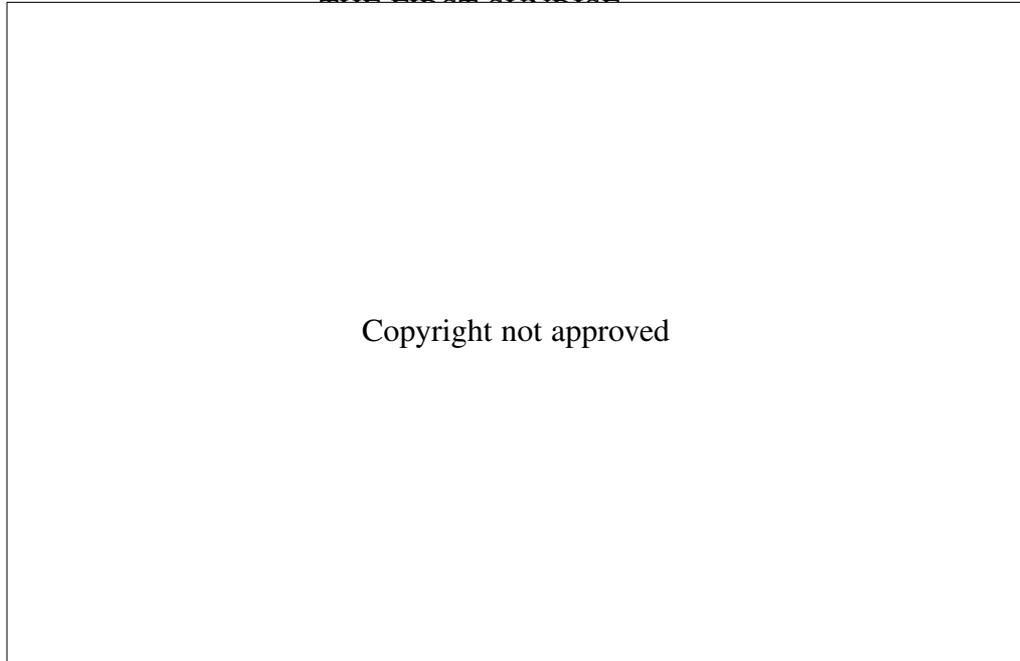
EITHER

- (a) You have been approached by a theatre company to produce the costumes for a performance titled 'The Millennium Bug'. This comic review focuses on the possible chaos that might occur in the year 2000 when computers may shut down in a society dependent on this technology.
- (i) Design and sketch the costume to be worn by EACH of the two main characters, a hero and a villain (front and back views).
 - (ii) Explain how the costumes reflect the theme, the 'Millennium Bug', and the characteristics of a villain and a hero.
 - (iii) Describe the functional and aesthetic requirements of the costumes.
 - (iv) Design the stage set and TWO props to be used.
 - (v) Explain how the stage set and props will enhance the performance.

OR

QUESTION 5 (Continued)

- (b) A group of Aboriginal dancers is asked to visit local schools to educate students about the Dreamtime. Use the extract below as an inspiration for the design of a costume for a modern dance.



- (i) Design and sketch a costume to be worn by the lead dancer (front and back view).
- (ii) Explain how the design features of the costume reflect the nature of the character and why it is suitable for a dance production.
- (iii) Discuss how the costume conveys the images portrayed in this extract.
- (iv) Describe the fabrics, trims and surface decorations used in your design.
- (v) List the steps involved in the construction of this dance costume.
- (vi) Discuss how lighting and colour will be used to enhance the mood of the performance.

QUESTION 6 Fabric Design

EITHER

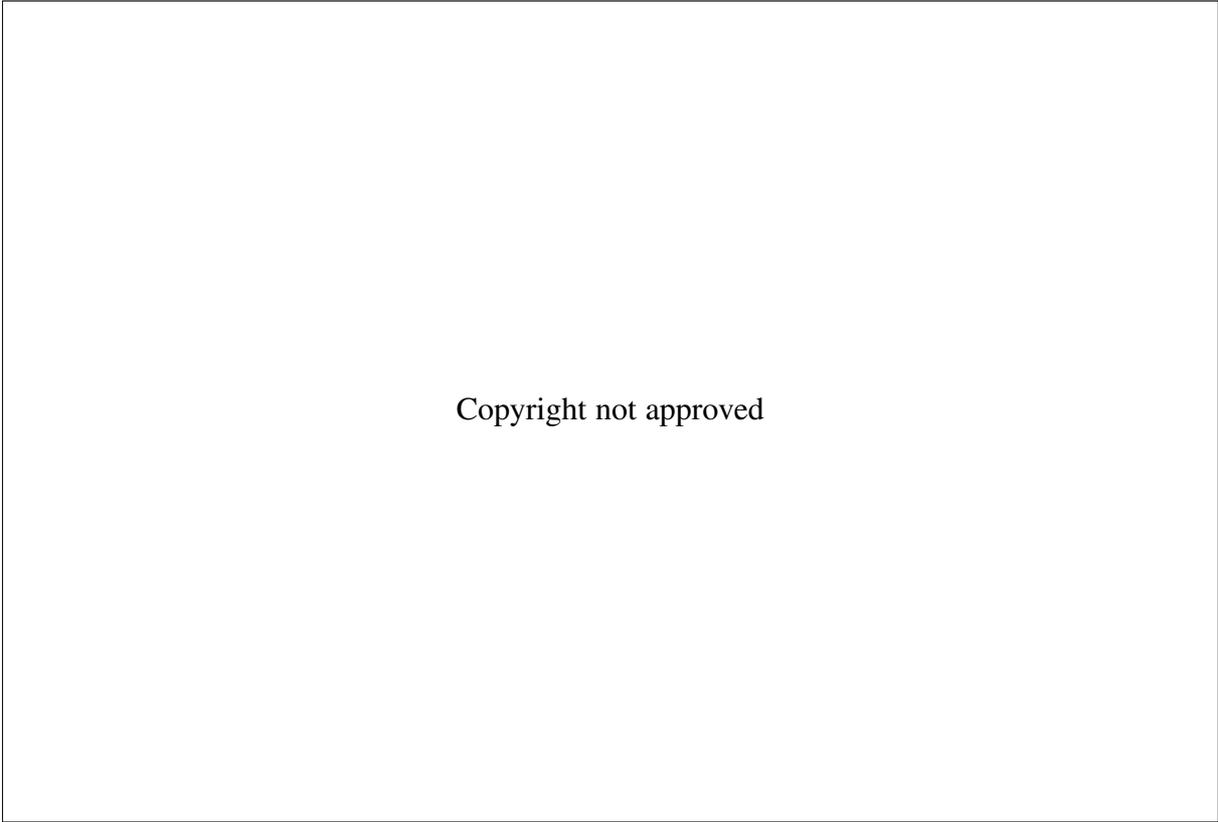
- (a) In a time when animal conservation is valued, the beauty of the animal kingdom could be represented in textiles by techniques that imitate the shapes and textures of nature.

You have been commissioned to design fabric to be used for a child's backpack.

- (i) Using one or more of the photographic plates on page 9, sketch a fabric design for the backpack.
- (ii) Sketch and label a detailed section of your design, indicating design features, fabrics, techniques, colours and textures.
- (iii) Show the placement of this design by sketching the design on the completed backpack.
- (iv) Describe in detail TWO techniques indicated in part (ii) to produce the decorative effect.
- (v) Modify your design to create a design suitable for a child's umbrella. Sketch and fully label your design.

OR

- (b) Design a unique coordinated range of furnishing fabrics for an exclusive holiday resort in a natural rainforest location.
- (i) Outline the points you would consider in producing a suitable design for the fabric.
 - (ii) Sketch your design and indicate its placement on THREE interior textile items for the foyer.
 - (iii) Describe TWO possible techniques by which the design might be applied to, or incorporated into, ONE interior textile item for the foyer.
 - (iv) Explain how ONE of the techniques described in part (iii) may be adapted for mass production. Justify your choice.



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PLATE 1

PLATE 2



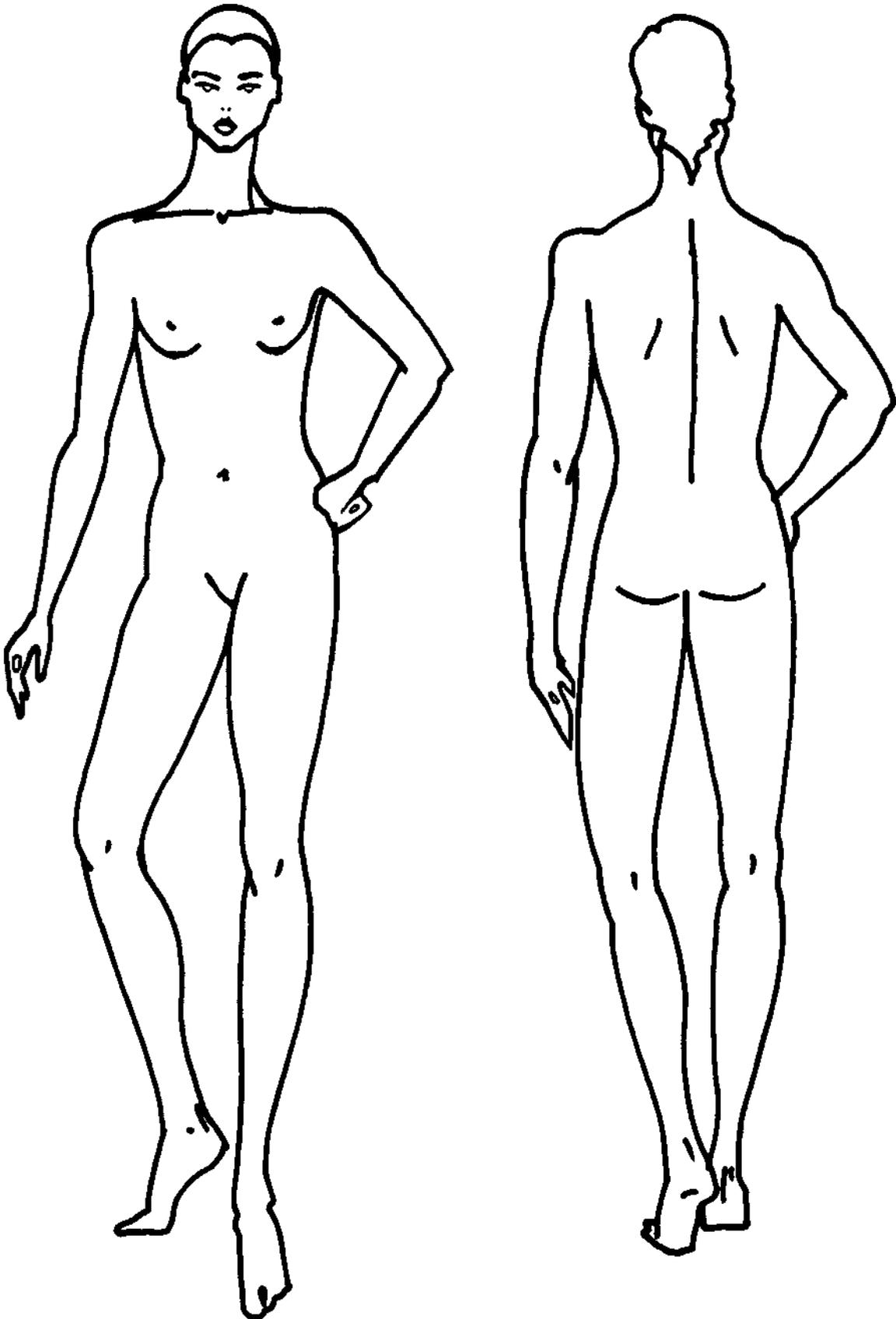
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PLATE 3

PLATE 4

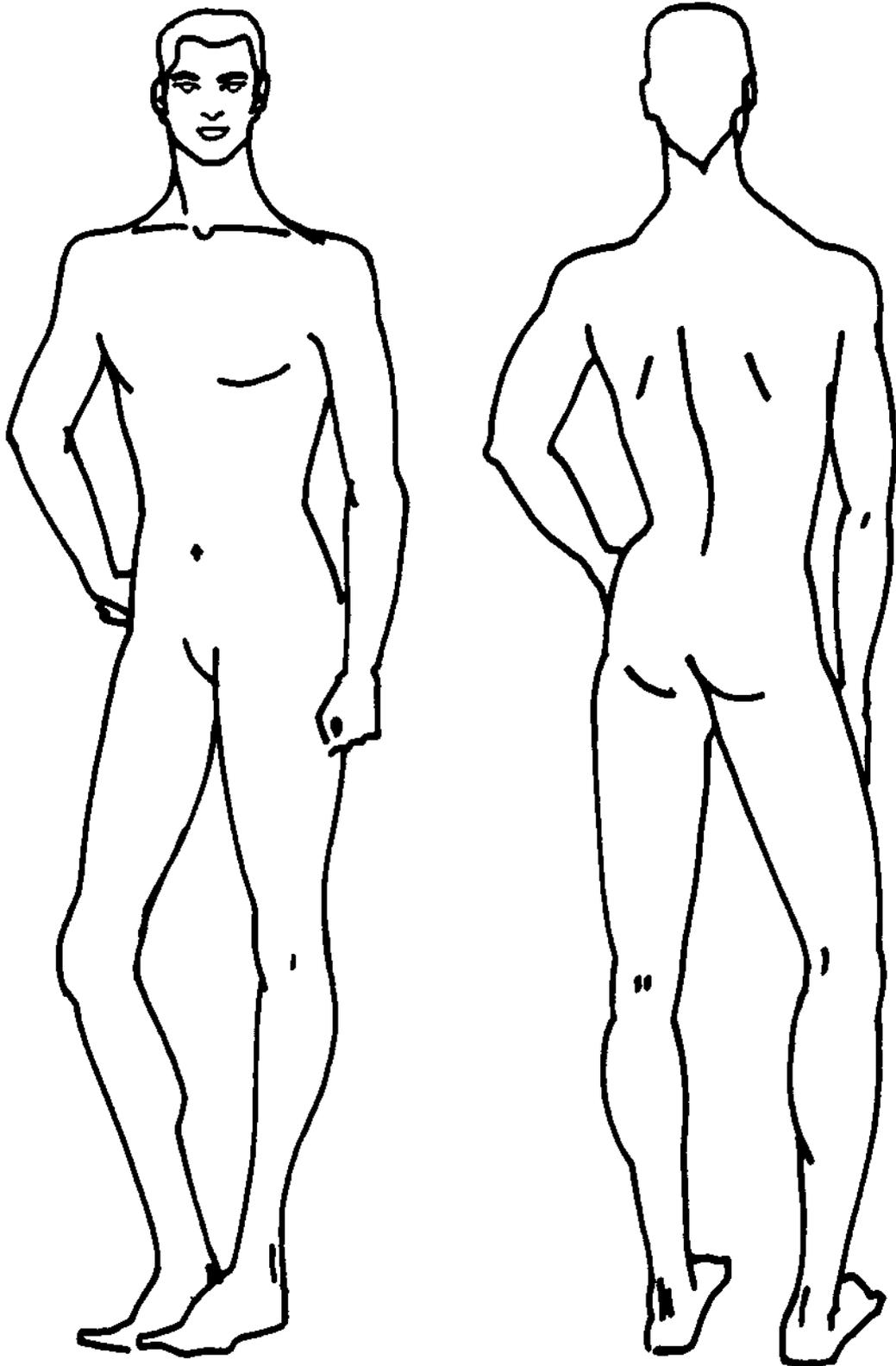
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