



**DESIGN TECHNOLOGY  
STANDARD LEVEL  
PAPER 1**

Tuesday 11 November 2008 (afternoon)

45 minutes

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**INSTRUCTIONS TO CANDIDATES**

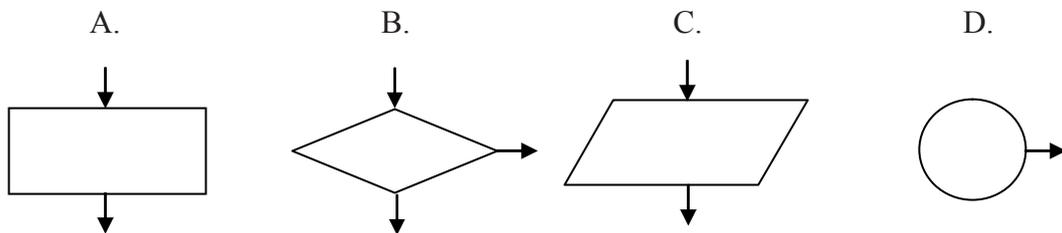
- Do not open this examination paper until instructed to do so.
- Answer all the questions.
- For each question, choose the answer you consider to be the best and indicate your choice on the answer sheet provided.

1. What is the starting point for the design of a new product?
  - A. The specification
  - B. Research
  - C. The brief
  - D. Generating ideas
  
2. What describes the impact of small changes to products that prove significant over time?
  - A. Convergent thinking
  - B. Radical design
  - C. Constructive discontent
  - D. Incremental design
  
3. When is convergent thinking used in the simple design cycle?
  - I. Generating ideas
  - II. Analyzing
  - III. Evaluating
  - A. I only
  - B. II only
  - C. I and II only
  - D. I and III only

4. Which drawing method is most commonly used in the early stages of developing ideas?
- A. Perspective drawing
  - B. Freehand drawing
  - C. Isometric drawing
  - D. Orthographic drawing

5. Why are orthographic drawings used in the design process?
- A. To show the inside of a design
  - B. To represent reality
  - C. To communicate details and dimensions of a design to a manufacturer
  - D. To show a design in three dimensions

6. Which of the following represents a decision stage within a flow chart?



7. What are the advantages to the designer of using computer-aided-design (CAD)?
- I. Affordability of the programme
  - II. Little staff training required
  - III. Ability to link with other aspects of ICT
  - IV. Reduced requirement for physical data storage
- A. I and II only
- B. I and III only
- C. II and III only
- D. III and IV only
8. What is the application of scientific information concerning the relationship of human beings to the design of objects, systems and the environment?
- A. Ergonomics
- B. Anthropometrics
- C. Ergonome
- D. Percentile range
9. What prevents the manufacturers of fashion clothing making clothes for very small and very large sizes?
- A. The complexity of the product
- B. The limitations of the machinery
- C. The size of the market
- D. The cost of materials

10. The body of the disposable razor is a combination of green and black thermoplastic. Which factor would be the most influential in deciding upon the colours to be used?



[Source: made-in-china.com]

- A. Aesthetics
  - B. Materials
  - C. Safety
  - D. Construction
11. How does ICT aid in a literature search?
- I. Easier access to information
  - II. Instant response to any e-mails
  - III. Reduced need for travel
  - IV. Access to reliable information
- A. I and II only
  - B. I and III only
  - C. II and III only
  - D. II and IV only

**12.** What is true of planned obsolescence?

- I. Reduced research costs
- II. Reduced requirement for research
- III. More competition
- IV. More innovation

- A. I and III only
- B. I and II only
- C. II and IV only
- D. III and IV only

**13.** Synthetics are a sub-group of which material group?

- A. Composites
- B. Textiles
- C. Food
- D. Plastics

**14.** Which property would ensure that door hinges are able to withstand the wear and tear of the door being opened and closed?

- A. Hardness
- B. Stiffness
- C. Tensile strength
- D. Toughness

15. Which material group is characterised by very low thermal conductivity?
- A. Ceramics
  - B. Textiles
  - C. Timber
  - D. Food
16. Which manufacturing process is casting an example of?
- A. Shaping
  - B. Extruding
  - C. Joining
  - D. Wasting
17. What is a joining process?
- A. Weaving
  - B. Cutting
  - C. Machining
  - D. Stitching

18. What is true of lamination?



[Source: [www.somersetarchitect.co.uk](http://www.somersetarchitect.co.uk)]

- A. Complex shapes can be produced.
- B. Any adhesive can be used.
- C. It is easily automated.
- D. A mould is not often required.

19. What are advantages of extrusion?

- I. No limitation to the size of the profile
  - II. No finishing is required
  - III. Ability to produce hollow shapes
  - IV. Able to produce highly detailed surface finishes
- A. I and II only
  - B. I and III only
  - C. II and III only
  - D. III and IV only

20. Which term describes the introduction, growth, maturity and decline of an item of clothing?
- A. Product life cycle
  - B. Manufacturing cycle
  - C. Design cycle
  - D. Life cycle analysis
21. The production of a mould for an injection-moulding machine is an example of
- A. one-off production.
  - B. mass production.
  - C. volume production.
  - D. batch production.
22. Which sources of power led to the introduction of mechanization during the Industrial Revolution?
- I. Water
  - II. Wind
  - III. Steam
- A. I only
  - B. I and II only
  - C. I, II and III
  - D. I and III only

23. Automated Guided Vehicles are coordinated with other aspects of the manufacturing system to ensure
- A. the automation of the process.
  - B. the cost of manufacturing is reduced.
  - C. efficiency in moving components within the factory.
  - D. that the product is of a high quality.
24. Which costs are variable costs in the manufacture of a product?
- I. Materials
  - II. Machinery
  - III. Distribution
- A. I only
  - B. I and II only
  - C. I and III only
  - D. II and III only

25. What is **not** an example of damage to the natural environment caused by the use of technology?
- A. Climate change
  - B. Deforestation
  - C. Acid rain
  - D. Ozone depletion
26. Green design is the term used to describe
- A. consideration of the impact a product has on the environment.
  - B. a product made from recycled materials.
  - C. a product which may be used again and again.
  - D. the use of biodegradable materials.
27. What is **not** a standard label for the labelling on the plastic of a product?
- A. PP
  - B. LDPE
  - C. PS
  - D. PNE

28. The re-sharpening of a blade on a lawnmower would be defined as

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- A. repair.
- B. reconditioning.
- C. reuse.
- D. recycle.

29. Which are formal stages within a life cycle analysis?

- I. Pre-production
  - II. Manufacturing
  - III. Utilization
  - IV. Evaluation
- A. I and II only
  - B. I and III only
  - C. II and III only
  - D. III and IV only

30. Take-back legislation applies to

- I. consumers.
  - II. manufacturers.
  - III. designers.
- A. I only
  - B. I and II only
  - C. II only
  - D. III only