Technology Olympiad GRADE 7

DATE: 26 AUGUST 2026

TIME: 90 MINUTES

INSTRUCTIONS:

1. This booklet has 40 questions.
2. Use the answer sheet provided. Circle the letter corresponding to your answer.
3. All working details must be done in the space provided.
4. Calculators are permitted.
5. Diagrams are not necessarily drawn to scale.
6. The first 30 questions (Section A) carry 1 mark each and the last 10 questions (Section B) carry 2 marks each.
7. You have 90 minutes for the paper which works out to an average of 2.25 minutes per question.
8. Read the questions carefully before answering.
9. Visit the website: www.saolympiads.co.za.

Grade Seven Technology Olympiad 2026

SECTION A

Indicate the most correct answer by indicating the correct letter on the answer sheet provided.

1. Which of the following is NOT a purpose of graphics?
   A. To develop ideas
   B. To communicate ideas and design so that other people will understand it more clearly
   C. To communicate across language barriers
   D. To showcase talent so that a person becomes well known. (1)

2. Rules for drawings are known as 'drawing conventions'. The following list is an example of conventions.
   A. Scale, dimension lines, hidden lines, construction lines.
   B. Construction lines, outlines, scale, hidden lines.
   C. Outlines, construction lines, hidden lines, dimension lines.
   D. Scale, outlines, hidden lines, dimension lines. (1)

3. When a drawing is twice the size of the actual object, it is drawn to a scale of ___ .
   A. (2:1)
   B. (1:2)
   C. (1:1)
   D. (2:2) (1)

4. What are the five steps in the technology design process?
   A. Make, design, investigate, evaluate, communicate
   B. Investigate, design, make, evaluate, communicate
   C. Evaluate, make, design, communicate
   D. Investigate, communicate, design, make. (1)

5. What is a design brief?
   A. An organised, detailed description of the requirements that a solution or product must meet.
   B. A short and clear statement that outlines the problem and the purpose of the proposed solutions.
   C. Creating a physical representation of the product.
   D. The plan, sketch, model or drawing that outlines or shows the intentions of the proposed solution.

   (1)

6. Which of the following lists contains only examples of frame structures?
   A. A cell phone tower, a bird cage, skeleton.
   B. Mountains, concrete dams, pyramids.
   C. Domes, silos, boat hulls.
   D. Match box, tree stump, brick. (1)

7. The four main forces acting on structures are:
   A. Compression, gravity, wind, tension.
   B. Earthquake, wind, torsion, shear.
   C. Compression, tension, torsion, shear.
   D. Shear, torsion, gravity, wind. (1)

8. The following can be used to stiffen materials or structures to make them stronger.
   A. Tubing, frames, triangulation.
   B. Folding, tubing, frames.
   C. Frames, tubing, triangulation.
   D. Tubing, triangulation, folding. (1)

9. Structures can be classified as___ and ___ .
   A. Natural and man-made.
   B. Modern and Natural.
   C. Artificial and man-made.
   D. Natural and primitive. (1)

10. Which of the following lists contains the correct purposes of structures?
    A. To contain, to protect, to spin, to stay.
    B. To protect, to stay, to span, to contain.
    C. To contain, to protect, to support, to span.
    D. To stay, to contain, to span, to support. (1)

11. Which simple mechanism is described as follows: Fulcrum or pivot is placed between effort and load?
    A. Third class lever
    B. First class lever
    C. Second class lever
    D. Linkages (1)

12. Which simple mechanism does not give a mechanical advantage?
    A. Third class mechanisms
    B. Second class mechanisms
    C. First class mechanisms
    D. Linkages (1)

13. In graphic communication, conventions are used. Outlines are shown by which type of lines?
    A. Scale
    B. Thick/dark
    C. Thin/faint
    D. Dimensioning (1)

14. Hidden details are shown by which type of lines?
    A. Outlines
    B. Construction lines
    C. Dashed lines
    D. Dimension lines (1)

15. The 3D oblique front view has a depth at __ .
    A. 35°
    B. 65°
    C. 50°
    D. 45° (1)

16. Towers are designed so that they are ___, ___, and ___.
    A. Stable, strong, rigid
    B. Rigid, unstable, flexible
    C. Strong, stable, weak
    D. Flexible, rigid, stable (1)

17. The ability to attract iron is called ___?
    A. Magnetic
    B. Repulsion
    C. Magnetism
    D. Gravity (1)

18. Bar and horseshoe are examples of ___.
    A. Metals
    B. Magnetic field
    C. Magnets
    D. Non-metals (1)

19. Ferrous metals are metals that contain ___.
    A. Aluminium
    B. Iron
    C. Copper
    D. Steel (1)

20. To use something over and over again means ___.
    A. Reduce
    B. Reuse
    C. Remanufacturing
    D. Recycling (1)

21. We can protect Iron and steel by electroplating with tin or galvanising with zinc because…
    A. Tin and Zinc are less expensive.
    B. Tin and zinc are attractive.
    C. Tin and zinc attract oxygen.
    D. Tin and zinc don't rust. (1)

22. The following materials can be recycled.
    A. Plastic, cardboard, polystyrene.
    B. Plastic, polystyrene, paper.
    C. Metal, plastic, cardboard.
    D. Metal, coal, plastic. (1)

23. Which of the following is an example of a long-lived natural disaster?
    A. Floods
    B. Drought
    C. Fire
    D. War (1)

24. A material that resists the flow of heat or electricity is called ___?
    A. A conductor
    B. A resistor
    C. A transistor
    D. An insulator (1)

25. Lodestones are:
    A. Temporary magnets.
    B. A space that stores heat energy.
    C. Naturally occurring permanent magnets.
    D. Heavy stones. (1)

26. Which component or device makes use of an electromagnet?
    A. A fluorescent light.
    B. A computer hard drive.
    C. A switch.
    D. A resistor. (1)

27. Below are examples of materials used for waterproofing clothing.
    A. Rubber, PVC or wax.
    B. PVC, wax, paper.
    C. Rubber, paper, PVC.
    D. Wax, PVC, paper. (1)

28. The following are three possible reasons why people became refugees.
    A. Poverty, xenophobia, civil unrest.
    B. Job seeking, poverty, civil unrest.
    C. Poverty, job seeking, xenophobia.
    D. Xenophobia, job seeking, civil unrest. (1)

29. Waterproof jackets and life jackets are garments worn by which professionals?
    A. Firefighters
    B. Construction workers
    C. Sea rescue workers
    D. Sportsmen and women (1)

30. Using natural products and energy in a way that does not harm the environment is called___.
    A. Recycling
    B. Reducing
    C. Repurposing
    D. Sustainability (1)

SECTION B

Write your answer in the space provided.

31. Write the abbreviation of the five design processes. ---------- (2)

32. In a hydraulic system, the force is transferred from ----------
cylinder to slave cylinder. (2)

33. What does 'thermal barrier' mean? ---------- (2)

34. Which planet is referred to as a 'Blue Planet'? ---------- (2)

35. Name an electrical component that controls the flow of current. ---------- (2)

36. Name any one cellular network in South Africa. ---------- (2)

37. The main food eaten by a population is called ---------- (2)

38. What is the standard measurement unit used in graphic design/drawing? ---------- (2)

39. ---------- is someone who flees from danger in his or her country. (2)

40. What is the boiling point of water? (2)

TOTAL MARKS = 50