E-mail: Info@saolympiads.co.za website : www.saolympiads.co.za

GRADE 7

Coding and Robotics

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A. Paper structure for the olympiad

Multiple Choice questions, true or false and computational questions.

B. How does it align with the curriculum?

CAPS topics include:

- Internet and E-Communications
- Application Skills
- Algorithms and Coding
- Robotics

C. How it goes beyond?

The olympiad includes some general knowledge questions based on the practical implementation of programming and robots in everyday life.

D. Sample questions

There are three types of questions, they are namely multiple choice, true or false questions and computational type questions.

1. Multiple Choice Questions

1. Actuators of a robot are used to. (1)

    A. To physically move the robot's components.
    B. They convert energy into motion.
    C. To enhance the physical appearance of the robot.
    D. To assist in decision making tasks.

2. What is the primary function of a PID controller in robotics? (1)

A. To power the robot's actuators.
B. To process sensory input from the environment.
C. To regulate the speed and position of the robot's motors.
D. To control the communication between different robot's components.

3. Which of the following sensors is commonly used in robotics for detecting lines on the ground or surfaces? (1)

A. Infrared sensor
B. Ultrasonic sensor
C. Colour sensor
D. Gyroscope

2. True or false questions

1. Robots can only be used in manufacturing. (1)
   A. True
   B. False

2. Robots can be programmed to learn new skills. (1)
   A. True
   B. False

3. Robots can be designed to look like humans. (1)
   A. True
   B. False

3. Computational questions

when green flag clicked	move (10) steps
forever	wait until <touching edge?>
turn cw (180) degrees	

1. Using the lines above. Write a code to make a ball bounce up and down.(4)

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