

**STAR OLYMPIAD FOUNDATION**  
INTERNATIONAL SCIENCE OLYMPIAD- CLASS X  
Sample Paper 2023-2024

MATHS

1. There are 19 hockey players in a club. On a particular day 14 were wearing the prescribed hockey shirts, while 11 were wearing the prescribed hockey pants. None of them was without hockey pant or hockey shirt. How many of them were in complete hockey uniform ?

- (A) 8  
(C) 9

- (B) 6  
(D) 7

2. If the HCF of 210 and 55 is expressible in the form  $210 \times 5 + 55y$ , then find  $y$ .

- (A) 5  
(C) 14

- (B) -15  
(D) -19

SCIENCE

1. If 100 J of energy is available at the producer level, calculate the amount of energy available to ZZ in the following food chain.  $XX \rightarrow YY \rightarrow XY \rightarrow YX \rightarrow ZZ$

- (A) 0.1 J  
(C) 10 J

- (B) 0.01 J  
(D) 10000 J

2. Which of the following statements is true with respect to diamond ?

- (A) The carbon atoms are connected to each other by metallic bonds.  
(B) In the diamond crystal, the carbon atoms are very loosely packed.  
(C) Each carbon atom in the crystal is surrounded by four other carbon atoms forming a rigid 3-D structure.  
(D) Diamond can be synthesised by subjecting pure carbon to very low pressure and temperature.

3. The genotype for the height of an organism is Tt. What conclusion may be drawn from this?

- (A) The allele for height has at least two different genes.  
(B) There are at least two different alleles for the gene for height.  
(C) There are two different genes for height, each having a single allele.  
(D) There is one allele for height with two different forms.