

Examrace

National Standard Examination in Astronomy (NSEA) Solved Paper 2016 Part-2

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Q: 4. If $i = \sqrt{-1}$ then i^{2i} is a

- (A) Purely imaginary number
- (B) Natural number
- (C) Real number
- (D) Complex with non-zero real and imaginary parts

Answer: (C)

Q: 5. A steel ball is dropped from a height of 1 m on to a hard non-conduction surface. Every time it bounces it reaches 80 % of its previous height. All the losses in the energy are accounted only for increasing the temperature. Nearly how much is the rise in temperature of the ball just after the third bounce? $\left(g + 10 \frac{m}{s^2}\right)$, specific heat capacity of material of the ball = $500 J/(kg \cdot K)$

- (A) 0.005 °C
- (B) 0.01 °C
- (C) 0.015 °C
- (D) 0.02 °C

Answer: (B)

Q: 6. In a track event, a circumcircle and an incircle were drawn for a triangle having sides 50 m, 120 m and 130 m respectively, Ram and Sham were asked to walk on the in circle and the circumcircle respectively. They started walking with same speed in the same direction (sense of rotation) from a point where they were closest. After how many rounds each, will they be closest again?

- (A) Ram 4 and Sham 13
- (B) Ram 13 and Sham 4
- (C) Ram 5 and Sham 15

(D) Ram 5 and Sham 12

Answer: (B)

For detailed explanations and answers visit - [NSEA Answers with detailed explanations](#)

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