

## Latest Soliton Technologies Written Placement Test Questions

### Section 1:

**Q1.** Consider a boy standing on a building that is 500 m height and another boy standing on the ground. If the boy on the ground throws a ball to the boy standing on the building, with what vertical velocity must the ball be thrown such that it reaches the boy standing on the building. Neglect the height of the boys.

**Q2.** A vampire enters a town and bites 2 persons every night. The bitten 2 persons grows in to two big vampires and bites 4 persons the next night. These 4 vampires bites 6 people the next night and the 6 bites 8 and so on.....how many vampires will be there on the 5th night?

**Q3.** There are numbers from 1 to  $n$ , which are inverted such that it results in numbers from  $n$  to 1. If only two consecutive numbers are stamped at a time and are inverted, how many moves are required?

**Q4.** This question was about a journey between two towns. During the start of the journey the odometer reads 39593 (the reverse of the number is also the same) and at the end of the journey again the odometer reads a number similar to prior one....If the max speed is 90 km/hr during the journey. What will be the average speed throughout the journey?

**Q5.** Construct a rectangle whose perimeter is 400 cm such that it has the maximum area?

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Q6. Two cars start from the same point and move towards a destination that is 250 km apart. They move with the speed of 60 kmph and 40 kmph. At certain point of time during the race, both the cars interchange their speed such that the second car reach the destination 1 hour earlier than the first car. What is the time in secs at which they interchange their speeds?

Q7. If I start counting with the numbers 10, 11, 12....in the left hand from little finger to thumb and counting the next number from fore finger to little finger and then back from little finger, ring finger, middle finger, fore finger to thumb and so on....on which finger will I count the number 1099?

Q8. A person on a motor cycle gains a speed of 10 kmph to 60 kmph in 10 secs. The angular rotation of the needle in the speedometer is about 200 degrees. What will be the angular speed in degrees/sec?

### **Section 2:**

Q9. When we hit a foot ball, why does it goes along a curved path? (we are not talking about the path of the projectile due to gravity).

Q10. A person likes to cool his small room during night so that he can sleep peacefully but he has no air conditioner in his room. So he opens the door of the refrigerator that he has in his room. What will happen?