THINKING SKILL

SESSION – 1

PROBLEM SOLVING

1. A man works on the 10-th floor and takes the elevator down to ground level at the end of the day. Yet every morning, he only takes the elevator to the 7th floor, even in a hurry. But he goes all the way to the 10-th floor when others are in the elevator with him or it is a rainy day.

   Why?

2. There are two gates, one to hell and the other to heaven. Two gatekeepers, one for each gate. One of them always speaks the truth and the other always lies but you don't know which one guards which gate. You are allowed only one question and you need to find out the gate to heaven.

   What is the question?

3. There is a basket full of hats. 3 of them are white and 2 of them are black. There are 3 men Tom, Tim, and Jim. They each take a hat out of the basket and put it on their heads without seeing the hat they selected or the hats the other men selected. The men arrange themselves so Tom can see Tim and Jim's hats, Tim can see Jim's hat, and Jim can't see anyone's hat.

   Tom is asked what colour his hat is and he says he doesn't know.

   Tim is asked the same question, and he also doesn't know.

   Finally, Jim is asked the question, and he does know.

   What colour is his hat?

4. A shell is tied to the side of a boat.

   The shell hangs 3 metres above water level.

   The water rises 2 cm in an hour.

   How much time will it take before the water touches the shell?

5. This problem is also called Jelly Beans problem. This is the most commonly asked interview puzzle.

   You have 3 jars that are all mislabelled. One jar contains Apple, another contains Oranges and the third jar contains a mixture of both Apple and Oranges.

   You are allowed to pick as many fruits as you want from each jar to fix the labels on the jars. What is the minimum number of fruits that you have to pick and from which jars to correctly label them?

6. Bridge Riddle

   A crew consists of four scientists are out of their laboratory, they are chased by demons and they will be dead if they are caught. The crew consists of a senior professor in his 80's, his son who is also a scientist whose age is 45 and they have two assistants, a young girl and young boy. The demons were chasing them and after so many hurdles they reached a bridge in the dark night of 25 feet and the weather was so bad, there were no stars and they have only one lantern to cross the bridge, without lantern they cannot get into the bridge and the bridge can carry only two persons at a time. Senior professor will take 10 minutes to cross the bridge, his son will take 5 minutes to cross the bridge, young girl will take 2 minutes and the young boy will take 1 minute to cross the bridge. The entire crew has to cross the bridge in 17 minutes and remember that the bridge can carry only 2 persons at a time and they can go only with the help of lantern. The demons will reach them in 18 minutes. Help them to escape from demons.

7. James Bond

   James Bond was threatened to death by terrorists so he secured himself in a hotel in the outskirts of the city, he was allocated to Room no 308 in 25th floor of the building. One fine morning, while he was in his morning robes, sipping his lemon flavoured tea, he heard a knocking sound. He was so cautious and he reached the door and opened it. He found a young lady standing in front of him, she was elegant in her black skirt, golden colour heel, snake skinned clutch and in her glossy red lipstick. Before he questions something to her, she herself said him "Ouch sorry!! I thought it is my room and disturbed you" and she stepped back and started on her way. Suddenly the girl stopped and felt the mouth of the gun on her back neck and she was trapped by none other than Mr. Bond. Why should James Bond do this? Analyse and solve the problem.

8. Find the passcode

   Assume that you are trapped in a house and the door has a passcode made in the combination of 4 whole numbers from 1 to 100, two numbers are revealed and your duty is to find other two numbers to get out of the house, if not you will die in another 2 hours. The riddle to find the number is given in the wall next to you. This riddle portraits a conversation between two persons, Jerome and Faizal.

   Jerome: I know the product of two numbers but I cannot tell what the numbers are.

   Faizal: I know you couldn't say that, the same way I know the sum of the two numbers but I cannot reveal the numbers.

   Find your passcode and get freed.

9. A wants to send a secret message to his friend B in the mail.

   But C (A's Friend), who A don't trust, has access to all A's mail. So A put his message in a box with a lock. But A is not allowed to send a key!

   How can A send his message through securely?

10. Murder Mystery: The Case of Fake FIR

    One murder happens in a village and a police inspector asked two constables to reach the spot and take the FIR…

    As it was night and too far from the police station, the two constables didn't go there and made up a fake FIR… After reading the report, the inspector said that you both are suspended for making a fake report without reaching the spot…Question is…How did the inspector find that it's a fake FIR and they didn't reach there?

    The FIR is written as…

    When we reached the spot, the door was open and one man aged about 40 -45 was found dead in a chair, one bulb is on in the room, fan is also switched on, one table is there in front of the dead body and on the table there were these things: one open bottle of poison, one half filled drinking water bottle, one pen, one newspaper was opened as pages 9-10, one table top calendar opened as date of June 20, one 5 rupee coin, one notebook. There was one bed also in the room… Seems like the person committed suicide.

11. Three men in a cafe order a meal the total cost of which is $15. They each contribute $5. The waiter takes the money to the chef who recognizes the three as friends and asks the waiter to return $5 to the men. The waiter is not only poor at mathematics but dishonest and instead of going to the trouble of splitting the $5 between the three he simply gives them $1 each and pockets the remaining $2 for himself. Now, each of the men effectively paid $4, the total paid is therefore $12. Add the $2 in the waiters pocket and this comes to $14.....Where has the other $1 gone from the original $15?

12. You are mixing cement and the recipe calls for five gallons of water. You have a garden hose giving you all the water you need. The problem is that you only have a four gallon bucket and a seven gallon bucket and neither has graduation marks. Find a method to measure five gallons.

13. A pot contains 75 white beans and 150 black ones. Next to the pot is a large pile of black beans.

    A somewhat demented cook removes the beans from the pot, one at a time, according to the following strange rule: He removes two beans from the pot at random. If at least one of the beans is black, he places it on the bean-pile and drops the other bean, no matter what color, back in the pot. If both beans are white, on the other hand, he discards both of them and removes one black bean from the pile and drops it in the pot.

    At each turn of this procedure, the pot has one less bean in it. Eventually, just one bean is left in the pot. What color is it?

14. A man is the owner of a winery who recently passed away. In his will, he left 21 barrels (seven of which are filled with wine, seven of which are half full, and seven of which are empty) to his three sons. However, the wine and barrels must be split, so that each son has the same number of full barrels, the same number of half-full barrels, and the same number of empty barrels. Note that there are no measuring devices handy. How can the barrels and wine be evenly divided?

15. 5 Sailors and a monkey landed on an island in the southern Pacific Ocean. They found a big pile of coconuts. Since they were so tired and it was getting late, they all went to sleep instead.

    Allan woke up at night. He wanted to get his share right then. He divided the coconuts evenly into 5 piles, but one coconut was left. He hid one pile for himself and gave the extra one to the monkey. He went back to sleep.

    Brad woke up (without knowing what had happened) after Allan. He divided the rest of the coconuts evenly into 5 piles, but one coconut was left. He hid one pile for himself and gave the extra one to the monkey. He went back to sleep.

    Charlie woke up (without knowing what had happened) after Brad. He divided the rest of the coconuts evenly into 5 piles, but one coconut was left. He hid one pile for himself and gave the extra one to the monkey. He went back to sleep.

    David woke up (without knowing what had happened) after Charlie. He divided the rest of the coconuts evenly into 5 piles, but one coconut was left. He hid one pile for himself and gave the extra one to the monkey. He went back to sleep.

    Earl woke up (without knowing what had happened) after David. He divided the rest of the coconuts evenly into 5 piles, but one coconut was left. He hid one pile for himself and gave the extra one to the monkey. He went back to sleep.

    When they all awoke in the morning, they determined to divide the rest of the coconuts evenly into 5 piles. Each sailor got a pile. Again one coconut was left, and they gave it to the monkey. Everybody got one pile. How many coconuts did each person get?