# (Reasoning Workbook Notes)

## SERIES COMPLETION

A series is an uniform set of one or more digits, letters, figures, etc. follows a certain rule.

To complete a series or identify a term, a student is required to identify the rule on which the given series has been established.

# **EXAMPLE**

Find the missing term to complete the given series.
 0, 6, 24, 60, 120, 210, ?

 (a) 336
 (b) 302
 (c) 290
 (d) 242

#### **Explanation** (a):

Observing the given series, we conclude that  $1^{st}$  term =  $1^3 - 1 = 0$ ;  $2^{nd}$  term =  $2^3 - 2 = 6$ ;  $3^{rd}$  term =  $3^3 - 3 = 24$ Similarly,  $7^{th}$  term =  $7^3 - 7 = \boxed{336}$ Thus, the missing term is 336. So the correct option is (a).

**2.** The following series consists of five figures named Problem Figures. Select a figure from amongst the options which will continue the series established by Problem Figures.



#### **Explanation** (a):

In the first step, the first (top most) and the third elements interchange their positions.

In the second step, the second and the fourth elements interchange their positions and in the third step there is no change.

These three steps occur alternately.

Also, all the elements together move one space to the right.

So, the correct option is (a).

### **INSERTING THE MISSING CHARACTER**

A pattern is a design or a set of figures and it contains numbers or letters or both.

Out o1 these characters a number/letter is missing.

To identify the missing number/letter a student is required to decipher the pattern.

The following example would be helpful for pattern based problems.

#### 3. Which number will replace the question mark?



#### Explanation (d):

(a) 26

(c) 28

From figure (i):  $7 \times 6 + 3 = 45$ 

From figure (ii):  $5 \times 4 + 6 = 26$ From figure (iii):  $7 \times 3 + 8 = 29$ 

Hence, the number 29 will replace the question mark. So, the correct option is (d).