**BALABHADRA SKILL DEVELOPMENT ACADEMY**
**MATHS FORMULA - 16**
**ARITHMETIC**

## BOATS AND STREAMS

| Sl | Situation | Formula |
|---|---|---|
| 1 | Let x and y be the speed of a boat in still water and speed of a stream respectively then<br>(i) Downstream speed of boat<br>(ii) Upstream speed of boat | <br><br><br>(i) $x + y$<br>(ii) $x - y$ |
| 2 | If downstream speed of a boat is u km/h and upstream speed of that boat is v km/h, then<br>(i) Speed of boat in still water<br>(ii) Speed of stream | <br><br>(i) $\frac{1}{2}(u + v)$km/h<br>(ii) $\frac{1}{2}(u - v)$km/h |
| 3 | If speed of boat in still water is x km/h and speed of stream is y km/h and the time taken to go and come back from a point is z h, then the distance between both points | $\frac{z(x^2 - y^2)}{2x}$km |
| 4 | If speed of boat in still water is x km/h and speed of stream is y km/h, then time taken to go and come back a distance of d km between two fixed points | $\frac{d}{x+y} + \frac{d}{x-y}$h |
| 5 | A person can row a certain distance downstream in x h and returns the same distance in y h. When the stream flows at the rate of a km/h, then the speed of the man | $\frac{a(x+y)}{y-x}$km/h |