

QP Code 12437

N.B.:

- (1) Question No.1 is compulsory
- (2) Attempt any three questions out of remaining five questions
- (3) Figures to right indicate full marks
- (4) Assume suitable data if necessary and justify the same.

Q.1(A)	<p>Figure 1 shows the rheological behavior of four types of viscous fluids. With reference to this figure, match the following two lists.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="width: 50%; text-align: center;">List I (Curves In Figure 1)</th> <th style="width: 50%; text-align: center;">List II (Classification)</th> </tr> </thead> <tbody> <tr> <td>a. Curve A</td> <td>1. Dilatant</td> </tr> <tr> <td>b. Curve B</td> <td>2. Ideal Bingham</td> </tr> <tr> <td>c. Curve C</td> <td>3. Pseudo Plastic</td> </tr> <tr> <td>d. Curve D</td> <td>4. Newtonian</td> </tr> </tbody> </table> <div style="text-align: center; margin: 10px 0;"> <p>Figure 1</p> </div>	List I (Curves In Figure 1)	List II (Classification)	a. Curve A	1. Dilatant	b. Curve B	2. Ideal Bingham	c. Curve C	3. Pseudo Plastic	d. Curve D	4. Newtonian	04
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(B)	<p>Steady, incompressible flow consist of following velocity components:</p> $u = -cx/y,$ $v = c \ln(xy)$ <p>Obtain a relevant stream function for the fluid flow.</p>	06										