Section -2

Ans-2

$$(D^5 - D)y = 0$$

Auxiliary eqn $= (m^5 - m) = 0$

$$m(m^4 - 1) = 0$$

$$m^4 - 1 = 0$$

$$m = \pm 1$$

$$C.F. = (C_1 + C_2 x + C_3 x + C_4 x)e^x$$

P.T. $= \frac{1}{D^5 - D}$

$= \frac{D^5 + D}{(D^5 - D)(D^5 + D)}$

$= \frac{D^5 + D}{D^{10} - D^6 + D^6 - D^2}$

$= \frac{D^5 + D}{D^8}$

$= \frac{D(D^4 + 1)}{D^8}$

$= \frac{D^4 + 1}{D^7}$. Ans.