Then, P.I of ① $= u f(x) + v g(x)$. —— ⑥

where $f(x) = -\int \frac{VR}{W} dx = -\int \frac{(x-1)}{e^x(x-1)} dx$

$= -\int dx = -x$, using ②, ④ and ⑤

and $g(x) = \int \frac{uR}{W} dx = \int \frac{x(x-1)}{e^x(x-1)} dx = \int x e^{-x} dx$ by ②, ④ and ⑤

$= x(-e^{-x}) - \int 1.(-e^{-x}) dx$

$= -xe^{-x} - e^{-x} = -e^{-x}(x+1)$

Substituting the above values of $u, v, f(x)$ & $g(x)$ in ⑥, we have

P.I of ① $= x(-x) + e^x\{-e^{-x}(x+1)\} = -(x^2+x+1)$

Hence the general solution of ① is

$y = C.F + P.I$

$y = ax + be^x - (x^2+x+1)$

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