DOPREP

The negation of $\sim s \vee (\sim r \wedge s)$ is equivalent to :

(1) $s \vee (r \vee \sim s)$

(2) $s \wedge r$

(3) $s \wedge \sim r$

(4) $s \wedge (r \wedge \sim s)$

$$\sim s \vee (\sim r \wedge s) = (\sim s \vee \sim r) \wedge (\sim s \vee s)$$

$$= (\sim s \vee \sim r) \wedge t$$

($\because \sim s \vee s$ is a tautology)

$$= \sim (s \wedge r)$$

$$\therefore \sim [\sim s \vee (\sim r \wedge s)] = \sim [\sim (s \wedge r)]$$

$$= s \wedge r$$

$\therefore$ Correct option is (2)