

19. If $p \rightarrow (q \vee r)$ is false, then the truth values of p , q and r are, respectively,

(1) T, T, F

(2) F, F, F

(3) F, T, T

(4) T, F, F

19. (4) $p \rightarrow q$ is false only when p is true and q is false.

Therefore, $p \rightarrow (q \vee r)$ is false when p is true and $q \vee r$ is false.

$q \vee r$ is false only when both q and r are false.

Hence, truth values of p , q and r are, respectively, T, F and F.