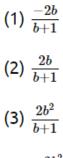
## Previous Year Question with Solution :

## Let A(a,0), B(b,2b +1) and C(0,b), $b \in 0$ , $|b| \neq 1$ , be points such that the area of triangle ABC is 1 sq. unit, then the sum of all possible values of a is :



(4) 
$$\frac{-2b^2}{b+1}$$

## Soln:

**Consider in metric form** 

$$\begin{vmatrix} \frac{1}{2} \begin{vmatrix} a & 0 & 1 \\ b & 2b+1 & 1 \\ 0 & b & 1 \end{vmatrix} = 1$$
  

$$\Rightarrow \begin{vmatrix} a & 0 & 1 \\ b & 2b+1 & 1 \\ 0 & b & 1 \end{vmatrix} = \pm 2$$
  

$$\Rightarrow a (2b+1-b) - 0 + 1 (b^2 - 0) = \pm 2$$
  

$$\Rightarrow a = \frac{\pm 2 - b^2}{b+1}$$
  

$$\therefore a = \frac{2 - b^2}{b+1} \text{ and } a = \frac{-2 - b^2}{b+1}$$

sum of possible values of 'a' is

$$= \frac{-2b^2}{b+1}$$