respectively. The path $p^*$ is the longest path in $H \setminus e$. Hence $D(H \setminus e) = D(H)$.

The other part of the result is obvious.\[\square\]

**Remark 2.** The requirement that $G_i$ is connected for all $i$ in $I$ is necessary. For example, let $I = P_3$ and $G_1 = G_2 = G_3 = K_2$ then the graph $S^+(G_1, G_2, G_3)$ has diameter 2 (Fig. 2(a)). However, it is not in DEI(2) (Fig. 2(b)).

![Figure 2 (a).](image1)

![Figure 2 (b).](image2)

**Remark 3.** Theorem 3 is the version of Theorem 4 for $k = 1$. Note that the diameter of $G + H$ is 2 instead of 1.

**Corollary 5.** The composition $G[H]$ of any two connected non-trivial and non-complete graphs $G$ and $H$ is $d.e.i.$ of diameter $D(G)$.\[\square\]

We shall illustrate the above result by the following example.

**Example 2.** Let $I$ be the cycle $C_4$ with diameter 2 (Fig. 3(a)). Let $G_1 = G_2 = G_3 = G_4 = P_2$. Then the Sabidussi sum of $(G_i : i = 1, \ldots, 4)$ is the composition $C_4[P_2]$. The graph is $d.e.i.$ with diameter 2 (Figure 3(b)).

![Figure 3(a).](image3)

![Figure 3(b).](image4)

The following is a $d.e.i.$ analogue of Greenwell and Johnson theorem on diameter edge-critical graphs [11].

**Corollary 6.** Any connected graph $H$ is an induced subgraph of...