

GATE

January 10, 2024

1. The content of the registers are $R_1 = 25H$, $R_2 = 30H$ and $R_3 = 40H$. The following machine instructions are executed.

PUSH $\{R_2\}$

PUSH $\{R_2\}$

PUSH $\{R_3\}$

POP $\{R_1\}$

POP $\{R_2\}$

POP $\{R_3\}$

After execution, the content of registers R_1, R_2, R_3 are

- (a) $R_1 = 40H, R_2 = 30H, R_3 = 25H$
- (b) $R_1 = 25H, R_2 = 30H, R_3 = 40H$
- (c) $R_1 = 30H, R_2 = 40H, R_3 = 25H$
- (d) $R_1 = 40H, R_2 = 25H, R_3 = 30H$