

# WORKSHEET - I

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① 11100011

$$x^3 + 1 = 1001$$

$$\begin{array}{r}
 1001 \overline{) 11100011000} \\
 \underline{1001} \phantom{000} \phantom{000} \phantom{000} \phantom{000} \\
 1110 \phantom{000} \phantom{000} \phantom{000} \phantom{000} \\
 \underline{1001} \phantom{000} \phantom{000} \phantom{000} \phantom{000} \\
 01110 \phantom{000} \phantom{000} \phantom{000} \phantom{000} \\
 \underline{1001} \phantom{000} \phantom{000} \phantom{000} \phantom{000} \\
 01111 \phantom{000} \phantom{000} \phantom{000} \phantom{000} \\
 \underline{1001} \phantom{000} \phantom{000} \phantom{000} \phantom{000} \\
 1000 \phantom{000} \phantom{000} \phantom{000} \phantom{000} \\
 \underline{1001} \phantom{000} \phantom{000} \phantom{000} \phantom{000} \\
 0001000 \phantom{000} \phantom{000} \phantom{000} \phantom{000} \\
 \underline{000100} \phantom{000} \phantom{000} \phantom{000} \phantom{000} \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \sqrt{111000} \quad 111100 \\
 1001 \downarrow \\
 \hline
 01110 \\
 1001 \\
 \hline
 01110 \\
 1001 \\
 \hline
 1110 \\
 1001 \\
 \hline
 1111 \\
 1001 \\
 \hline
 1101 \\
 1001 \\
 \hline
 1001 \\
 1001 \\
 \hline
 0000
 \end{array}$$

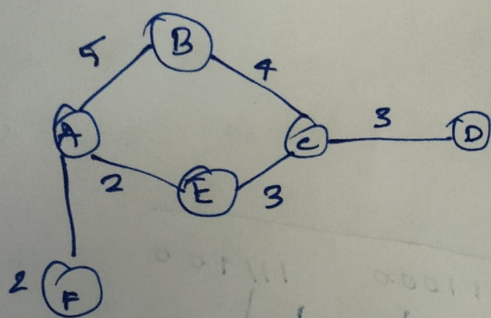
③ a)  $x^3 + x^2 + 1$

$$1101$$

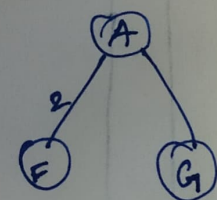
b)  $x^3 + x + 1$

$$1011$$

4.

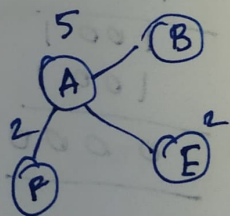


Step 1:-



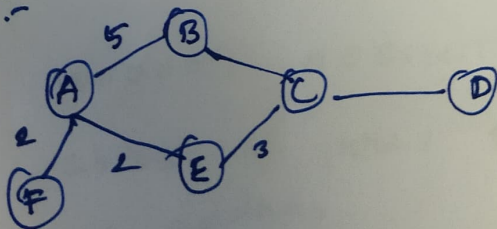
A, E, F

Step 2:-

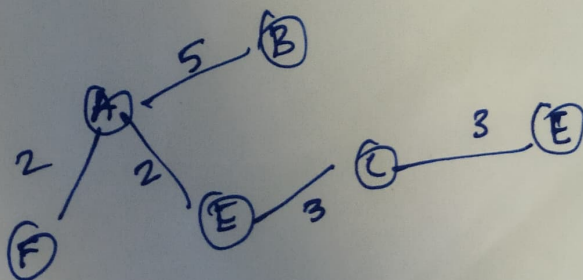


A, E, F

Step 3:-



Step 4:-



11000111 ①

5

1001 = 1 + 8x

000110001111001

↓ 1001

0111  
1001

01110  
1001

11110  
1001

0001  
1001

0001000

1+5+8x ②

1011

1+5+8x ③

1101