

EE, EC, CS & IT ENGINEERING



Digital Logic
Sequential Circuit

Basic of Counters

DPP Solution 3 Discussion



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TOPICS TO BE COVERED

01 Questions

02 Discussion

Q.1

If Mod-60 counter is cascaded with Mod - 40 counter, then it will becomes,

A. Mod-100 counter

B. Mod - 2400 counter

C. Mod - 20 counter

D. Mod - 140 counter

MOD [60x40]

MOD 2400

Q.2

The maximum decimal count of 7-bit asynchronous counter is _____.

P
W

$$2^7 = \underline{\underline{128}}$$

$$\begin{array}{r} 6432168421 \\ \underline{\underline{111111}} \\ \underline{\underline{127}} \end{array}$$

0 — $\underline{\underline{127}}$ ✓

Q.3

The modulus of given block is,

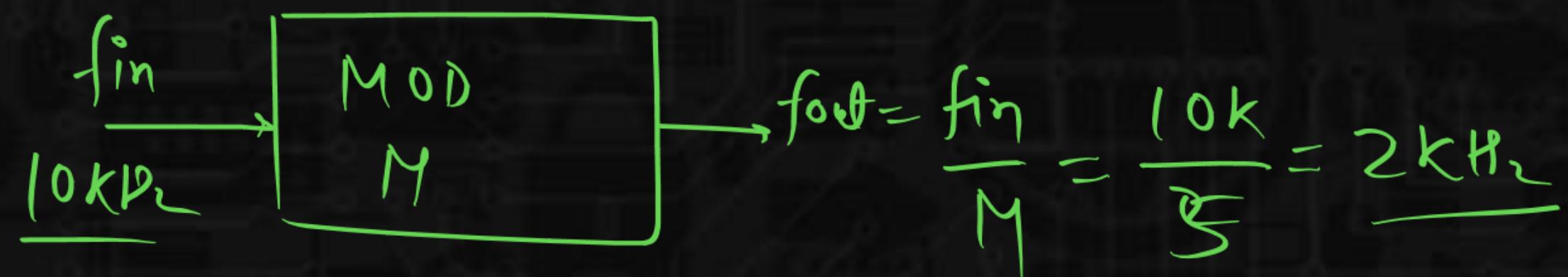


- A. 81
- B. 40
- C. 144
- D. 162

$$\frac{3 \times 6 \times 9}{27 \times 6 = \underline{\underline{162}}}$$

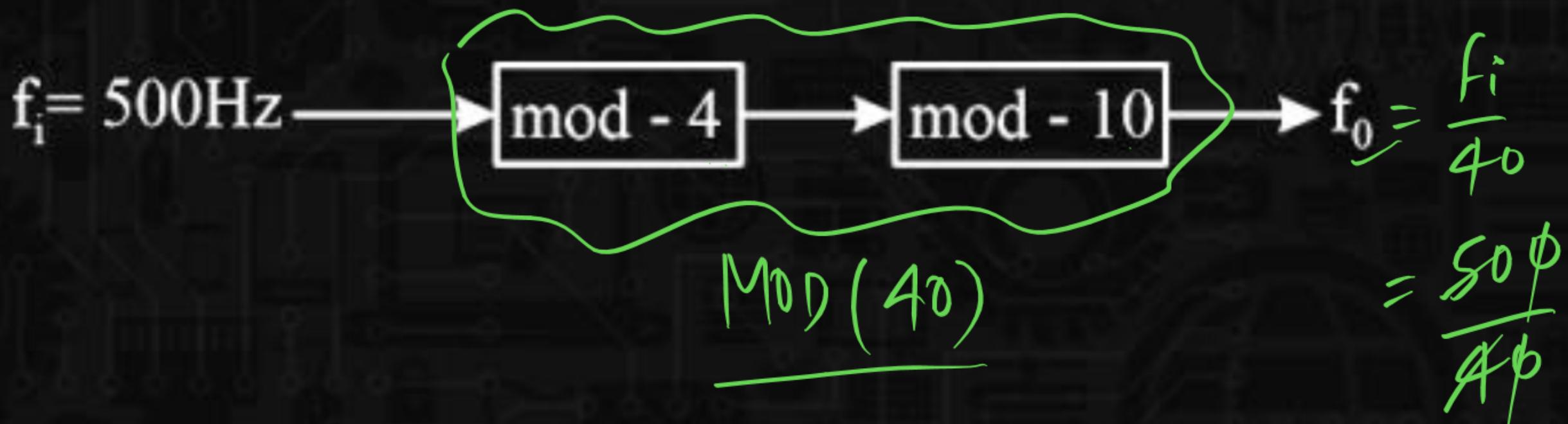
Q.4

If input frequency of clock is 10 KHz then output frequency of counter will be _____ KHz [Assume mod of counter is 5]



Q.5

For given block, the value of f_0 is ____ Hz.



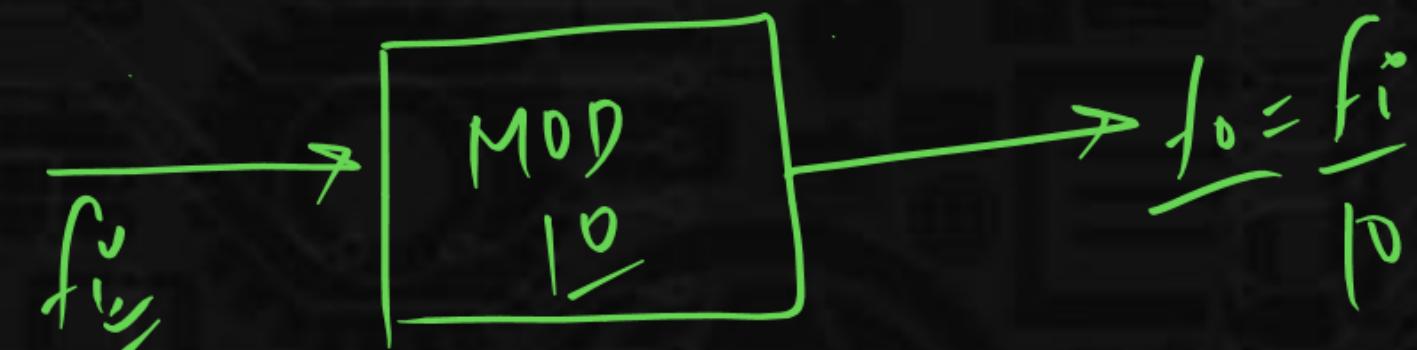
$$= \frac{50\phi}{4\phi}$$

$$\therefore \underline{\underline{12.5\text{Hz}}}$$

Q.6

Symmetric square wave of time period $100 \mu\text{sec}$ can be obtained from square wave of time period $10 \mu\text{sec}$ by using a

- A. divide by - 5 circuit
- B. divide by - 2 circuit
- C. divide by - 5 followed by a divide by 2 - circuit
- D. None of these



Q.7

How many flip - flops are required to construct Mod-31.

- A. 4
- B. 3
- C. 2
- D. 5

$$M \leq 2^n$$

$$n \geq \log_2 M$$

$$7, \log_2 31$$

7, 4. something

- (5)

