

WELCOME

TO Adda247

APP FEATURES



Download Now
Adda247 APP



Premium Study Material



Current Affairs



Job Alerts



Daily Quizzes



Subject-wise Quizzes



Magazines



Power Capsule



Notes & Articles



Videos



KVS TGT WE 2023

ELECTRICAL & ELECTRONICS

MOST EXPECTED QUESTIONS & PYQ

पेपर ऐसा ही आएगा

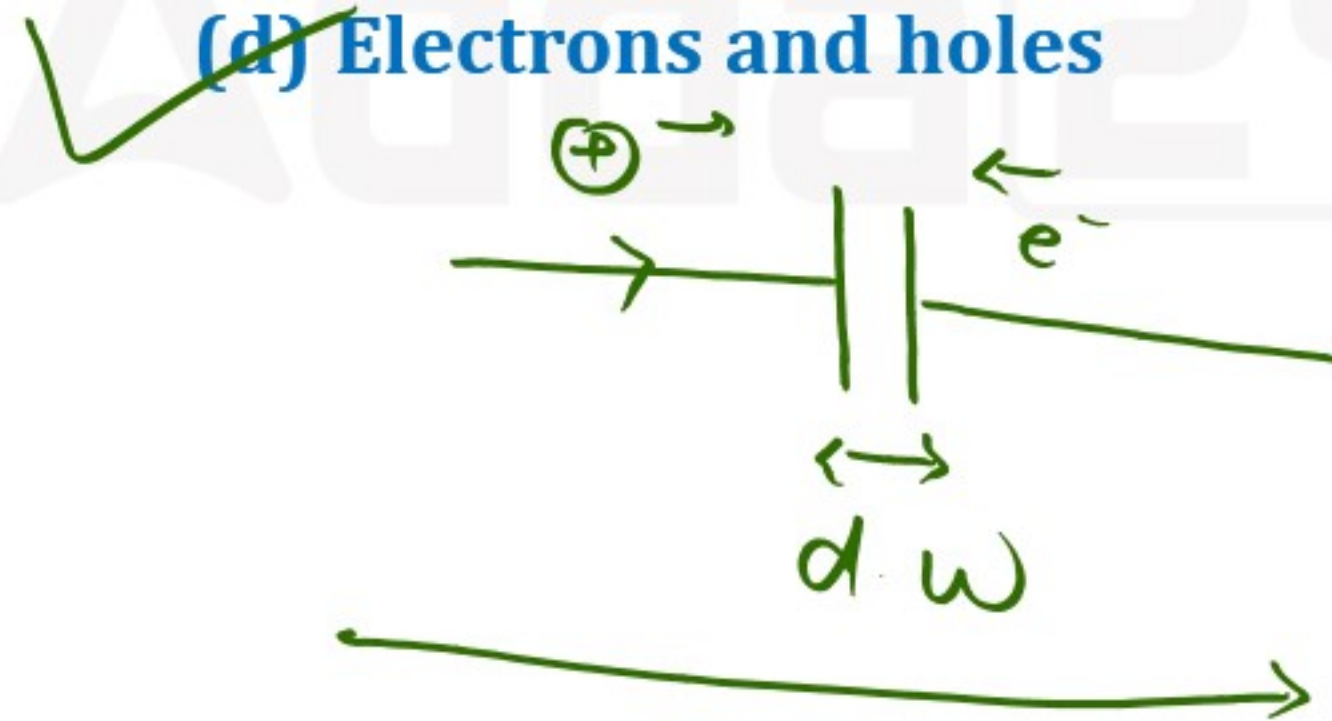
DAY-6



Q

Which of the following carriers cause current in a semiconductor?

- (a) Holes
- (b) Electrons
- (c) Protons and Holes
- (d) Electrons and holes



Q The SI unit of conductivity is _____.

- (a) Meter
- (b) Ohm-meter
- (c) Ohm
- (d) 1/(Ohm-meter)

$$\sigma = (\Omega \cdot m)^{-1}$$

$$\sigma = \frac{1}{\rho}$$
$$R = \frac{\rho l}{A}$$

$$\rho = \frac{R \cdot A}{l}$$

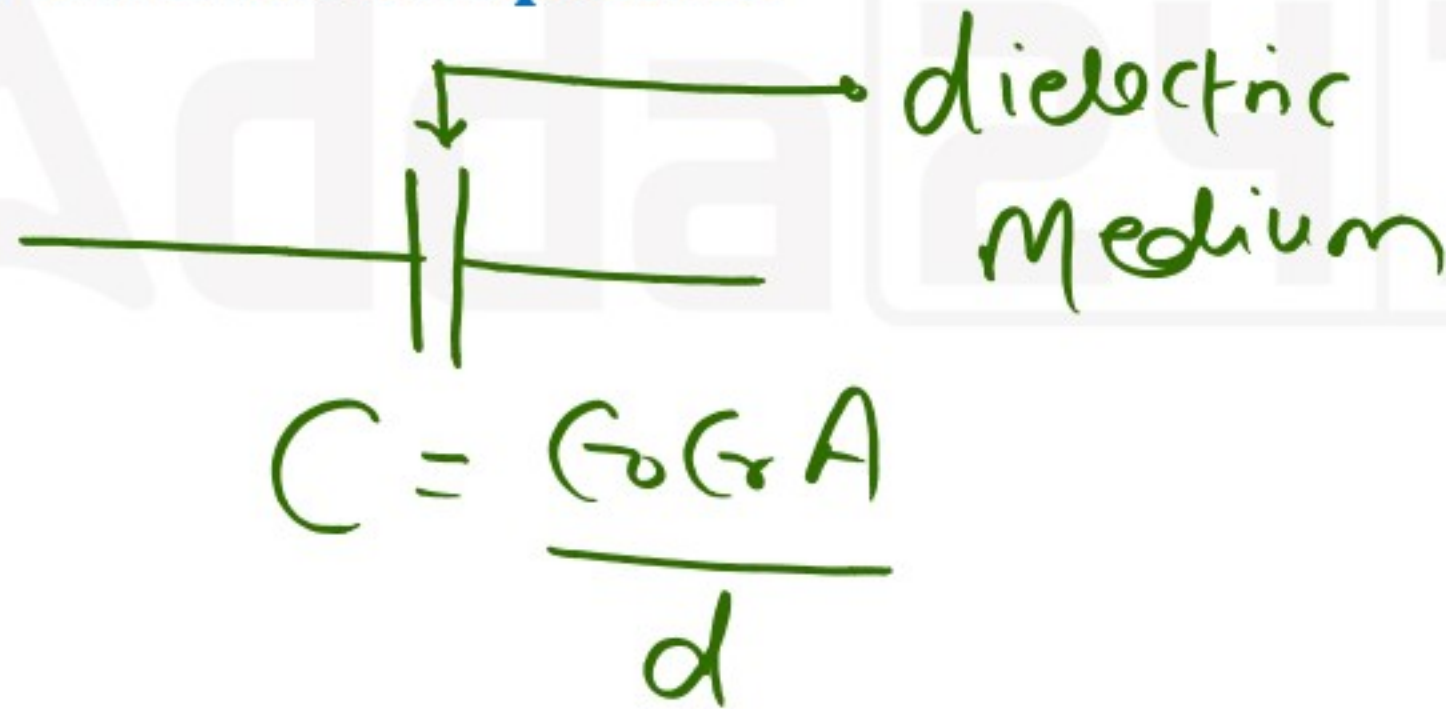
$$\rho = \frac{\text{ohm} \cdot m^2}{m}$$

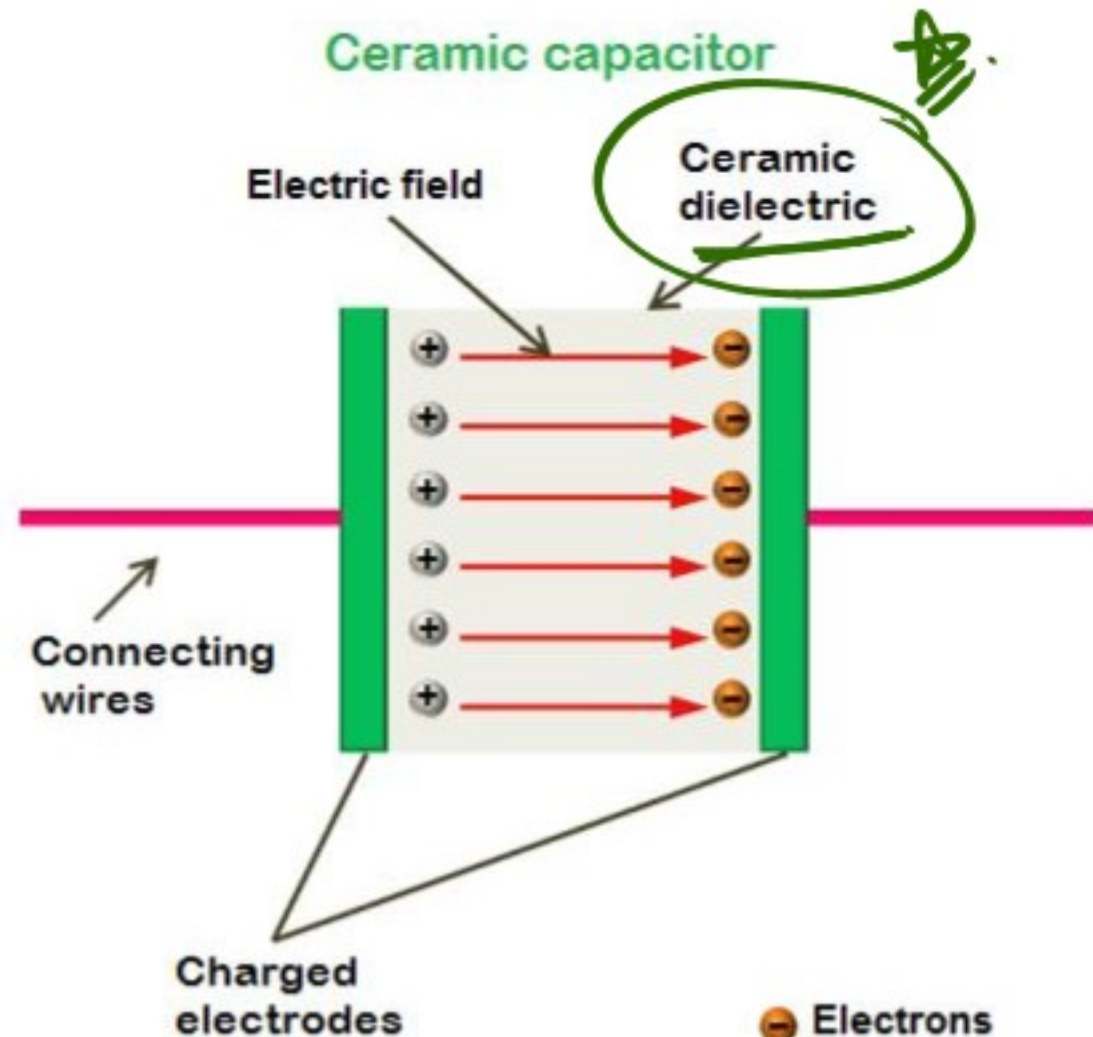
$$\rho = \text{ohm} \cdot m$$

Q

Which capacitor is used as a high accuracy capacitor?

- ✓ (a) Ceramic capacitor
- (b) Mica capacitor
- (c) Variable capacitor
- (d) Tantalum capacitor



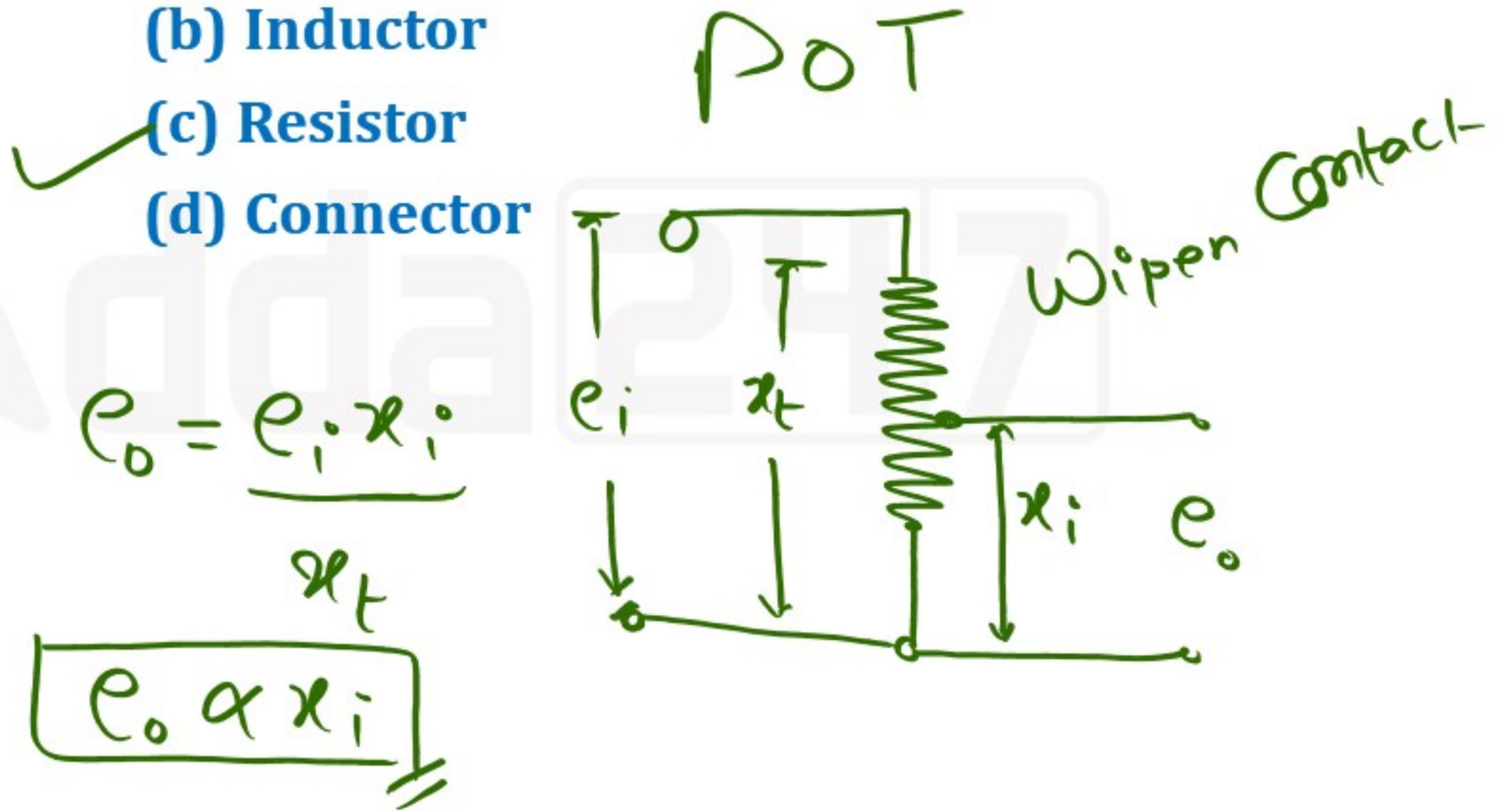


Q  , $\int Q = CV$ ↓

Q

Potentiometer is a _____.

- (a) Capacitor
- (b) Inductor
- (c) Resistor
- (d) Connector



Q

What is the nature of current in a diode?

1. Unipolar ✓

2. Bipolar ✓

(a) Only 1 ✓

(b) Only 2 ✓

(c) Both 1 and 2

(d) Neither 1 nor 2





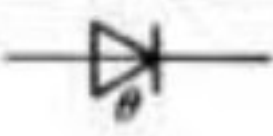
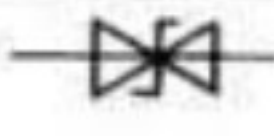
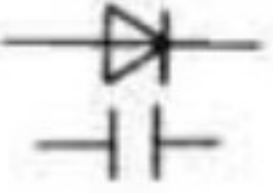


100-
was



I_{ak} ✓

I_{ka} ✗

* Unilateral

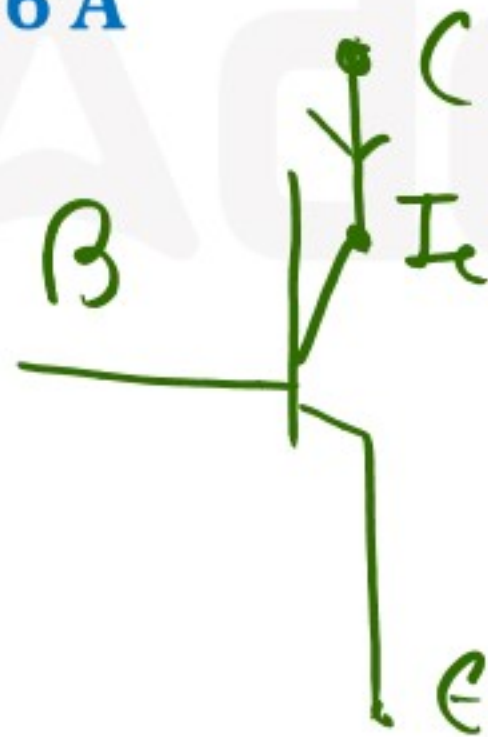
	Diode (General Symbol)		Tunnel Diode
	light-emitting diode		Voltage regulator diode
	Temperature effect diode		Bidirectional Breakdown Diode
	Varistor Diode		AC switching diode
			Bulk effect diode



Q

What is the value of collector current (I_c) for $\beta_{dc} = 150$ and base current (I_B) = $30 \mu\text{A}$?

- (a) 5 A
- (b) 4.5 mA
- (c) 50 mA
- (d) 6 A



$$I_c = \beta I_b$$

$$= 150 \times 30 \times 10^{-6}$$

$$= \underline{4.5}$$

$$I_e = I_b \beta + (1 + \beta) I_{co}$$

$I_{co} \rightarrow$ Rev.

Saturation

Current-

Q

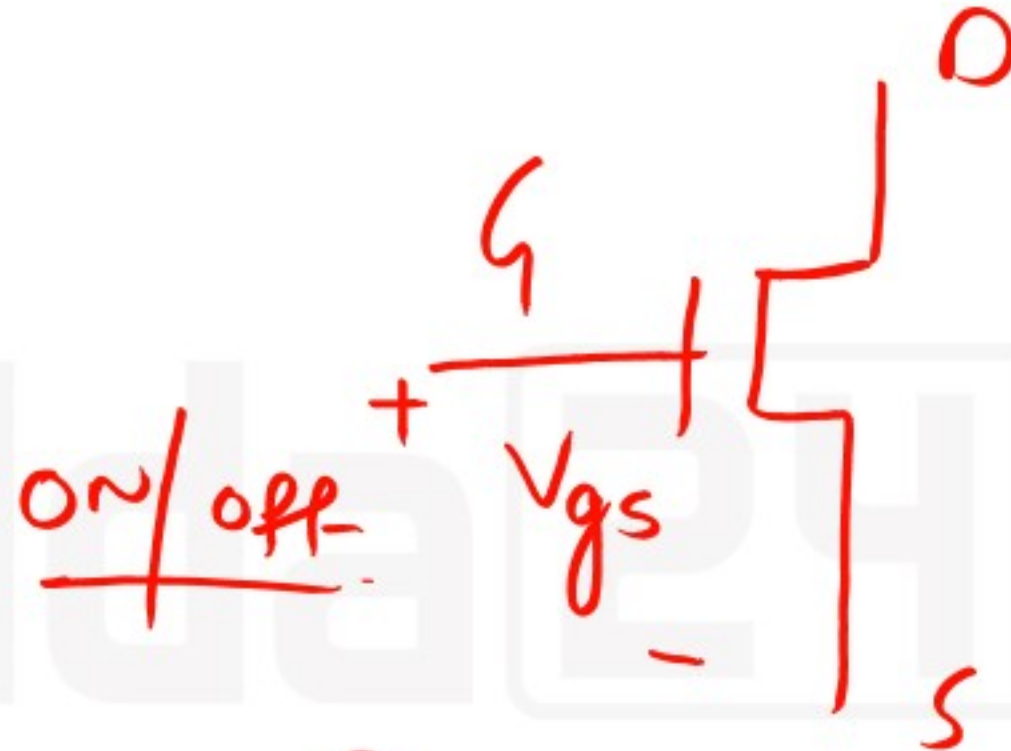
Which of the following statement is correct for JFET?

(a) 2-terminal device

(b) 3-terminal device

(c) 4-terminal device

(d) 5-terminal device



D, S = Main terminal

G = Control terminal.

Q

Enhancement mode is present in _____.

- (a) tunnel diode
- (b) PIN diode
- (c) JFET
- (d) MOSFET

depletion

enhan-----

For a transistor in the CE configuration with the following parameters:

$h_{fe} = 30$, $h_{oe} = 10 \mu\text{mho}$ and $r_L = 5 \text{ k}\Omega$, calculate current gain.

(a) 20.57

(b) 24.57

(c) 25.87

(d) 28.57

$$\underline{\beta = h_{fe}}$$

Current
Gain

$$A_I = \frac{I_o}{I_i}$$

$$A_I = \frac{h_{fe}}{1 + h_{oe}R_L} = \frac{30}{1 + 10 \times 10^{-6} \times 5 \times 10^3}$$

Q

In semiconductors, _____ depends upon both the electric field and carrier concentration.

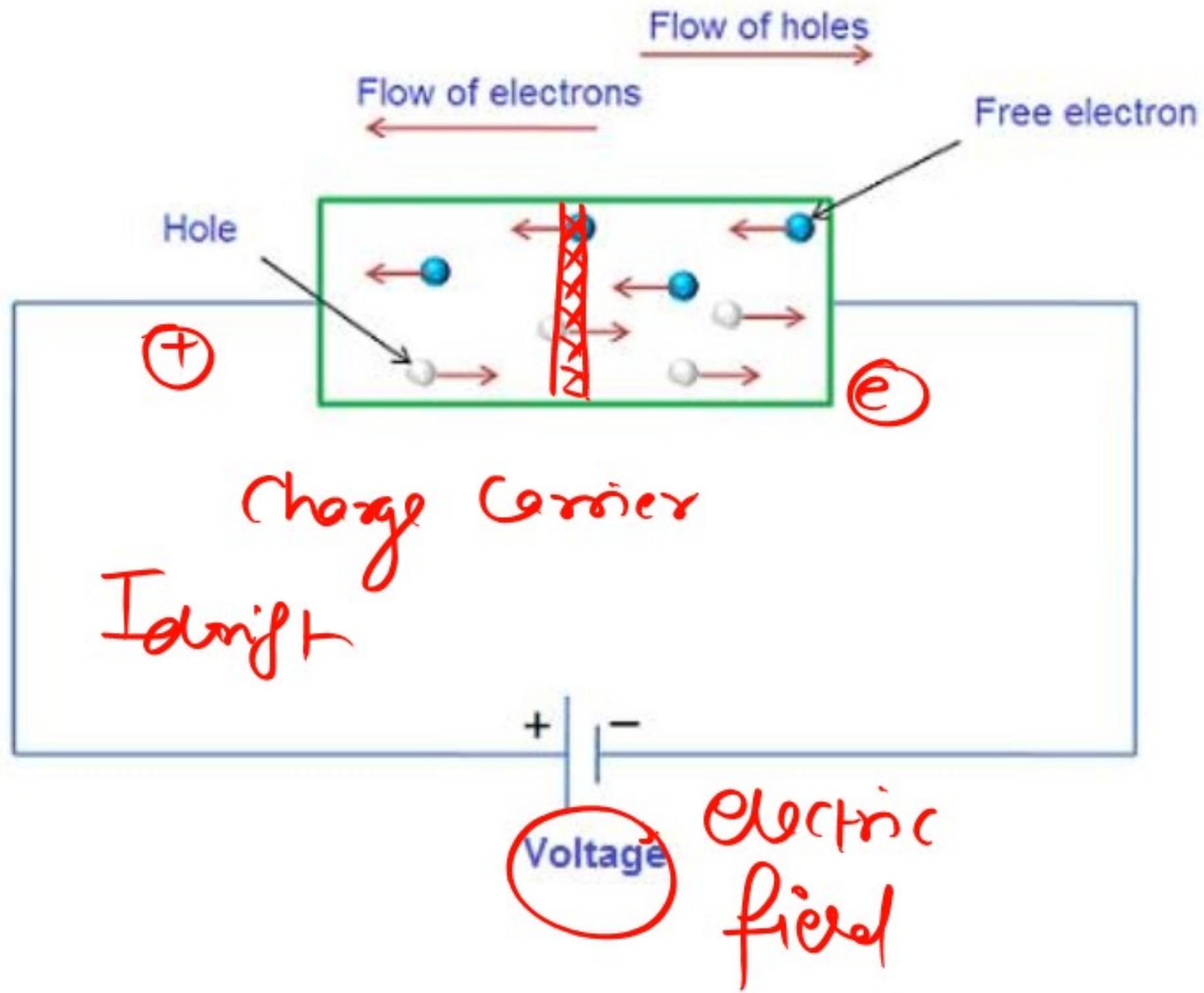
(a) diffusion current

(b) drift current

(c) drift velocity

(d) both diffusion and drift current

Drift



Q

The simplified form of $A\bar{C} + AB\bar{C}$ is _____.

(a) $A + B$ (b) $A\bar{C}$ (c) $\bar{A}C$ (d) A

$$\begin{aligned}
 & \Rightarrow A\bar{C} + AB\bar{C} \\
 & \Rightarrow A\bar{C}(1+B) \\
 & \Rightarrow A\bar{C}
 \end{aligned}$$

0 5 —
 X

Note

* Boolean term.

↓ less no. of variable (0,1)

* K-map.

More no.

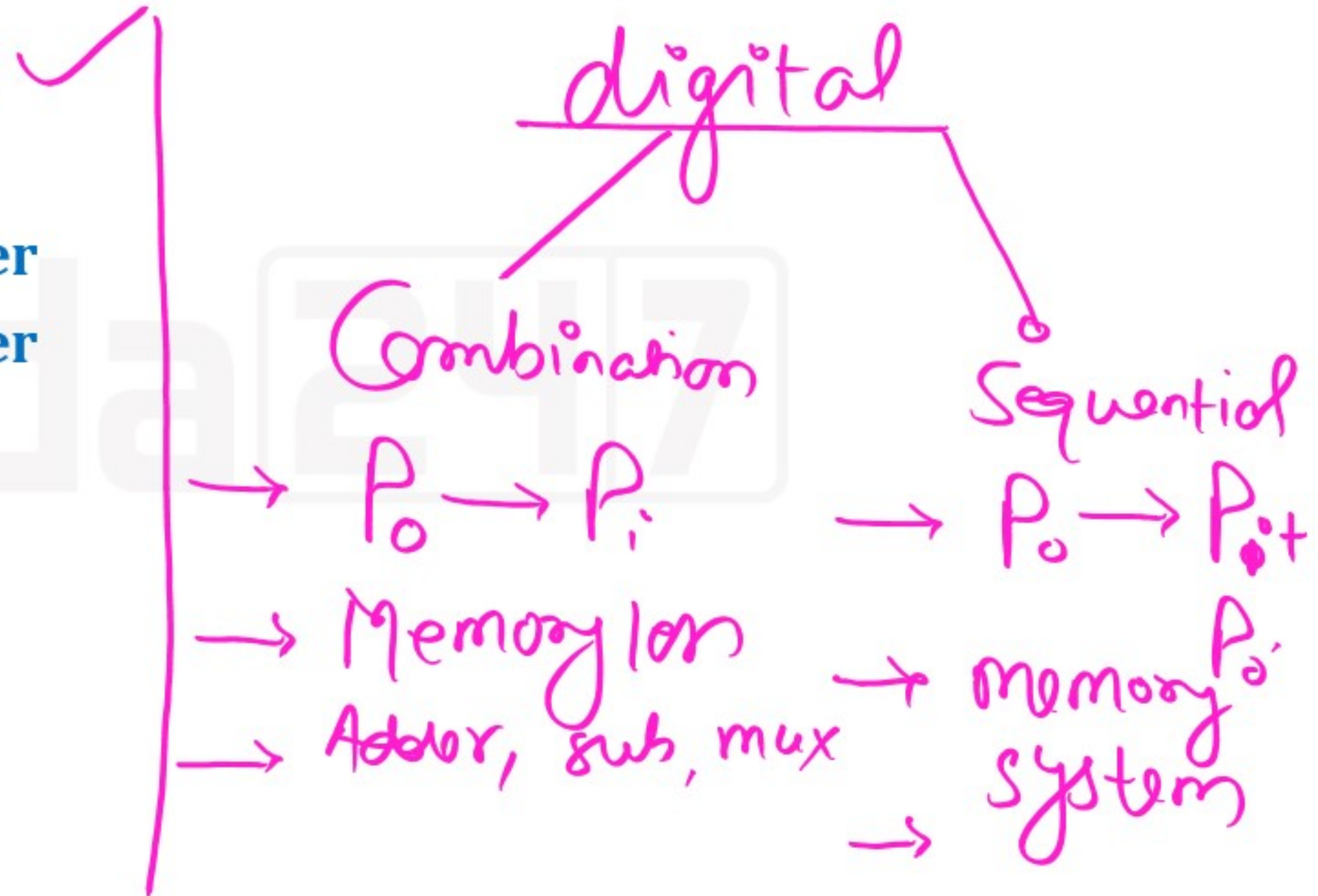
Variable

(0,1,X)

Q

Which of the following is not capable of storing binary data?

- (a) Switch
- (b) Latch
- (c) Register
- (d) Counter



Q

A down counter is a counter that counts from _____ to _____ in a downward direction.

- (a) 0 to 2^n
(b) $2^n - 1$ to 0
(c) 0 to n
(d) 0 to $2^n - 1$

0, 1, 2, ...

3, 2, 1, 0



→ any number → Count only up or down
↑ ↓
 0 to $2^n - 1$

Q

Which of the following represents 2's complement of 19?

- (a) {010111}
- (b) {100110}
- (c) {101010}
- (d) {101101}

$(19) \rightarrow ()_2$

4	3	2	1	0
2	2	2	2	2
1	0	0	1	1

$16 + 2 + 1$

1's = 01100
+1

2's = 01101

BILINGUAL

The Foundation SSC JE 2023

Electrical

नीव आपके सिलेक्शन का



Start Feb 6, 2023

9 AM to 6 PM

आज ले

BILINGUAL

ELECTRICAL & ELECTRONICS ENGINEERING

ka Mahapack

Live Class, Video Course
Test Series, Ebooks

4001

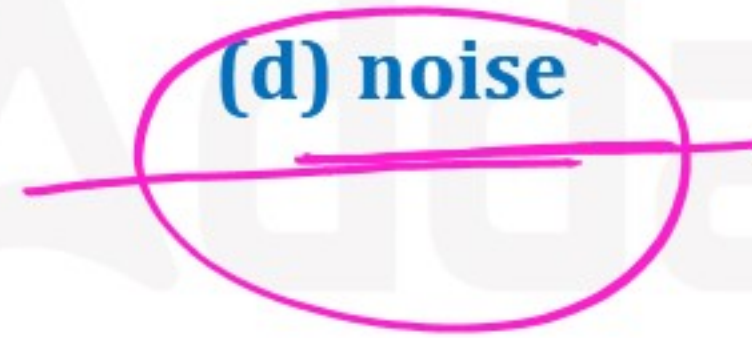
4433

Q

The performance of a system is degraded because of

_____.

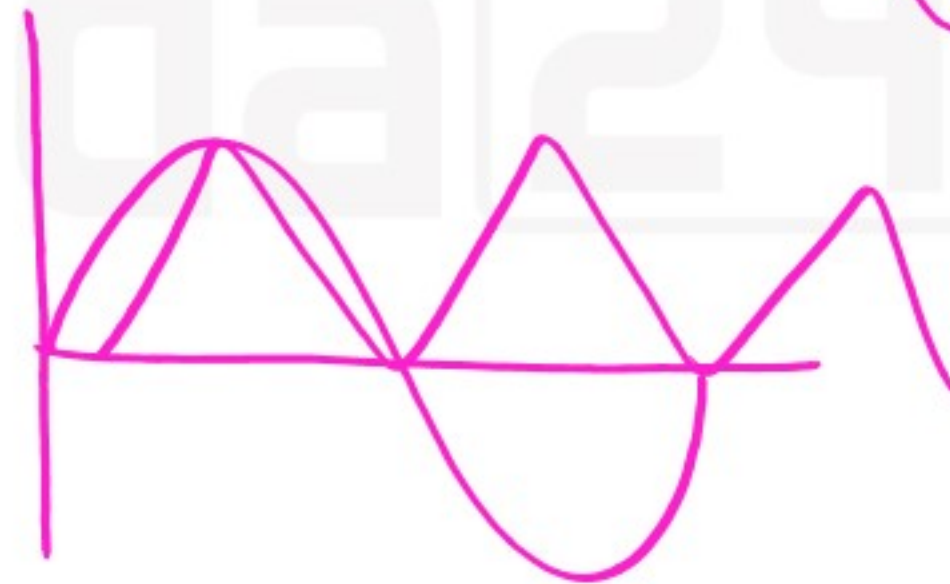
- (a) losses
- (b) phase
- (c) amplitude
- (d) noise



Q

The value of modulation index (m) must be _____.

- (a) greater than 1
- (b) less than 1
- (c) in-between 0 and 1
- (d) 0

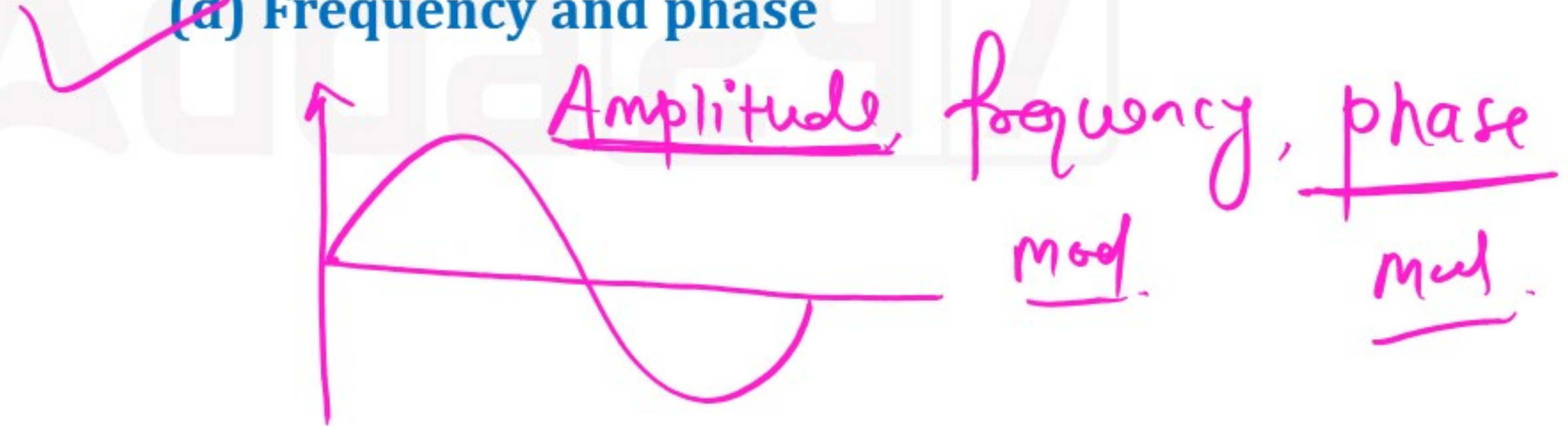


$$M.I = \frac{A_m}{A_c}$$

Q

Which of the following parameter remains same in the amplitude modulation?

- (a) Phase
- (b) Frequency
- (c) Amplitude
- (d) Frequency and phase



Q

For a narrow band FM, the bandwidth of the modulated signal is _____.

- (a) f_m
- (b) $(\Delta f + f_m)$
- (c) $2f_m$ ✓
- (d) $2(\Delta f + f_m)$

$$A_m \sin 1000t \\ + A_m \sin 1000t$$

Modulated sig |
overlapping

$$\Rightarrow \underline{2f_m}$$



Revision

PYQ

matra

6-PM

SSC-JE

7.30 PM

Mains

