OAVS Full Mock Test 2026

FREE DEMO

20 Questions with Full Solutions

10 Easy | 5 Moderate | 5 Hard – TGT · PGT · PET · Computer Teacher

FROM THE 104 FULL MOCK TESTS IN THE TECH OF WORLD APP

Each Mock: 200 Questions | 200 Minutes | 1 Mark Each | Negative Marking 0.25

EASY LEVEL – 10 QUESTIONS

From the Easy mocks: General paper (Current Affairs, Reasoning) and Subject papers of TGT, PGT, PET & Computer Teacher – with the same step-by-step solutions you get in every mock.

[OAVS Mock Test-03 (Easy) – Current Affairs]

Q-1 In October 2026, the Central Government approved India's accession to the Southern Indian Ocean Fisheries Agreement (SIOFA). With this, India's status in SIOFA is to change from Cooperating Non-Contracting Party to _____.

2026 ଅକ୍ଟୋବରରେ କେନ୍ଦ୍ର ସରକାର ଦକ୍ଷିଣ ଭାରତ ମହାସାଗର ମତ୍ସ୍ୟ ଚୁକ୍ତି (SIOFA)ରେ ଭାରତର ଯୋଗଦାନକୁ ଅନୁମୋଦନ କରିଥିଲେ । ଏହା ଦ୍ୱାରା SIOFAରେ ଭାରତର ମାନ୍ୟତା Cooperating Non-Contracting Partyରୁ _____କୁ ପରିବର୍ତ୍ତିତ ହେବ ।

(A) Associate Member State
(B) Permanent Observer
(C) Contracting Party
(D) Regional Partner Member

ANS- (C) Contracting Party

Explanation: On **14 October 2026** the Central Government approved India's accession to the **Southern Indian Ocean Fisheries Agreement (SIOFA)**. India has been a **Cooperating Non-Contracting Party** since 2022. After accession it will be a **Contracting Party**, with a full say in decisions. Indian-flagged vessels can then fish for squid, toothfish, alfonsino and other non-migratory stocks in the area. The Ministry of Fisheries, Animal Husbandry and Dairying announced the step.

Key Points:

✦ *Agreement signed and in force:* **signed 7 July 2006 at Rome; in force June 2012**

✦ *Gains for India:* **seat in the Scientific and Compliance Committees and the High Seas Boarding and Inspection scheme**

✦ *Earlier policy:* **National Guidelines for High Sea Fisheries, December 2025**

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Other Options:

(A) Associate Member State — SIOFA lists Contracting Parties and Cooperating Non-Contracting Parties. This term is not used for India in the reports.

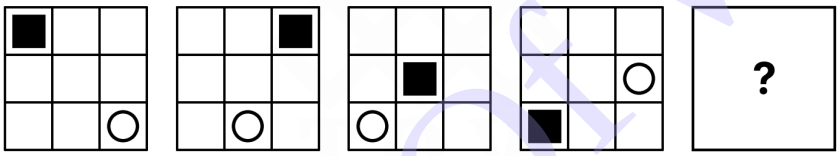
(B) Permanent Observer — Observer status gives no fishing rights. SIOFA has ten Contracting Parties, including Australia, China, Japan, South Korea and Spain.

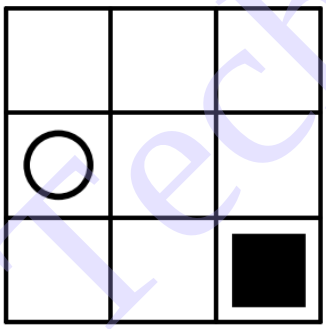
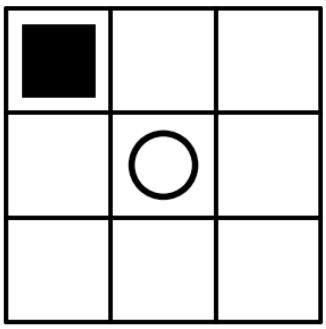
(D) Regional Partner Member — The reports on India's step use only the two SIOFA categories. India's status since 2022 limited its role in decisions.

[OAVS Mock Test-02 (Easy) – Reasoning]

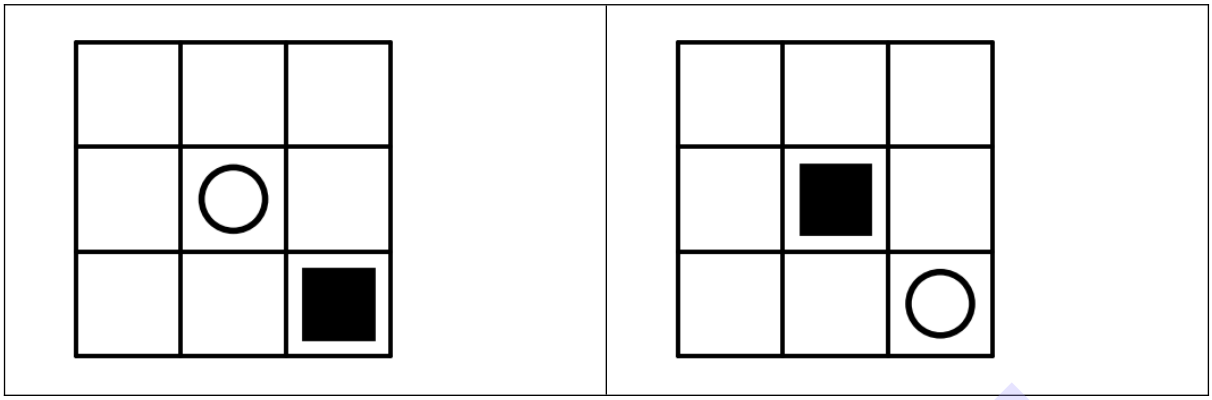
Q-2 Select the figure that can replace the question mark (?) to complete the given series.

ଦିଆଯାଇଥିବା ଶ୍ରେଣୀକୁ ସମ୍ପୂର୍ଣ୍ଣ କରିବା ପାଇଁ ପ୍ରଶ୍ନ ଚିହ୍ନ (?) ସ୍ଥାନରେ ଆସିପାରୁଥିବା ଚିତ୍ରଟି ବାଛନ୍ତୁ ।

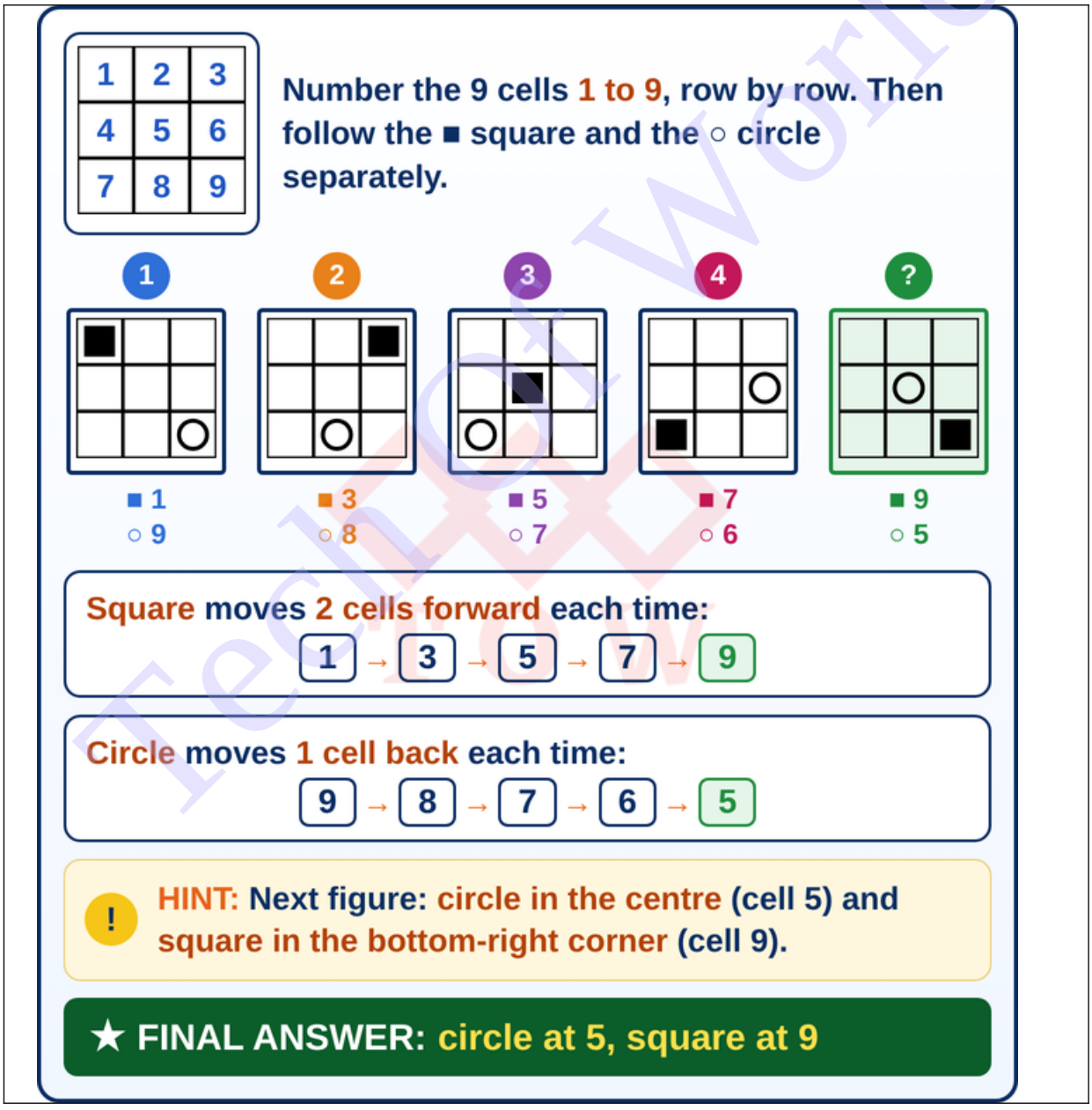


(A) 	**(B)** 
(C)	**(D)**

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ANS- (C) Figure (C)



[OAVS TGT English Mock Test-03 (Easy)]

Q-3 Select the option that has punctuated the following sentence correctly.

dr mehta a famous surgeon lives in cuttack

(A) Dr Mehta a famous surgeon, lives in Cuttack.
(B) Dr, Mehta a famous surgeon lives in Cuttack.
(C) Dr Mehta, a famous surgeon lives, in Cuttack.
(D) Dr Mehta, a famous surgeon, lives in Cuttack.

ANS- (D) Dr Mehta, a famous surgeon, lives in Cuttack.

Explanation: Dr Mehta, **a famous surgeon,** lives in Cuttack. ଏଠାରେ **"a famous surgeon"** ଅଂଶଟି **Dr Mehta** ଙ୍କ ପରିଚୟ ଦେଉଛି; ଏହାକୁ **Appositive (ପରିଚୟ ଅଂଶ)** କୁହାଯାଏ । ଏହାକୁ କାଢ଼ିଦେଲେ ମଧ୍ୟ ମୂଳ ବାକ୍ୟ **Dr Mehta lives in Cuttack** ଠିକ୍ ରହେ, ତେଣୁ ଏହାର **ଦୁଇ ପାଖରେ comma (,)** ବସେ । ନାମ (**Dr Mehta**) ଓ ସ୍ଥାନ (**Cuttack**) ରେ **Capital letter** ଲାଗେ । **An appositive is set off by a pair of commas.**

Trick: ସୋପାନ ଅନୁସାରେ ଦେଖି option କାଟ:

ସୋପାନ	ଦେଖ	ଫଳ
1	ବାକ୍ୟ ଆରମ୍ଭ ଓ ନାମରେ **Capital letter** (Dr, Mehta, Cuttack)	ସବୁ option ରେ ଅଛି
2	ଶେଷରେ ଠିକ୍ **End mark** (Statement ପାଇଁ **.**)	ସବୁ option ରେ ଅଛି
3	**Title (Dr)** ଓ ନାମ ମଝିରେ comma ବସେ ନାହିଁ	(B) ବାଦ୍
4	**ପରିଚୟ ଅଂଶର ଦୁଇ ପାଖରେ comma; Verb (lives) ପରେ comma ନାହିଁ**	**କେବଳ (D)**

Other Options:

(A) Dr Mehta a famous surgeon, lives in Cuttack. — ଏଥିରେ କେବଳ **ଶେଷ comma** ଅଛି; ପରିଚୟ ଅଂଶ ଆରମ୍ଭ ହେଉଥିବା ସ୍ଥାନରେ (**Mehta** ପରେ) ମଧ୍ୟ comma ଆସିଲେ ଯୋଡ଼ା ପୂରା ହୁଏ ।

(B) Dr, Mehta a famous surgeon lives in Cuttack. — ଏଥିରେ comma **Dr** ପରେ ବସିଛି; **Dr** ଏକ **Title (ଉପାଧି)**, ଏହା ନାମ ସହ ଯୋଡ଼ା ହୋଇ ରହେ, ଯେପରି **Dr Mehta**, **Mr Das** ।

(C) Dr Mehta, a famous surgeon lives, in Cuttack. — ଏଥିରେ ଦ୍ୱିତୀୟ comma **lives** ପରେ ବସିଛି; Verb **lives** ଓ ସ୍ଥାନ **in Cuttack** ଏକାଠି ରହେ, ଦ୍ୱିତୀୟ comma **surgeon** ପରେ ବସେ ।

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[OAVS TGT Odia Mock Test-02 (Easy)]

Q-4 ଆନନ୍ଦ, ଦୁଃଖ, ବିସ୍ମୟ ଆଦି ଆବେଗ ସମୟରେ ମୁହଁରୁ ବାହାରୁଥିବା 'ଆହା', 'ଉଃ' ଭଳି ସ୍ୱତଃସ୍ଫୂର୍ତ୍ତ ଧ୍ୱନିରୁ ଭାଷାର ଉତ୍ପତ୍ତି ହୋଇଛି ବୋଲି କେଉଁ ସିଦ୍ଧାନ୍ତ କହେ ?

(A) ବାଉ-ୱାଉ (Bow-wow) ସିଦ୍ଧାନ୍ତ

(B) ଯୋ-ହେ-ହୋ (Yo-he-ho) ସିଦ୍ଧାନ୍ତ

(C) ଡିଙ୍ଗ୍-ଡଙ୍ଗ୍ (Ding-dong) ସିଦ୍ଧାନ୍ତ

(D) ପୁହ୍-ପୁହ୍ (Pooh-pooh) ସିଦ୍ଧାନ୍ତ

ANS- (D) ପୁହ୍-ପୁହ୍ (Pooh-pooh) ସିଦ୍ଧାନ୍ତ

Explanation: ଆନନ୍ଦ, ଦୁଃଖ, ବିସ୍ମୟ ବା ଯନ୍ତ୍ରଣା ସମୟରେ ମୁହଁରୁ ଆପେ ଆପେ ବାହାରୁଥିବା **'ଆହା', 'ଉଃ', 'ଛି'** ପରି ଧ୍ୱନିରୁ ଭାଷା ଜନ୍ମ ହୋଇଛି ବୋଲି ଯେଉଁ ମତ କହେ, ତାହା **ପୁହ୍-ପୁହ୍ (Pooh-pooh) ସିଦ୍ଧାନ୍ତ** । ଏହାକୁ **ମନୋଭାବବ୍ୟଞ୍ଜକ ବା ବିସ୍ମୟାଦିବୋଧକ (Interjectional) ସିଦ୍ଧାନ୍ତ** ମଧ୍ୟ କୁହାଯାଏ । ଏହି ମଜାଳିଆ ନାମଗୁଡ଼ିକ ଭାଷାବିତ୍ **ମାକ୍ସ ମୁଲର୍ (Max Müller)** ଙ୍କ ସମୟରେ ପ୍ରଚଳିତ ହୋଇଥିଲା ।

ସିଦ୍ଧାନ୍ତ	ଭାଷାର ଉତ୍ସ	ଉଦାହରଣ
ପୁହ୍-ପୁହ୍	**ଆବେଗର ସ୍ୱତଃସ୍ଫୂର୍ତ୍ତ ଧ୍ୱନି**	**ଆହା, ଉଃ, ଛି**
ବାଉ-ୱାଉ	ପଶୁପକ୍ଷୀ ଡାକର ଅନୁକରଣ	କା କା (କାଉ), ମ୍ୟାଉଁ
ଡିଙ୍ଗ୍-ଡଙ୍ଗ୍	ବସ୍ତୁର ସ୍ୱାଭାବିକ ଅନୁରଣନ	ଟୁଙ୍ଗ୍, ଝନ୍ ଝନ୍
ଯୋ-ହେ-ହୋ	ଦଳବଦ୍ଧ ଶ୍ରମର ଧ୍ୱନି	ହେଇସା, ହୋ ହୋ

Key Points:

✦ *ଅନ୍ୟ ନାମ:* **ଆବେଗ ବା ଭାବାବେଗ ସିଦ୍ଧାନ୍ତ**

✦ *ସୀମା:* **ଏପରି ଶବ୍ଦ ଭାଷାରେ ଅତି କମ୍**

✦ *ଓଡ଼ିଆ ବ୍ୟାକରଣରେ ଏହି ଧ୍ୱନି:* **ବିସ୍ମୟାଦିବୋଧକ ଅବ୍ୟୟ**

Other Options:

(A) ବାଉ-ୱାଉ (Bow-wow) ସିଦ୍ଧାନ୍ତ — ପଶୁପକ୍ଷୀଙ୍କ ଡାକର **ଅନୁକରଣ** ରୁ ଭାଷା ଜନ୍ମ ହୋଇଛି ବୋଲି କହେ ।

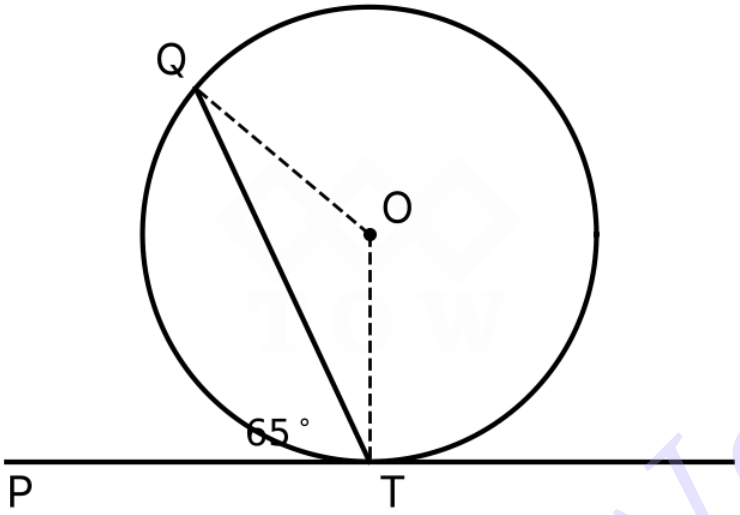
(B) ଯୋ-ହେ-ହୋ (Yo-he-ho) ସିଦ୍ଧାନ୍ତ — ଦଳରେ **ଭାରି କାମ** କଲାବେଳେ ବାହାରୁଥିବା ଧ୍ୱନିରୁ ଭାଷା ଜନ୍ମ ବୋଲି କହେ; ଏହା **ନୋଆର (Noiré)** ଙ୍କ ମତ ।

(C) ଡିଙ୍ଗ୍-ଡଙ୍ଗ୍ (Ding-dong) ସିଦ୍ଧାନ୍ତ — ପ୍ରତ୍ୟେକ ବସ୍ତୁର ଏକ **ସ୍ୱାଭାବିକ ଧ୍ୱନି (ଅନୁରଣନ)** ଥାଏ ଓ ସେଥିରୁ ଶବ୍ଦ ଆସିଛି ବୋଲି କହେ ।

[OAVS TGT Math Mock Test-04 (Easy)]

Q-5 In the given figure, PT is a tangent at T to a circle with centre O, TQ is a chord and $\angle PTQ = 65^\circ$. Then $\angle TOQ$ is:

ଦତ୍ତ ଚିତ୍ରରେ, PT , O କେନ୍ଦ୍ର ବିଶିଷ୍ଟ ଏକ ବୃତ୍ତର T ବିନ୍ଦୁରେ ଏକ ସ୍ପର୍ଶକ (tangent), TQ ଏକ ଜ୍ୟା (chord) ଏବଂ $\angle PTQ=65^\circ$ । ତେବେ $\angle TOQ$ କେତେ ?



(A) 65°
(B) 130°
(C) 115°
(D) 155°

ANS- (B) 130°

Given:
➔ PT is a tangent at T, TQ is a chord, $\angle PTQ=65^\circ$

Concept:
➔ Radius $\perp$ tangent at the point of contact, so $\angle OTP=90^\circ$
➔ $OT=OQ$ (radii), so the base angles of $\triangle OTQ$ are equal

Solution:
$\rightarrow \angle OTQ=90^\circ-65^\circ=25^\circ$
$\rightarrow \angle OQT=\angle OTQ=25^\circ$
$\rightarrow \angle TOQ=180^\circ-(25^\circ+25^\circ)=130^\circ$
∴ Ans: (B) 130°

Hint:
➔ Alternative: the angle between a tangent and a chord is half the central angle on that chord
$\rightarrow \angle TOQ=2\times\angle PTQ=2\times65^\circ=130^\circ$

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[OAVS TGT Science Mock Test-04 (Easy)]

Q-6 A heterozygous tall pea plant (Tt) is self-pollinated and 800 plants are raised from its seeds. Approximately how many of these plants are expected to be tall and homozygous?

ଏକ ବିଷମଯୁଗ୍ମଜ (heterozygous) ଲମ୍ବା ମଟର ଗଛ (Tt) କୁ ସ୍ୱପରାଗିତ (self-pollinated) କରାଯାଏ ଏବଂ ଏହାର ବିହନରୁ 800 ଟି ଗଛ ଉତ୍ପନ୍ନ କରାଯାଏ । ଏହି ଗଛଗୁଡ଼ିକ ମଧ୍ୟରୁ ପ୍ରାୟ କେତୋଟି ଲମ୍ବା ଓ ସମଯୁଗ୍ମଜ (homozygous) ହେବା ଆଶା କରାଯାଏ ?

(A) 200
(B) 600
(C) 400
(D) 150

ANS- (A) 200

Explanation: When a **heterozygous tall plant (Tt)** is self-pollinated, the offspring come in the genotype ratio **1 TT : 2 Tt : 1 tt**. Only **TT** plants are tall and homozygous, so they form one-fourth of the 800 plants, that is **200**.

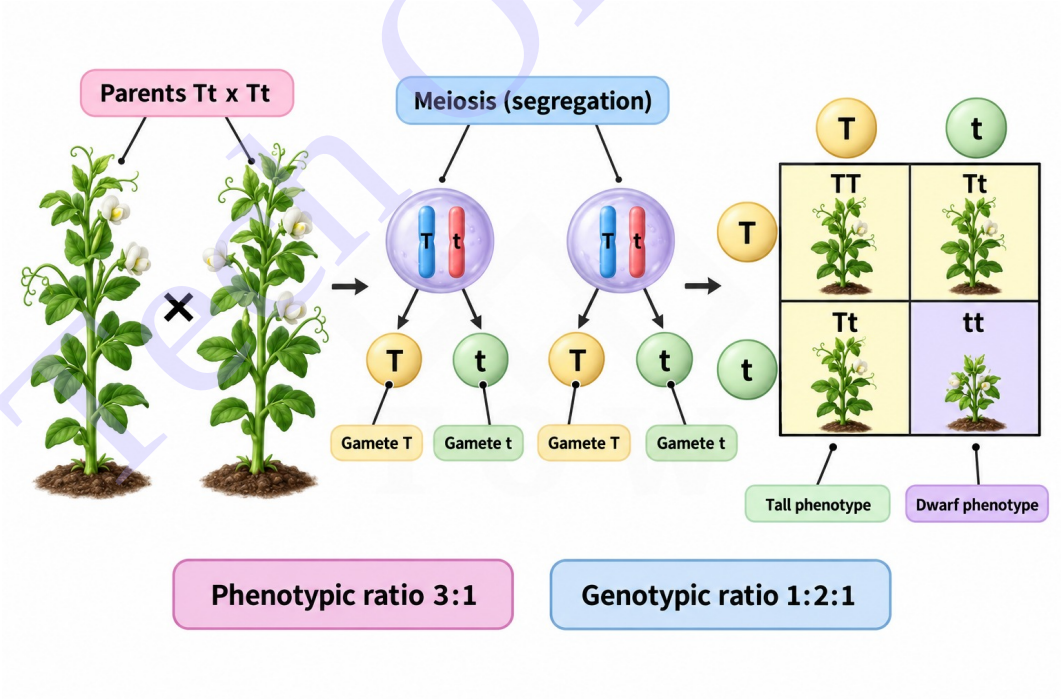


Fig. Monohybrid cross Tt x Tt showing gametes, Punnett square, phenotypic ratio 3:1 and genotypic ratio 1:2:1 (asked part: TT).

Given:

➔ Cross: $\mathrm{Tt} \times \mathrm{Tt}$; total plants = 800; wanted: tall homozygous (TT)

Concept:
➔ Each parent gives T or t with equal chance, so $P(TT) = P(T) \times P(T)$

Solution:
$\rightarrow P(TT) = \frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

$\Rightarrow \text{TT plants} = \frac{1}{4} \times 800 = 200$

∴ Ans: (A) 200

Key Points:
✦ *Phenotype ratio:* **3 tall : 1 short**
✦ *Genotype ratio:* **1 TT : 2 Tt : 1 tt**
✦ *Test to tell TT from Tt:* **a test cross with a short (tt) plant**
✦ *Law shown:* **law of segregation (purity of gametes)**

Gametes	T	t
T	**TT (tall)**	Tt (tall)
t	Tt (tall)	tt (short)

Other Options:
(B) 600 — This is the total number of tall plants (TT and Tt together, three-fourths of 800).
(C) 400 — This is the number of tall heterozygous (Tt) plants, one-half of 800.
(D) 150 — This is three-sixteenths of 800, a share that belongs to a dihybrid F2 class such as round green.

Test Of World

[OAVS TGT Social Studies Mock Test-04 (Easy)]

Q-7 When it is 10:00 AM on Sunday at 82.5° E (the Indian Standard Meridian), what is the local time at 120° W?

82.5° E (ଭାରତୀୟ ମାନକ ଦ୍ରାଘିମା)ରେ ରବିବାର 10:00 AM ହେଲେ, 120° W ରେ ସ୍ଥାନୀୟ ସମୟ କେତେ ହେବ ?

(A) 8:30 AM, Sunday
(B) 8:30 PM, Saturday
(C) 6:30 PM, Saturday
(D) 11:30 PM, Sunday

ANS- (B) 8:30 PM, Saturday

Explanation: The Earth turns **360°** in **24 hours**, so the Sun appears to move **1° of longitude in 4 minutes**. Both places lie on opposite sides of

Greenwich, so their longitudes are **added**. A place to the **west** is behind in time, so the difference is **subtracted** from 10:00 AM Sunday.

→ Longitude difference = $82.5^\circ + 120^\circ = 202.5^\circ$
→ Time difference = $202.5 \times 4 = 810$ min = 13 h 30 min
→ Local time = 10 : 00 AM (Sunday) − 13 h 30 min = 8 : 30 PM (Saturday)

Key Points:
✦ *IST:* **5 h 30 min ahead of Greenwich Mean Time**
✦ *Time at 120° W:* **8 hours behind Greenwich (Pacific Standard Time of the USA)**
✦ *Time for 15° of longitude:* **1 hour**
 Memory Hook: East gains, West loses.

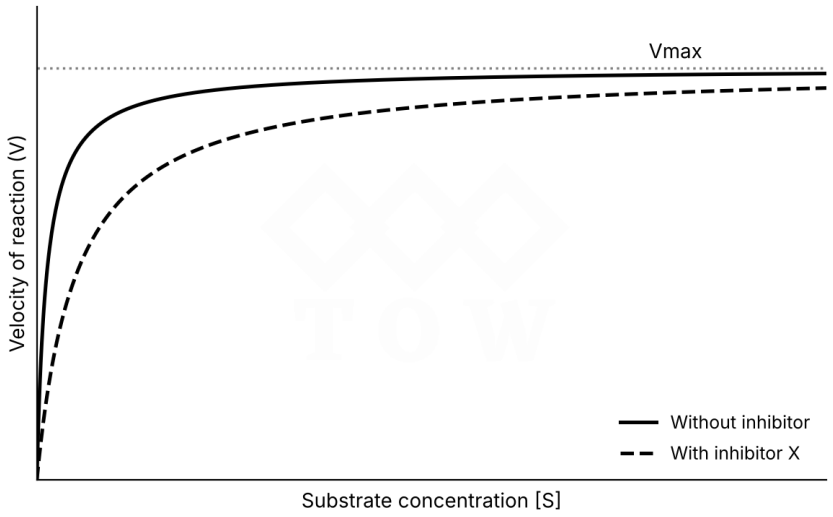
Other Options:
(A) 8:30 AM, Sunday — This is the local time at **60° E**, which is only 1 h 30 min behind IST.
(C) 6:30 PM, Saturday — This is the local time at **150° W**, which is 15 h 30 min behind IST.
(D) 11:30 PM, Sunday — It would need 13 h 30 min to be **added** to IST; time is added only for places to the **east**.

[OAVS PGT Biology Mock Test-02 (Easy)]

Q-8 The given graph shows the velocity of an enzyme-catalysed reaction at different substrate concentrations, without an inhibitor and in the presence of an inhibitor X. On the basis of the graph, inhibitor X is most likely a/an _____.

ଦିଆଯାଇଥିବା ଗ୍ରାଫଟି ବିଭିନ୍ନ ସବଷ୍ଟ୍ରେଟ ସାନ୍ଦ୍ରତା (substrate concentrations) ରେ, ନିରୋଧକ (inhibitor) ବିନା ଏବଂ ଏକ ନିରୋଧକ X ର ଉପସ୍ଥିତିରେ, ଏକ ଏନଜାଇମ-ଉତ୍ପ୍ରେରିତ (enzyme-catalysed) ପ୍ରତିକ୍ରିୟାର ବେଗ ଦର୍ଶାଉଛି । ଗ୍ରାଫ ଆଧାରରେ, ନିରୋଧକ X ସମ୍ଭବତଃ ଏକ _____ ।

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(A) non-competitive inhibitor
(B) competitive inhibitor
(C) uncompetitive inhibitor
(D) allosteric activator

ANS- (B) competitive inhibitor

Explanation: With inhibitor X the curve rises more slowly, but at high substrate concentration it reaches the **same** V_{max}. So X raises K_m and leaves V_{max} unchanged, the mark of **competitive inhibition**. Such an inhibitor resembles the substrate and competes for the active site, so excess substrate overcomes it.

Key Points:

✦ *Classic example:* **malonate inhibits succinic dehydrogenase**

✦ *Medical use:* **competitive inhibitors help control bacterial pathogens**

✦ *Lineweaver-Burk plot:* **the two lines meet on the y-axis (same $\frac{1}{V_{max}}$)**

✦ *Nature of binding:* **reversible**

Inhibitor type	V_{max}	K_m
Competitive	**unchanged**	**increases**
Non-competitive	decreases	unchanged
Uncompetitive	decreases	decreases

Other Options:

(A) non-competitive inhibitor - It binds a site away from the active site and lowers V_{max} while K_m stays the same.

(C) uncompetitive inhibitor - It binds only to the enzyme-substrate complex and lowers both V_{max} and K_m.

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(D) allosteric activator - It binds a regulatory site and raises enzyme activity, giving a curve above the uninhibited one.
Memory Hook: Competitive = Catch-up: more substrate, same V_{max}.

[OAVS PET Mock Test-02 (Easy)]

Q-9 The maximum heart rate of a 30-year-old person is taken as 220 minus age. The heart rate at 80% of the maximum heart rate is:
30 ବର୍ଷ ବୟସ୍କ ଜଣେ ବ୍ୟକ୍ତିଙ୍କ ସର୍ବାଧିକ ହୃତ୍ସ୍ପନ୍ଦନ ହାର (maximum heart rate) 220 ବିୟୋଗ ବୟସ ଭାବରେ ନିଆଯାଏ । ସର୍ବାଧିକ ହୃତ୍ସ୍ପନ୍ଦନ ହାରର 80% ରେ ହୃତ୍ସ୍ପନ୍ଦନ ହାର କେତେ ?

(A) 133 beats per minute
(B) 160 beats per minute
(C) 170 beats per minute
(D) 152 beats per minute

ANS- (D) 152 beats per minute

Explanation: First find the maximum heart rate (MHR) with the formula $\text{MHR} = 220 - \text{age}$. Then take **80%** of it to get the target heart rate.
$\rightarrow \text{MHR} = 220 - 30 = 190 \text{ beats per minute}$
$\rightarrow 80\% \text{of MHR} = \frac{80}{100} \times 190$
$\Rightarrow = 152 \text{ beats per minute}$
This rate falls in the **vigorous** training zone, which builds aerobic fitness.

Key Points:
✦ *Karvonen method:* **uses heart rate reserve,** $\text{HRR} = \text{MHR} - \text{resting HR}$
✦ *Moderate zone:* **about 50% to 70% of MHR**
✦ *Checked by:* **counting the pulse or a heart-rate monitor**

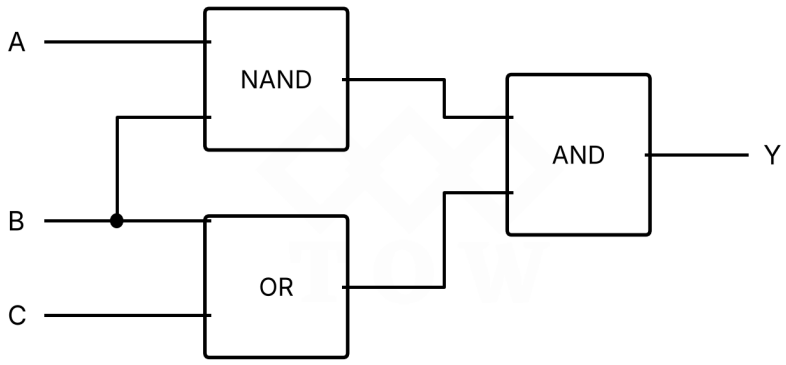
Other Options:
(A) 133 beats per minute — This is 70% of the maximum heart rate of 190.
(B) 160 beats per minute — This is 80% of 200, the maximum heart rate of a 20-year-old.
(C) 170 beats per minute — This is about 89% of 190, close to the top end of training intensity.

[OAVS Computer Teacher Mock Test-02 (Easy)]

Q-10 Which Boolean expression is represented by the logic circuit shown in the figure?

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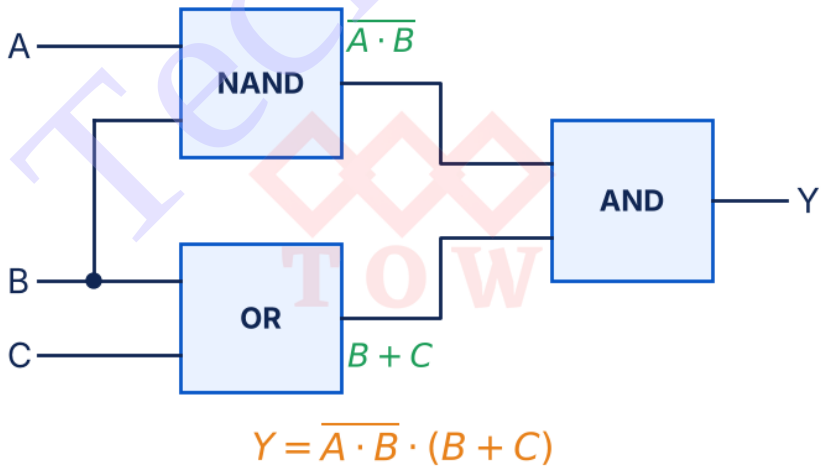
ଚିତ୍ରରେ ଦର୍ଶାଯାଇଥିବା ଲଜିକ ସର୍କିଟ (Logic Circuit) କେଉଁ ବୁଲିଆନ ବ୍ୟଞ୍ଜକ (Boolean Expression)କୁ ଉପସ୍ଥାପନ କରେ ?



(A) $Y = \overline{A+B} \cdot (B+C)$
(B) $Y = \overline{A \cdot B \cdot (B+C)}$
(C) $Y = \overline{A \cdot B} + (B+C)$
(D) $Y = \overline{A \cdot B} \cdot (B+C)$

ANS- (D) $Y = \overline{A \cdot B} \cdot (B+C)$

Explanation: Follow the circuit gate by gate. The **NAND** gate gets A and B, so its output is $\overline{A \cdot B}$. The **OR** gate gets B and C, so its output is $B+C$. Both outputs go into the **AND** gate, which multiplies them.
$\rightarrow Y = \overline{A \cdot B} \cdot (B+C)$



Key Points:
✦ *NAND output:* **0 only when all its inputs are 1**
✦ *Universal gates:* **NAND and NOR can build every other gate**

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✦ *Branch point:* **input B feeds both the NAND and the OR gate**

Other Options:
(A) $Y = \overline{A + B} \cdot (B + C)$ — It is the output when a NOR gate takes the place of the NAND gate.
(B) $Y = \overline{A \cdot B \cdot (B + C)}$ — It is the output of one NAND gate with all three terms as inputs.
(C) $Y = \overline{A \cdot B} + (B + C)$ — It is the output when an OR gate takes the place of the final AND gate.

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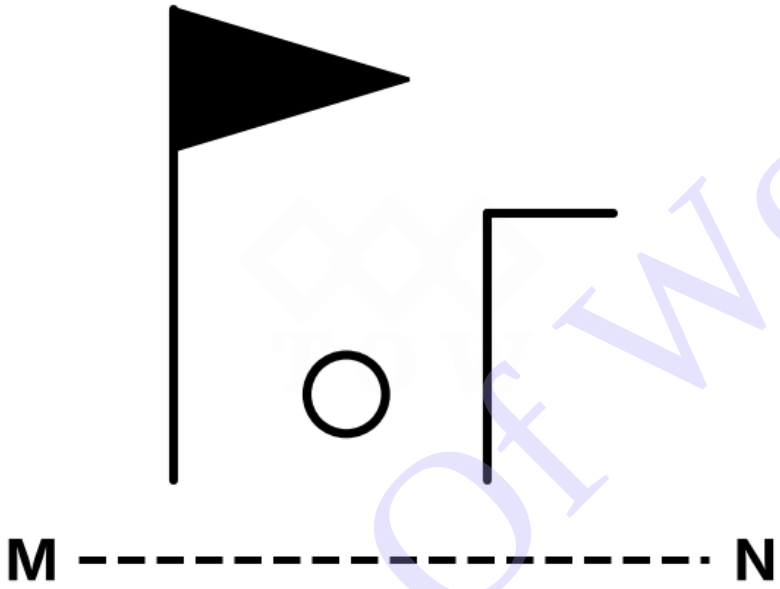
MODERATE LEVEL – 5 QUESTIONS

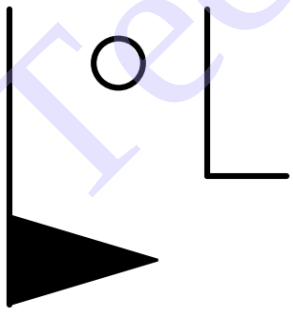
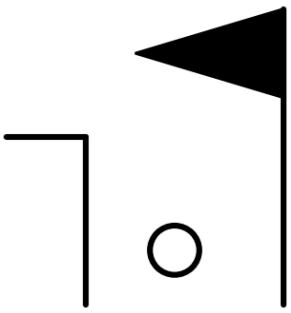
From the Moderate mocks – a step up in difficulty.

[OAVS Mock Test-05 (Moderate) – Reasoning]

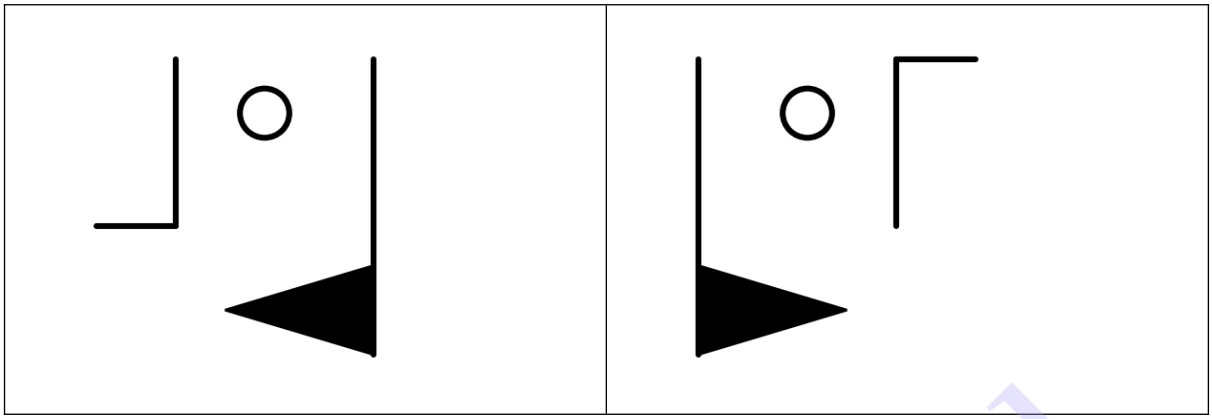
Q-11 Select the correct water image of the given figure when the water surface is along the line MN as shown.

ଜଳପୃଷ୍ଠ ଦର୍ଶାଯାଇଥିବା ପରି MN ରେଖା ବରାବର ରହିଲେ, ଦିଆଯାଇଥିବା ଚିତ୍ରର ସଠିକ୍ ଜଳ ପ୍ରତିବିମ୍ବ (water image) ବାଛନ୍ତୁ ।



(A) 	**(B)** 
(C)	**(D)**

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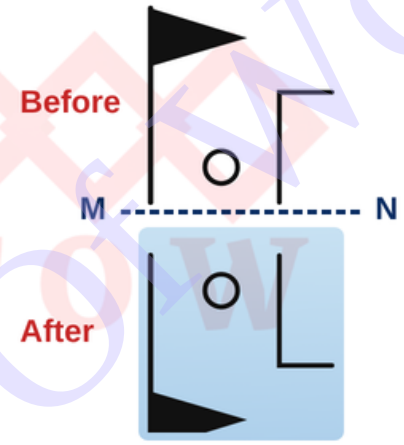


ANS- (A) Figure (A)

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Feature	Flag	Circle	Hook
Original Image			
Water Image			
Hint	Flag moves to the bottom.	Circle moves to the top.	Bar goes to the bottom.

Combine the three checks



- ✗ Bar of the hook still on top = hook not flipped.
- ✗ Flag pole moved to the right = mirror or turned figure.
- ✓ Left to right order kept, everything flipped top to bottom.

Ans - Figure (A)

SHORTCUT: Swap top and bottom. Keep left and right.

★ FINAL ANSWER: Figure (A)

flag at the bottom, circle at the top

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[OAVS PGT English Mock Test-04 (Moderate)]

Q-12 Match List I (critical works) with List II (critics):
List I: i. An Apology for Poetry ii. An Essay of Dramatic Poesy iii. Preface to Shakespeare iv. Culture and Anarchy
List II: a. Samuel Johnson b. Matthew Arnold c. Philip Sidney d. John Dryden
(A) i-c, ii-d, iii-a, iv-b
(B) i-c, ii-d, iii-b, iv-a
(C) i-c, ii-a, iii-d, iv-b
(D) i-d, ii-c, iii-a, iv-b

ANS- (A) i-c, ii-d, iii-a, iv-b

Explanation: ଠିକ୍ ମେଳ: **An Apology for Poetry – Philip Sidney**, **An Essay of Dramatic Poesy – John Dryden**, **Preface to Shakespeare – Samuel Johnson**, **Culture and Anarchy – Matthew Arnold** । ତେଣୁ କ୍ରମ **i-c, ii-d, iii-a, iv-b** । ଏହି ଚାରିଟି ରଚନା ଇଂରାଜୀ ସମାଲୋଚନାର **ଚାରି ଯୁଗ** — Elizabethan, Restoration, 18 ଶତାବ୍ଦୀ ଓ Victorian — କୁ ଦେଖାଏ । **Sidney, Dryden, Johnson and Arnold match the four works in that order.**

ରଚନା	ସମାଲୋଚକ	ସୂଚନା
An Apology for Poetry	**Philip Sidney**	1595 ରେ ଛପା; Stephen Gosson ଙ୍କ ଆକ୍ରମଣର ଉତ୍ତର
An Essay of Dramatic Poesy	**John Dryden**	1668; Thames ନଦୀରେ ଡଙ୍ଗାରେ ଚାରି ଜଣଙ୍କ ସଂଳାପ
Preface to Shakespeare	**Samuel Johnson**	1765; Shakespeare ଙ୍କୁ "poet of nature" କହିଲେ
Culture and Anarchy	**Matthew Arnold**	1869; "sweetness and light"

Key Points:
✦ *Sidney ଙ୍କ ରଚନାର ଅନ୍ୟ ନାମ:* **The Defence of Poesy**
✦ *Dryden ଙ୍କ ସଂଳାପରେ ନିଜ ପ୍ରତିନିଧି:* **Neander**
✦ *Arnold ଙ୍କ ସମାଜ ବିଭାଗ:* **Barbarians, Philistines, Populace**

Other Options:
(B) i-c, ii-d, iii-b, iv-a — ଶେଷ ଦୁଇଟି ଅଦଳବଦଳ: Preface to Shakespeare ର ଲେଖକ **Samuel Johnson** ଓ Culture and Anarchy ର ଲେଖକ **Matthew Arnold** ।
(C) i-c, ii-a, iii-d, iv-b — ମଝି ଦୁଇଟି ଅଦଳବଦଳ: An Essay of Dramatic

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Poesy – **Dryden**, Preface to Shakespeare – **Johnson** ।
(D) i-d, ii-c, iii-a, iv-b — ପ୍ରଥମ ଦୁଇଟି ଅଦଳବଦଳ: An Apology for Poetry – **Sidney**, An Essay of Dramatic Poesy – **Dryden** ।

[OAVS PGT Mathematics Mock Test-05 (Moderate)]

Q-13 The number of common tangents to the circles

$x^2+y^2=9$

$x^2+y^2-8x+12=0$

is:

ବୃତ୍ତ (circles)

$x^2+y^2=9$

$x^2+y^2-8x+12=0$

ର ସାଧାରଣ ସ୍ପର୍ଶକ (common tangents) ସଂଖ୍ୟା କେତେ ?

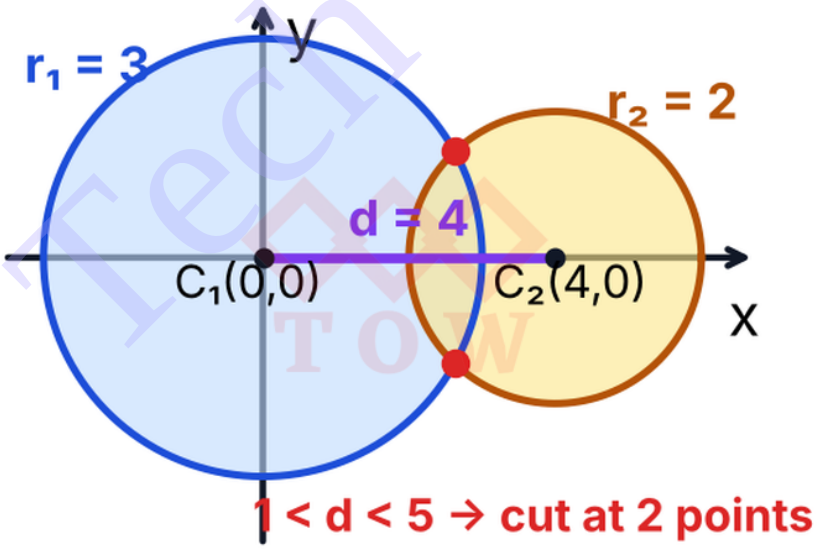
(A) 2
(B) 1
(C) 4
(D) 3

ANS- (A) 2

Given:

→ $S_1: x^2+y^2=9$

→ $S_2: x^2+y^2-8x+12=0$



Concept:

➔ Compare the distance d between centres with r_1+r_2 and $|r_1-r_2|$:

➔ $d>r_1+r_2$: 4 tangents; $d=r_1+r_2$: 3; $|r_1-r_2|<d<r_1+r_2$: 2; $d=|r_1-r_2|$: 1; $d<|r_1-r_2|$:

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Solution:

→ S_1: centre $C_1(0,0)$, $r_1=3$

→ S_2: centre $C_2(4,0)$, $r_2=\sqrt{16-12}=2$

→ $d=C_1C_2=4$

→ $r_1+r_2=5, |r_1-r_2|=1$

$\Rightarrow 1<4<5$

→ So the circles cut each other at two points and have 2 common tangents

∴ Ans: (A) 2

Hint:

➔ Trap: 3 tangents need the circles to touch from outside ($d=5$); here d is only 4.

[OAVS PGT Physics Mock Test-05 (Moderate)]

Q-14 In a photoelectric experiment, the stopping potential V_0 is plotted against the frequency ν of the incident light for a given metal. The slope of the straight-line graph obtained is equal to:
ଏକ ପ୍ରକାଶ-ବିଦ୍ୟୁତ୍ ପରୀକ୍ଷଣ (photoelectric experiment) ରେ, ଏକ ନିର୍ଦ୍ଦିଷ୍ଟ ଧାତୁ ପାଇଁ ନିରୋଧୀ ବିଭବ (stopping potential) V_0 କୁ ଆପତିତ ଆଲୋକର ଆବୃତ୍ତି (frequency) ν ବିପକ୍ଷରେ ଲେଖଚିତ୍ର (graph) ରେ ଅଙ୍କନ କରାଯାଏ । ମିଳୁଥିବା ସରଳରେଖା ଲେଖଚିତ୍ରର ପ୍ରବଣତା (slope) କାହା ସହିତ ସମାନ ?

(A) $\frac{e}{h}$

(B) $\frac{h}{e}$

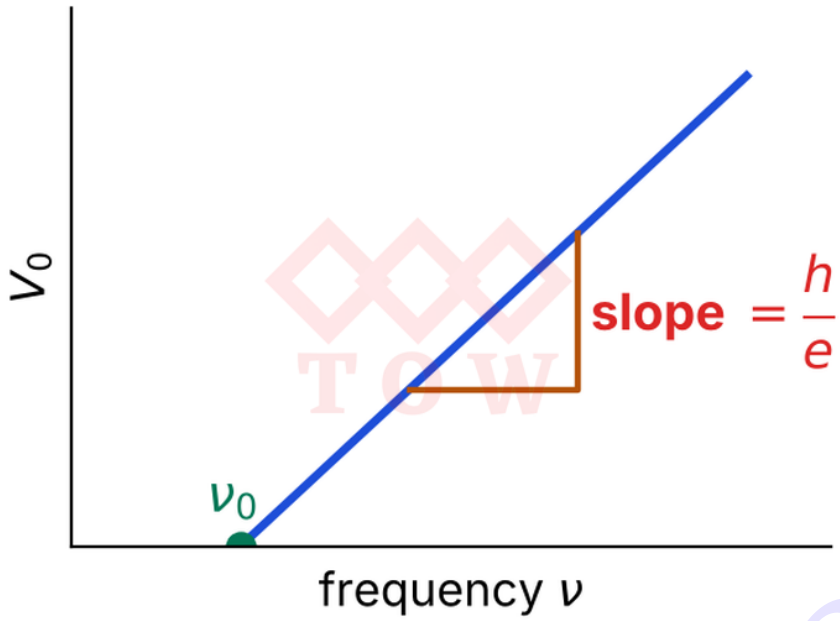
(C) h

(D) $\frac{\phi_0}{e}$

ANS- (B) $\frac{h}{e}$

Explanation: Einstein's photoelectric equation is $eV_0=h\nu-\phi_0$. Dividing by e gives $V_0=\left(\frac{h}{e}\right)\nu-\frac{\phi_0}{e}$, which is a straight line $y=mx+c$. So the **slope** of the V_0–ν graph is $\frac{h}{e}$, the **same for every metal**. **Robert Millikan** used this graph in **1916** to find Planck's constant, $h=e\times\text{slope}$.

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Key Points:

✦ *x-intercept:* **threshold frequency** $\nu_0 = \frac{\phi_0}{h}$

✦ *Value of slope:* **about** $4.1 \times 10^{-15} V\,s$

✦ *Different metals:* **parallel lines with different** ν_0

Other Options:

(A) $\frac{e}{h}$ — It is the slope of a ν–V_0 graph, with the axes swapped.

(C) h — It is the slope of a graph of maximum kinetic energy K_{max} against ν.

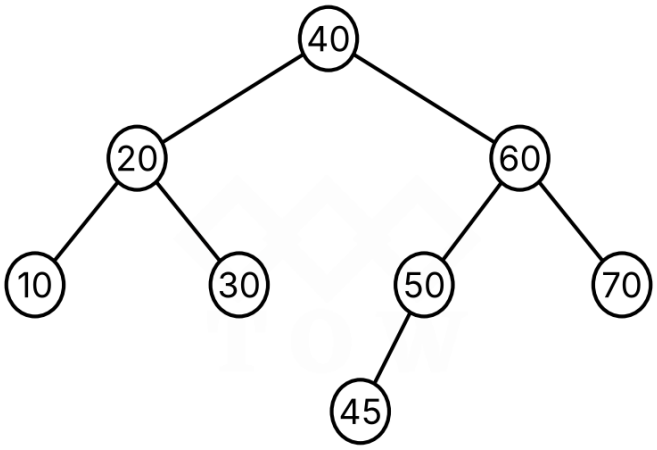
(D) $\frac{\phi_0}{e}$ — It is the size of the negative y-intercept of the line.

[OAVS PGT Computer Science Mock Test-06 (Moderate)]

Q-15 How many key comparisons (including the successful one) are needed to search for the key 45 in the binary search tree shown in the figure?

ଚିତ୍ରରେ ଦର୍ଶାଯାଇଥିବା ବାଇନାରୀ ସର୍ଚ୍ଚ ଟ୍ରି (binary search tree) ରେ କି 45 ଖୋଜିବା ପାଇଁ କେତୋଟି କି ତୁଳନା (ସଫଳ ତୁଳନା ସହିତ) ଆବଶ୍ୟକ ?

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(A) 3
(B) 5
(C) 4
(D) 6

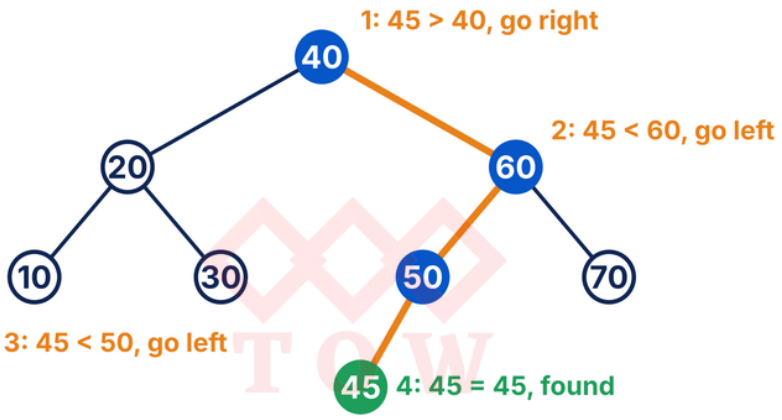
ANS- (C) 4

Explanation: A **binary search tree** keeps smaller keys on the left and larger keys on the right. Searching for 45 starts at the root and compares once at each node on the path:

```
45 vs 40  ->  larger,  go right
45 vs 60  ->  smaller, go left
45 vs 50  ->  smaller, go left
45 vs 45  ->  equal,   found
```

The path is 40, 60, 50, 45, so the search takes **4 comparisons**. The count equals the **depth of the node + 1**.

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Comparisons = 4 (path 40 → 60 → 50 → 45)

Key Points:

✦ *Search time in a balanced BST:* $O(\log n)$
✦ *Worst case in a skewed BST:* $O(n)$
✦ *Height of this tree:* **3 edges (root to 45)**

Other Options:

(A) 3 — It is the number of comparisons for 50, the parent of 45 (40, 60, 50).
(B) 5 — It is the number of comparisons a **linear search** needs on the sorted list 10, 20, 30, 40, 45.
(D) 6 — It is the place of 50 in **level order** (40, 20, 60, 10, 30, 50), the order a queue-based traversal visits nodes.

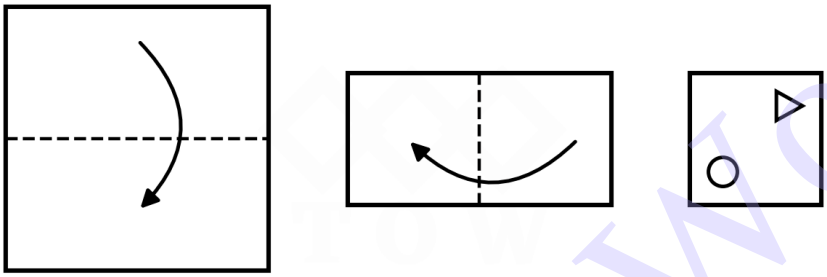
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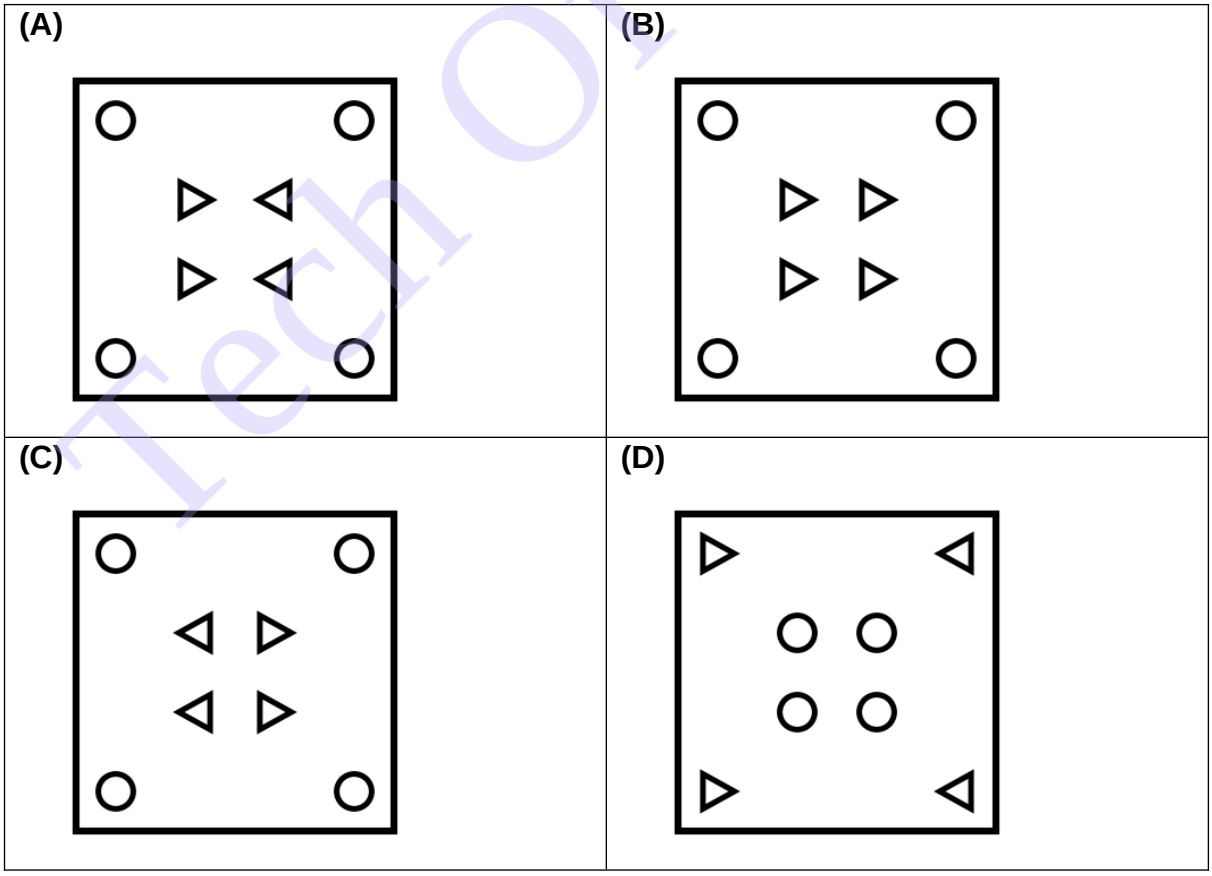
HARD LEVEL – 5 QUESTIONS

From the Hard mocks – exam-level tough questions.

[OAVS Mock Test-09 (Hard) – Reasoning]

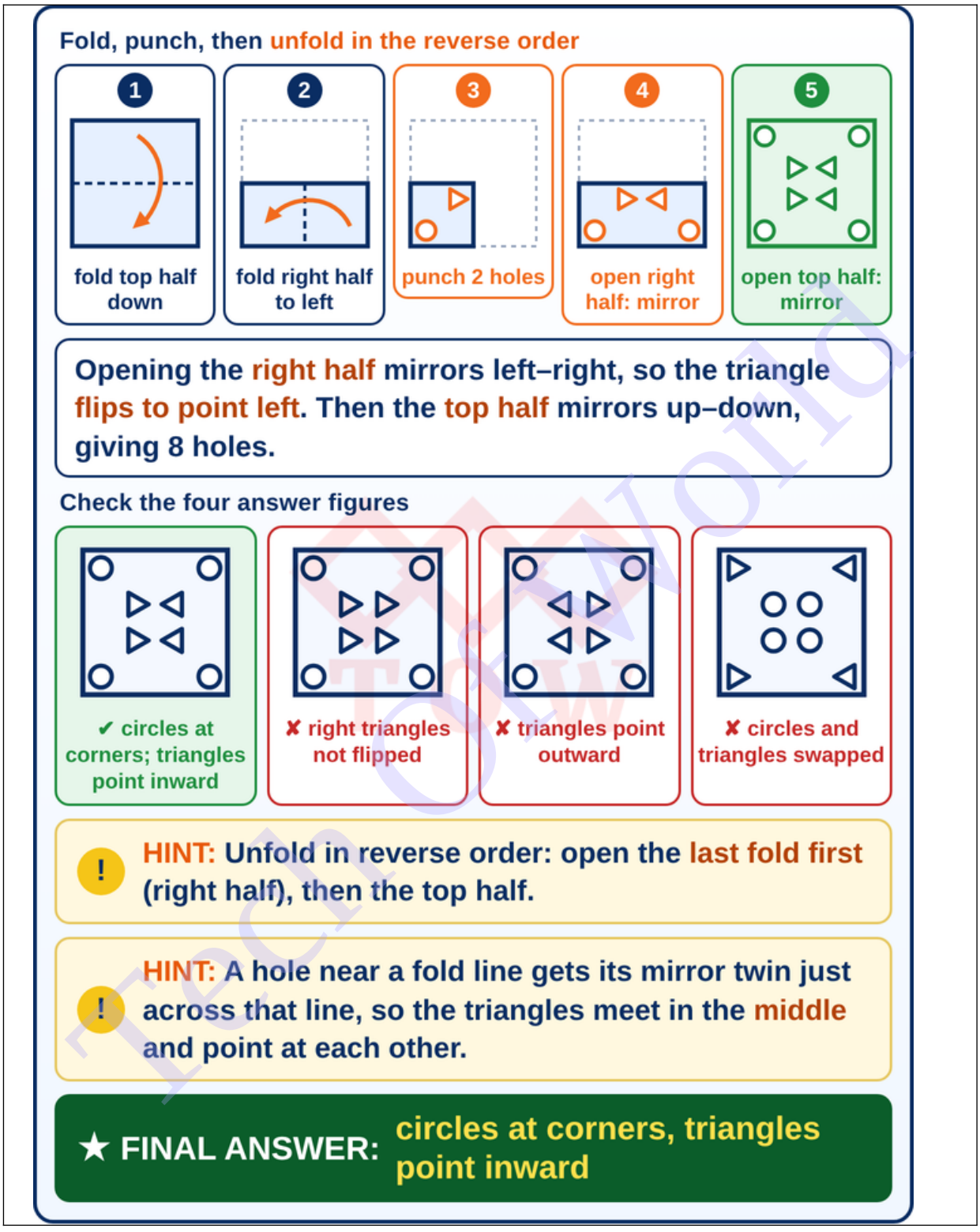
Q-16 A square sheet of paper is folded along the dotted lines in the sequence shown in figures (i) and (ii), and then holes are punched as shown in figure (iii). How will the paper look when it is unfolded?
ଏକ ବର୍ଗାକାର କାଗଜକୁ ଚିତ୍ର (i) ଓ (ii) ରେ ଦର୍ଶାଯାଇଥିବା କ୍ରମରେ ବିନ୍ଦୁରେଖା (dotted lines) ବରାବର ଭାଙ୍ଗାଯାଇଛି, ଏବଂ ତା'ପରେ ଚିତ୍ର (iii) ରେ ଦର୍ଶାଯାଇଥିବା ପରି ଛିଦ୍ର କରାଯାଇଛି । କାଗଜକୁ ଖୋଲିଲେ ଏହା କିପରି ଦେଖାଯିବ ?





ANS- (A) Figure (A)

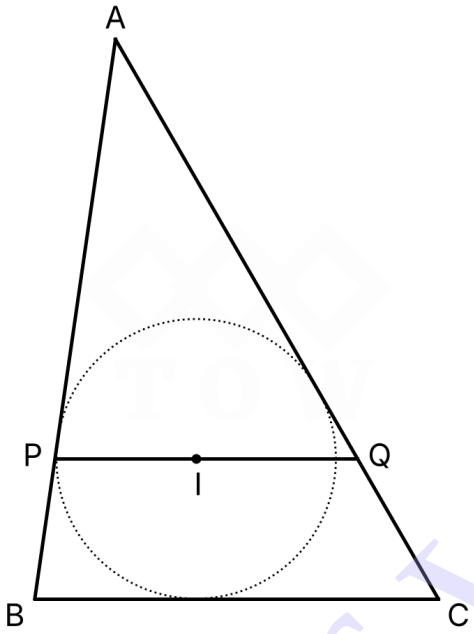
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[OAVS TGT Math Mock Test-10 (Hard)]

Q-17 In the given figure, I is the incentre of $\triangle ABC$ with $AB=14$ cm, $BC=10$ cm and $CA=16$ cm. The line through I parallel to BC meets AB at P and AC at Q. The perimeter of $\triangle APQ$ is:

ଦତ୍ତ ଚିତ୍ରରେ, I ହେଉଛି $\triangle ABC$ ର ଅନ୍ତଃକେନ୍ଦ୍ର (incentre), ଯେଉଁଠାରେ $AB=14$ cm, $BC=10$ cm ଓ $CA=16$ cm । I ଦେଇ BC ସହ ସମାନ୍ତର ରେଖାଟି AB କୁ P ରେ ଏବଂ AC କୁ Q ରେ ଛେଦ କରେ । $\triangle APQ$ ର ପରିସୀମା (perimeter) କେତେ ?



(A) $40\,cm$
(B) $35\,cm$
(C) $30\,cm$
(D) $25\,cm$

ANS- (C) $30\,cm$

Given:
➔ I = incentre of $\triangle ABC$, $AB=14$ cm, $BC=10$ cm, $CA=16$ cm
➔ $PQ \parallel BC$ through I, P on AB, Q on AC

Concept:
➔ BI bisects $\angle B$, so $\angle PBI=\angle IBC$; and $PQ \parallel BC$ gives $\angle PIB=\angle IBC$ (alternate angles)
➔ So $\angle PBI=\angle PIB$, hence $\triangle PBI$ is isosceles: $PI=PB$. In the same way $QI=QC$

Solution:
$\rightarrow \text{Perimeter}(\triangle APQ)=AP+PI+IQ+QA$
$\Rightarrow \text{Perimeter}=AP+PB+QC+QA$
$\Rightarrow \text{Perimeter}=AB+AC=14+16=30\,cm$
$\therefore$ Ans: (C) 30 cm

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Hint:
➔ Trap: $BC=10$ cm is not needed; the perimeter is always $AB+AC$ for the line through the incentre

[OAVS TGT Science Mock Test-09 (Hard)]

Q-18 Arrange the following carboxylic acids in INCREASING order of their acid strength.

(i) Ethanoic acid, CH_3COOH

(ii) Methanoic acid, $HCOOH$

(iii) 2,2-Dimethylpropanoic acid, $(CH_3)_3CCOOH$

(iv) Propanoic acid, CH_3CH_2COOH

ନିମ୍ନଲିଖିତ କାର୍ବକ୍ସିଲିକ ଅମ୍ଳଗୁଡ଼ିକୁ ସେମାନଙ୍କ ଅମ୍ଳୀୟ ଶକ୍ତି (acid strength) ର ଊର୍ଦ୍ଧ୍ୱକ୍ରମ (INCREASING order) ରେ ସଜାନ୍ତୁ ।

(i) ଇଥାନୋଇକ ଅମ୍ଳ (Ethanoic acid), CH_3COOH

(ii) ମିଥାନୋଇକ ଅମ୍ଳ (Methanoic acid), $HCOOH$

(iii) 2,2-ଡାଇମିଥାଇଲପ୍ରୋପାନୋଇକ ଅମ୍ଳ (Dimethylpropanoic acid), $(CH_3)_3CCOOH$

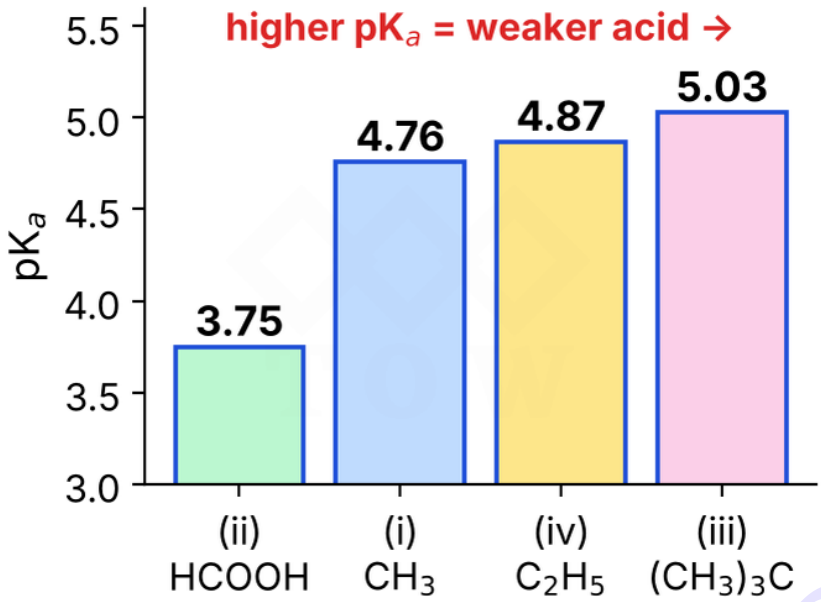
(iv) ପ୍ରୋପାନୋଇକ ଅମ୍ଳ (Propanoic acid), CH_3CH_2COOH

(A) (ii) < (i) < (iv) < (iii)
(B) (iv) < (iii) < (i) < (ii)
(C) (iii) < (i) < (iv) < (ii)
(D) (iii) < (iv) < (i) < (ii)

ANS- (D) (iii) < (iv) < (i) < (ii)

Given:
➔ (i) CH_3COOH, (ii) $HCOOH$, (iii) $(CH_3)_3CCOOH$, (iv) CH_3CH_2COOH
➔ pK_a: (ii) 3.75, (i) 4.76, (iv) 4.87, (iii) 5.03

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Concept:
➔ Alkyl groups push electrons (**+I effect**); this makes the carboxylate ion less stable, so the acid becomes **weaker**
➔ More alkyl groups near –COOH → stronger +I → weaker acid (higher pK_a)

Solution:
→ HCOOH: no alkyl group → strongest
⇒ CH_3 (one group) < C_2H_5 < $(CH_3)_3C$ (three methyls) in +I effect
⇒ Acid strength: (iii) < (iv) < (i) < (ii)
➤ Ans: (D) (iii) < (iv) < (i) < (ii)

Why not others:
➔ **(A) (ii) < (i) < (iv) < (iii)** — this is the **decreasing** order of strength.
➔ **(B) (iv) < (iii) < (i) < (ii)** — the tert-butyl acid (iii) has the strongest +I effect, so it is weaker than (iv).
➔ **(C) (iii) < (i) < (iv) < (ii)** — propanoic acid (4.87) is weaker than ethanoic acid (4.76).

Hint:
➔ Lower pK_a = stronger acid; −I groups (Cl, NO_2) do the opposite and raise acid strength.

[OAVS PGT Physics Mock Test-07 (Hard)]

Q-19 A long straight wire carries a current of 10 A. A rectangular loop of sides 10 cm and 5 cm, carrying a current of 5 A, lies in the same plane with its 10 cm sides parallel to the wire, the nearer side

being 5 cm from the wire. The magnitude of the net magnetic force on the loop is:
(Take $\mu_0 = 4\pi \times 10^{-7} T\,m\,A^{-1}$)
ଏକ ଲମ୍ବା ସିଧା ତାରରେ 10 A ବିଦ୍ୟୁତ୍ ପ୍ରବାହ ପ୍ରବାହିତ ହେଉଛି । 5 A ବିଦ୍ୟୁତ୍ ପ୍ରବାହ ବହନ କରୁଥିବା 10 cm ଓ 5 cm ବାହୁ ବିଶିଷ୍ଟ ଏକ ଆୟତାକାର ଲୁପ (rectangular loop) ସେହି ସମତଳରେ ଅଛି; ଏହାର 10 cm ବାହୁଗୁଡ଼ିକ ତାର ସହିତ ସମାନ୍ତର ଏବଂ ନିକଟତର ବାହୁଟି ତାରଠାରୁ 5 cm ଦୂରରେ । ଲୁପ ଉପରେ ମୋଟ ଚୁମ୍ବକୀୟ ବଳ (net magnetic force) ର ପରିମାଣ କେତେ ?
($\mu_0 = 4\pi \times 10^{-7} T\,m\,A^{-1}$ ନିଅ)

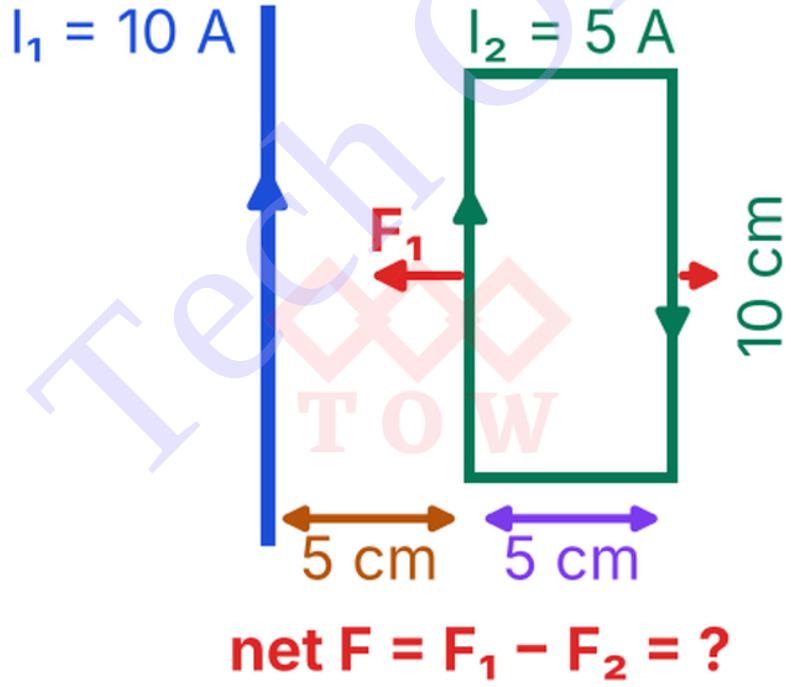
(A) $1.0 \times 10^{-5} N$
(B) $2.0 \times 10^{-5} N$
(C) $3.0 \times 10^{-5} N$
(D) $5.0 \times 10^{-6} N$

ANS- (A) $1.0 \times 10^{-5} N$

Given:

→ $I_1 = 10\,A\,(\text{wire}), I_2 = 5\,A\,(\text{loop}), L = 0.1\,m$

→ $r_1 = 0.05\,m\,(\text{near side}), r_2 = 0.05 + 0.05 = 0.10\,m\,(\text{far side})$



Concept:

➔ Force between parallel wires: $F = \dfrac{\mu_0 I_1 I_2 L}{2\pi r}$

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➔ The forces on the two short sides cancel; the near side (attracted) and far side (repelled) give the net force

Solution:

$\rightarrow F_{\text{net}} = \frac{\mu_0 I_1 I_2 L}{2\pi}\left(\frac{1}{r_1} - \frac{1}{r_2}\right)$

$\rightarrow \frac{\mu_0 I_1 I_2 L}{2\pi} = 2 \times 10^{-7} \times 10 \times 5 \times 0.1 = 10^{-6}$

$\rightarrow F_{\text{net}} = 10^{-6} \times \left(\frac{1}{0.05} - \frac{1}{0.10}\right) = 10^{-6} \times 10$

$\Rightarrow F_{\text{net}} = 1.0 \times 10^{-5} N$

$\therefore$ Ans: (A) $1.0 \times 10^{-5} N$

Hint:

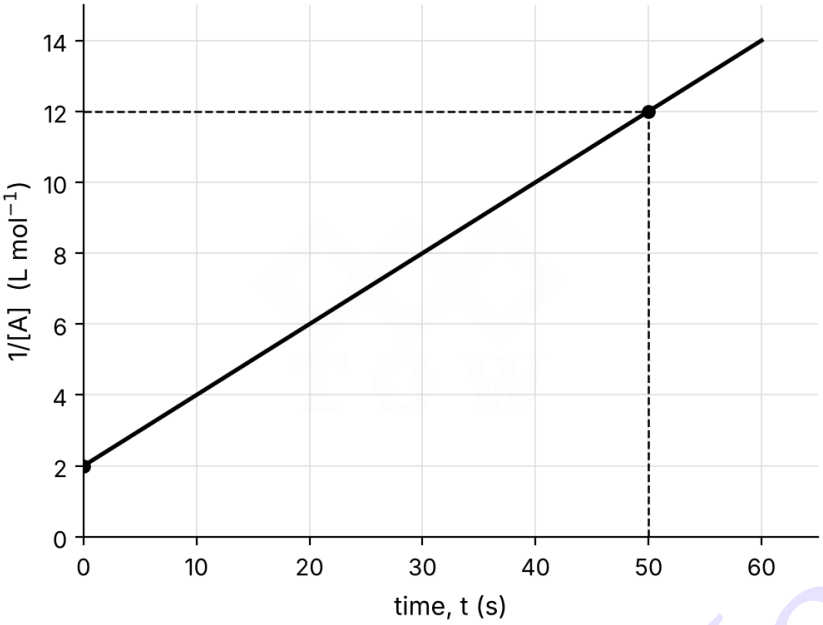
➔ Trap: adding the two forces ($2 \times 10^{-5} + 1 \times 10^{-5}$) gives 3.0×10^{-5} N, option (C); they act in opposite directions.

[OAVS PGT Chemistry Mock Test-07 (Hard)]

Q-20 The given figure shows a straight-line plot of 1/[A] against time for the reaction A -> products. What are the rate constant of the reaction and the time taken for [A] to fall to one-fourth of its initial value, respectively?

ଦିଆଯାଇଥିବା ଚିତ୍ରଟି A -> ଉତ୍ପାଦ (products) ପ୍ରତିକ୍ରିୟା ପାଇଁ ସମୟ ବିରୁଦ୍ଧରେ 1/[A] ର ଏକ ସରଳରେଖା ଲେଖ (straight-line plot) ଦର୍ଶାଏ । ପ୍ରତିକ୍ରିୟାର ବେଗ ସ୍ଥିରାଙ୍କ (rate constant) ଓ [A] ଏହାର ପ୍ରାରମ୍ଭିକ ମାନର ଏକ-ଚତୁର୍ଥାଂଶ (one-fourth) କୁ ହ୍ରାସ ପାଇବାକୁ ଲାଗୁଥିବା ସମୟ କ୍ରମାନ୍ୱୟରେ କେତେ ?

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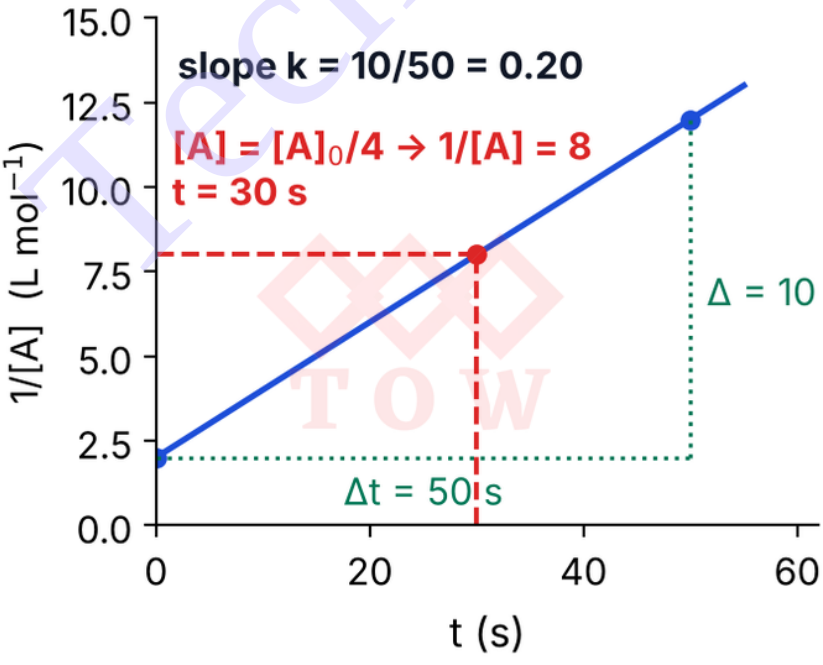


(A) $0.20\,L\,mol^{-1}s^{-1};30\,s$
(B) $0.20\,L\,mol^{-1}s^{-1};10\,s$
(C) $0.24\,L\,mol^{-1}s^{-1};25\,s$
(D) $0.20\,L\,mol^{-1}s^{-1};40\,s$

ANS- (A) $0.20\,L\,mol^{-1}s^{-1};30\,s$

Given:

➔ Graph: $\frac{1}{[A]}$ vs t is a straight line; at $t=0$, $\frac{1}{[A]}=2$; at $t=50$ s, $\frac{1}{[A]}=12\,L\,mol^{-1}$



Concept:

➔ A straight line for $\frac{1}{[A]}$ vs t means second order:

$\rightarrow \frac{1}{[A]} = \frac{1}{[A]_0} + k\,t\,, k = \text{slope}$

Solution:

➤ $k = \frac{12-2}{50-0} = 0.20\,L\,mol^{-1}s^{-1}$

$\Rightarrow [A]_0 = \frac{1}{2} = 0.50\,M\,; [A] = \frac{0.50}{4} = 0.125\,M \Rightarrow \frac{1}{[A]} = 8$

$\Rightarrow t = \frac{8-2}{0.20} = 30\,s$

➤ Ans: (A) $0.20\,L\,mol^{-1}s^{-1}$; 30 s

Why not others:

➔ **(B) 0.20; 10 s** — 10 s is the first half-life, $\frac{1}{k[A]_0}$

➔ **(C) 0.24; 25 s** — slope taken as $\frac{12}{50}$, ignoring the intercept 2

➔ **(D) 0.20; 40 s** — time for [A] to fall to one-fifth ($\frac{1}{[A]} = 10$)

Hint:

➔ For second order, $t_{\frac{1}{4}} = 3 \times t_{\frac{1}{2}}$ (10 s → 30 s); for first order it would be only $2 \times t_{\frac{1}{2}}$.

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