

Vedantu  
Learn LIVE Online

# NTSE STAGE I

BOOKLET 1



# Kone Kone Se India's Top Results

*Vaibhav Bajaj*  
(AIR 26)

International Chemistry  
Olympiad (OCS Camp)

*Pushpraj Punia*  
(AIR 16)

International Biology  
Olympiad (OCS Camp)

9

IOQA Paper-1  
Selections

16

IOQJS Paper-1  
Selections

35

KYPY-SA  
Selections

4

IOQC Paper-1  
Selections

55

Qualified  
for  
INMO

100+

School  
Olympiads  
Results

19

KYPY-SX  
Selections

2

IOQB Paper-1  
Selections

250+

IOQM  
Certificate  
Holder

5

IOQP-Paper-1  
Selections

You can be the NEXT!

# NTSE Stage-II Batch

Get expert guidance from India's Top NTSE teachers along with the expertise of Vedantu & Grab the opportunity to be

**A NTSE Scholar**

**Register Now**

ABSOLUTELY FREE!



Follow the Link Given Below to Enrol:

**[vdnt.in/NTSESTAGE1QUALIFIER](https://vdnt.in/NTSESTAGE1QUALIFIER)**

# INDEX

---

Physics \_\_\_\_\_ P.4 to P.8

Chemistry \_\_\_\_\_ P.9 to P.13

Maths \_\_\_\_\_ P.14 to P.18

Biology \_\_\_\_\_ P.19 to P.21

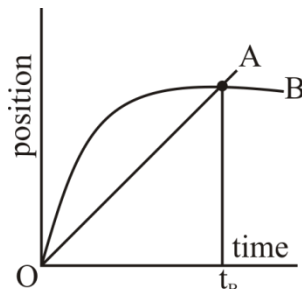
MAT \_\_\_\_\_ P.21 to P.31

SST \_\_\_\_\_ P.25 to P.34

## NTSE – STAGE -1

### PHYSICS

1. The graph shows position as a function of time for two trains A and B running on parallel tracks. For times greater than  $t = 0$ , which of the following statement is true?



- (a) At time  $t_B$ , both trains have the same velocity  
 (b) Both trains speed up all the time  
 (c) Both trains may have the same velocity at some time earlier than  $T_b$   
 (d) Graph indicates that both trains have the same acceleration at a give time.

Ans: (c)

Sol. Solution Check From: 41:43 to 45 : 37

<https://youtu.be/nu6DtpUP0ag>



2. A ball is released from the top of a tower of height  $h$  meter. It takes  $T$  seconds to reach the ground. What is the position of the ball of  $T/3$  second?
- (a)  $8h/9$  m from the ground  
 (b)  $7h/9$  m from the ground  
 (c)  $h/9$  m from the ground  
 (d)  $17h/18$  from the ground

Ans: (a)

Sol. Solution Check From: 33:55 to 37 : 34

<https://youtu.be/J6Y5a82n3IM>



3. A bomb of Mass 30 kg at rest explodes into two pieces of masses 18 kg and 12 kg. The velocity of 18 kg mass is 6 m/s. The kinetic energy of the other mass is  
 (a) 324 J                      (b) 486 J                      (c) 256 J                      (d) 524 J

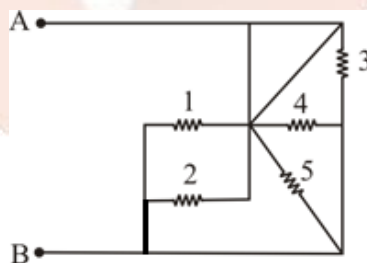
Ans: (b)

Sol. Solution Check From: 1:08:11 to 1:09:50

<https://youtu.be/J6Y5a82n3IM>



4. The circuit shown has 5 resistors of equal resistance R. Calculate equivalent resistance across points A and B.

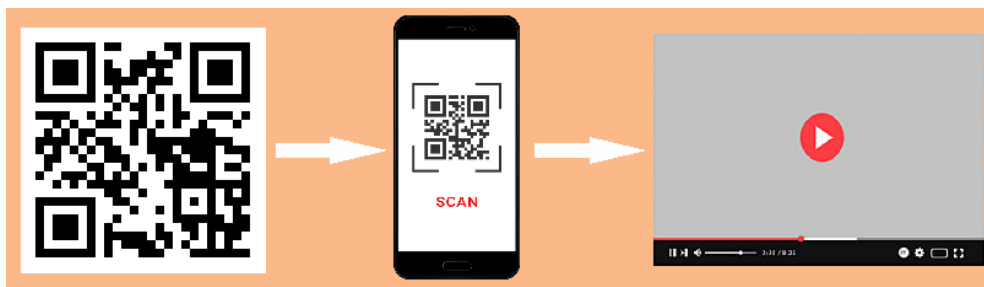


- (a)  $11R/12$                       (b)  $13R/12$                       (c)  $R/5$                       (d)  $15R/6$

Ans: (c)

Sol. Solution Check From: 20: 41 to 22:11

<https://youtu.be/GH7fH0gAG24>

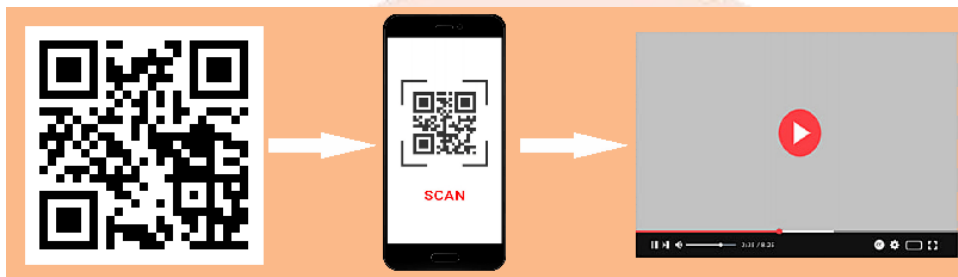


5. A wire of resistance  $R$  connected to a source of constant potential difference produces a heat  $H$  in time ' $t$ ' seconds. If the wire is stretched to twice its original length, the heat developed when connected to the same source for the same time will be:
- (a)  $2H$                       (b)  $4H$                       (c)  $H/2$                       (d)  $H/4$

Ans: (d)

Sol. Solution Check From: 42: 23 to 45:55

<https://youtu.be/GH7fH0qAG24>

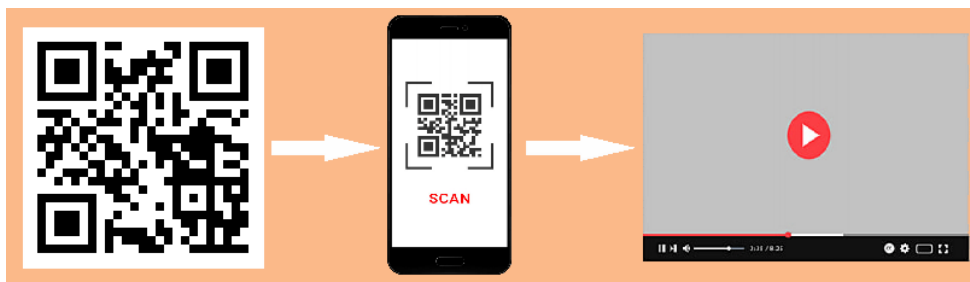


6. Two wires A and B have lengths 40 cm and 30 cm respectively. A is bent as a circle of radius  $r$  and B into an arc of radius  $r$ . A current  $I_1$  is passed through A and  $I_2$  through B. To have same magnetic field at the center, the ratio of  $I_1 : I_2$  is
- (a) 3 : 4                      (b) 3 : 5                      (c) 2 : 3                      (d) 4 : 3

Ans: (a)

Sol. Solution Check From: 22: 00 to 25:55

[https://youtu.be/h66plD3\\_Hvo](https://youtu.be/h66plD3_Hvo)

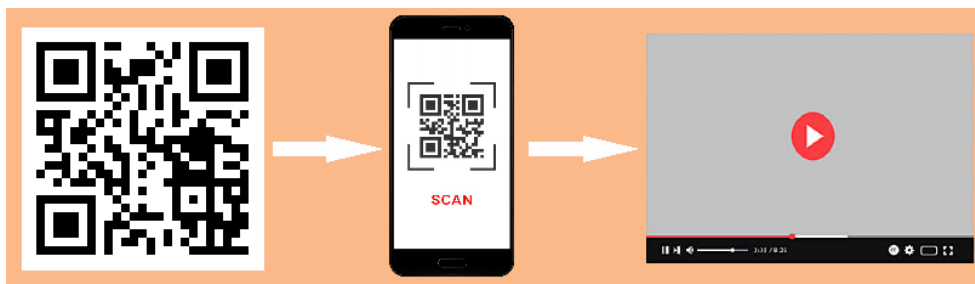


7. By keeping the incident ray fixed, a plane mirror is rotated so as to vary the angle of incidence. When the mirror is turned by  $10^\circ$ , the reflected ray is turned by:
- (a)  $10^\circ$                       (b)  $5^\circ$                       (c)  $20^\circ$                       (d)  $40^\circ$

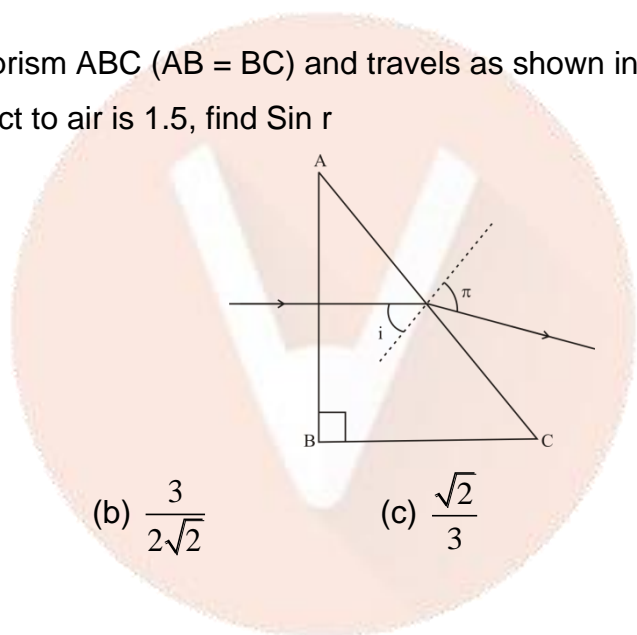
Ans: (c)

Sol. Solution Check From: 39:37 to 41:30

[https://youtu.be/h66pID3\\_Hvo](https://youtu.be/h66pID3_Hvo)



8. A ray falls on a prism ABC ( $AB = BC$ ) and travels as shown in figure. If refractive index of glass with respect to air is 1.5, find  $\sin r$



- (a)  $\frac{3}{\sqrt{2}}$                       (b)  $\frac{3}{2\sqrt{2}}$                       (c)  $\frac{\sqrt{2}}{3}$                       (d)  $\frac{2\sqrt{2}}{3}$

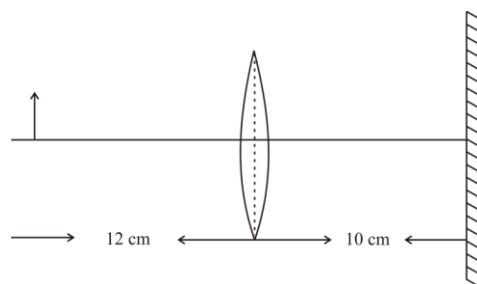
Ans: (b)

Sol. Solution Check From: 39:37 to 41:30

[https://youtu.be/h66pID3\\_Hvo](https://youtu.be/h66pID3_Hvo)



9. An object, a convex lens of focal length 20 cm and a plane mirror are arranged as shown in figure. How far behind the mirror is position of the final image of the object?

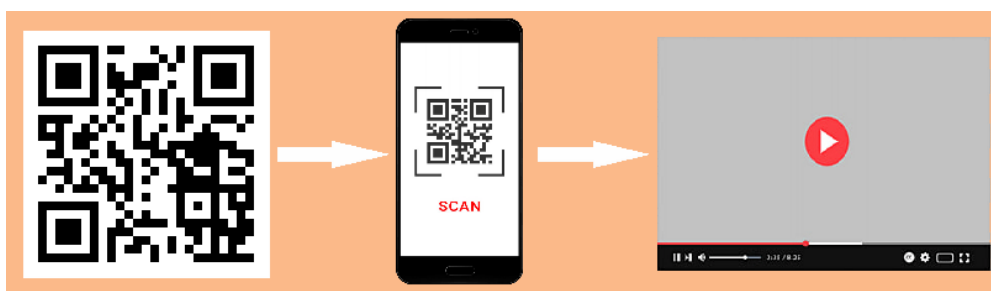


- (a) 40 cm      (b) 30 cm      (c) 20 cm      (d) 10 cm

Ans: (a)

Sol. Solution Check From: 44:51 to 48:05

[https://youtu.be/h66pID3\\_Hvo](https://youtu.be/h66pID3_Hvo)



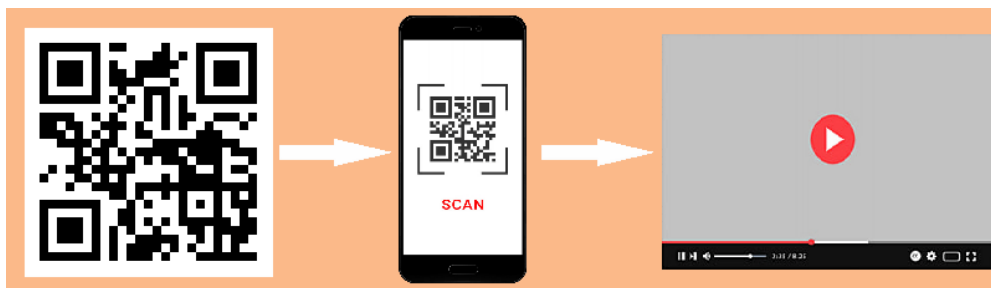
10. A sound signal is simultaneously sent in air and water from a boat on a river. The echo of sound struck by river bed is heard in 4s, while echo struck by aeroplane is heard in 8s. Find the distance between aeroplane and river bed [velocity of sound in air = 350 m/s, velocity of sound in water = 1500 m/s.]

- (a) 4.4 km      (b) 6.7 km      (c) 8.8 km      (d) 13.4 km

Ans: (a)

Sol. Solution Check From: 23:00 to 26:35

<https://youtu.be/3tuc9jOR4iw>



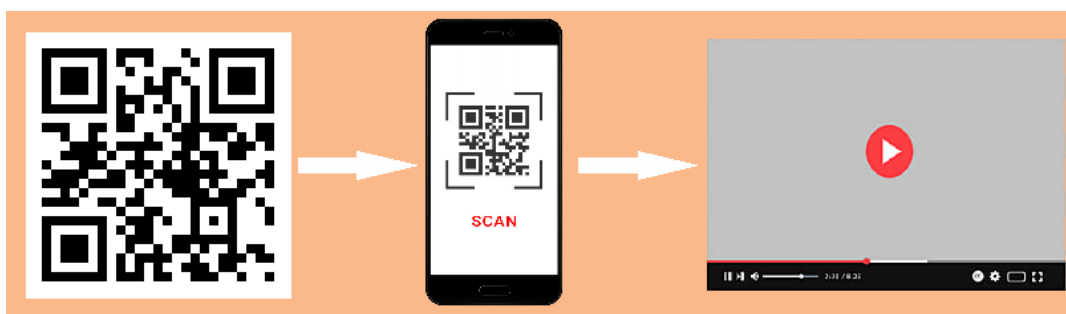
## CHEMISTRY

11. Select the correct set of statements regarding change in properties, as we move down the second group in periodic table.
- I. Atomic size increases y.
  - II. Electronegativity increases
  - III. Tendency to loose electrons increases
  - IV. Valency remains same
- (a) I, II and III                      (b) II, III and IV                      (c) I, II and                      (d) I, III and IV

Ans: (d)

Sol. Solution Check From: 27:07 to 29:18

<https://youtu.be/X3WYd4LSyP8>

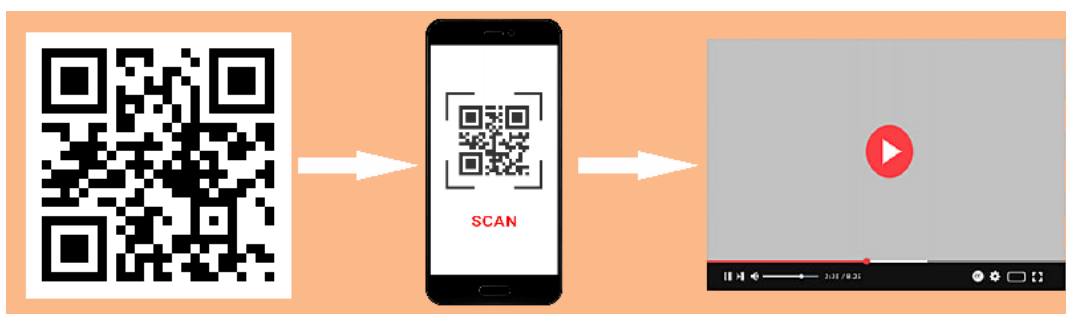


12. Two organic compounds 'A' and 'B' react with sodium metal and both produce the same gas 'X', but with sodium hydrogen carbonate only compound B reacts to give a gas 'Y'. Identify 'A', 'B', 'X' and Y: (2019)
- (a) A = Ethylene, B = Ethyl Alcohol. X = Carbon dioxide. Y = Hydrogen
  - (b) A = Ethyl Alcohol, B = Acetic acid. X = Hydrogen, Y = Carbon dioxide
  - (c) A = Methyl alcohol, B = Ethyl alcohol. X = Hydrogen, Y = Carbon dioxide
  - (d) A = Acetic acid, B = Formic acid, X = Carbon dioxide, Y = Hydrogen

Ans: (b)

Sol. Solution Check From: 32:21 to 34:29

<https://youtu.be/X3WYd4LSyP8>

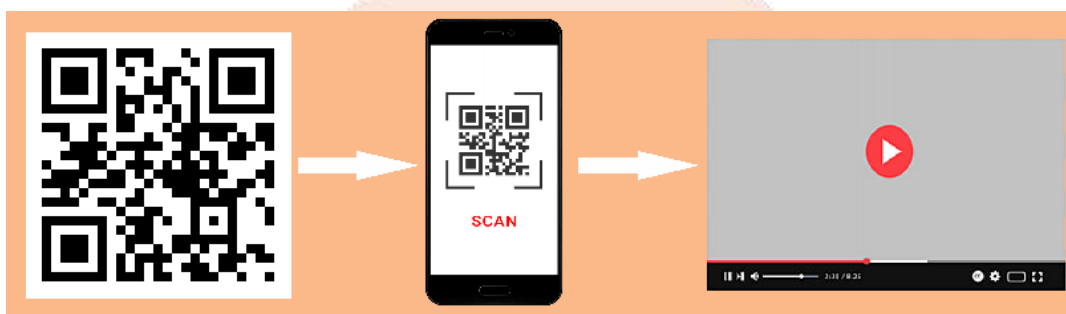


13. You are provided with 18 g each of  $O_2$ ,  $N_2$ ,  $CH_4$  and  $H_2O$ . Which of the following is the correct decreasing order of number of atoms present in these samples?
- (a)  $CH_4 > H_2O > N_2 > O_2$                       (b)  $O_2 > N_2 > H_2O > CH_4$   
 (c)  $CH_4 > N_2 > O_2 > H_2O$                       (d)  $N_2 > H_2O > O_2 > CH_4$

Ans: (a)

Sol. Solution Check From: 40:36 to 43:00

<https://youtu.be/X3WYd4LSyP8>



14. A metal 'M' of moderate reactivity is present as its sulphide 'X'. On heating in air, 'X' converts into its oxide, 'Y' and a gas evolves. On heating 'Y' and 'X' together, the metal 'M' is produced. 'X' and 'Y' respectively are (2017)
- (a) 'X' = cuprous sulphide, 'Y' = cuprous oxide  
 (b) 'X' = cupric sulphide, 'Y' = cupric oxide  
 (c) 'X' = sodium sulphide, 'Y' = sodium oxide  
 (d) X = calcium sulphide, 'Y' = calcium oxide

Ans: (a)

Sol. Solution Check From: 15:18 to 20:23

[https://youtu.be/nWQ8NxM\\_ZGU](https://youtu.be/nWQ8NxM_ZGU)

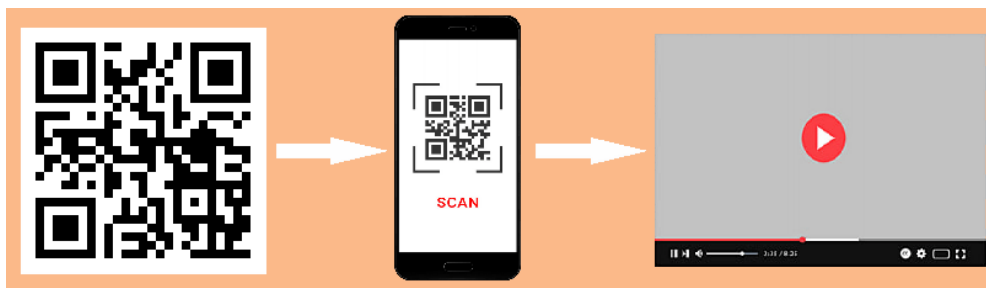


17. Haemoglobin contains 0.33% of iron by weight. The molecular weight of haemoglobin is approximately 67200. The number of iron atoms (at. wt. of Fe = 56) present in one molecule of haemoglobin is
- (a) 6                                      (b) 1                                      (c) 4                                      (d) 2

Ans: (c)

Sol. Solution Check From: 55:26 to 01:37

[https://youtu.be/nWQ8NxM\\_ZGU](https://youtu.be/nWQ8NxM_ZGU)



18. Match the column -I with Column - II.

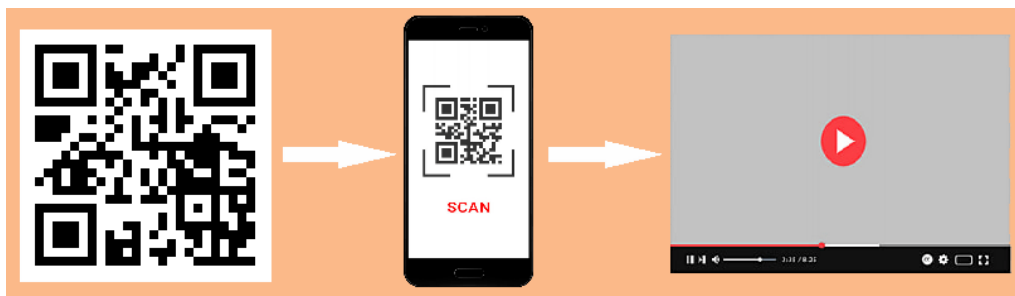
	Column -I		Column -II
(a)	0.5 mole SO <sub>2</sub> gas	(P)	10 moles of proton
(b)	1 mole H <sub>2</sub> O	(Q)	11.2 L at S.T.P
(c)	96g of O <sub>2</sub> gas	(R)	2 moles
(d)	88g of CO <sub>2</sub> gas	(S)	6 moles of atoms

- (a) (a) - (R), (b) - (P), (c) - (Q), (d) - (S)  
 (b) (d) - (P), (c) - (Q), (b) - (R), (a) - (S)  
 (c) (a) - (P), (b) - (Q), (c) - (S), (d) - (R)  
 (d) (a) - (Q), (b) - (P), (c) - (S), (d) - (R)

Ans: (d)

Sol. Solution Check From: 10:09 to 13:00

[https://youtu.be/nWQ8NxM\\_ZGU](https://youtu.be/nWQ8NxM_ZGU)



19. When you place iron in copper sulphate solution, the reddish-brown coating formed on the nail is ?
- (a) Soft and dull (b) Hard and flaky  
(c) Smooth and shining (d) Rough and granular

Ans: (a)

Sol. Solution Check From: 17:08 to 21:17

<https://youtu.be/s1kaS-TTlwA>

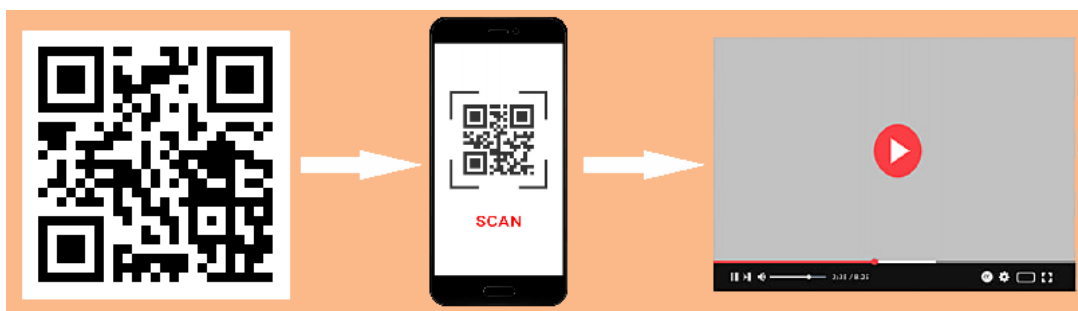


20. The Freon containing two carbon atoms, two fluorine atoms and four chlorine atoms is
- (a) Freon – 112 (b) Freon – 114  
(c) Freon – 113 (d) Freon – 111

Ans: (a)

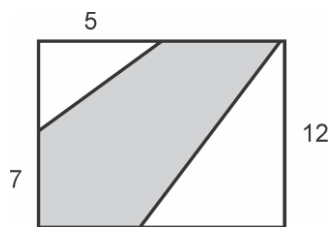
Sol. Solution Check From: 12:59 to 14:12

<https://youtu.be/y38VfcCYgzM>



**MATHS**

21. The area of shaded portion in the figure is

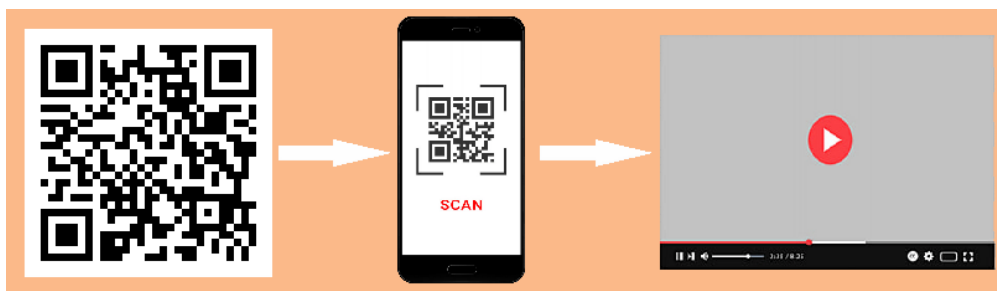


- (a) 77 sq. units
- (b) 74 sq. units
- (c) 72 sq. units
- (d) 89.5 sq. units

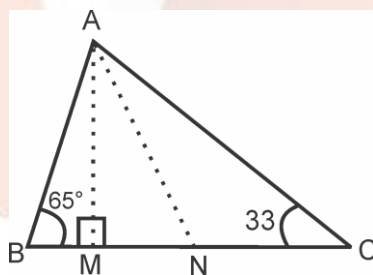
Ans: (d)

Sol. Solution Check From: 8:10

<https://www.youtube.com/watch?v=MITTncHczs8>



22. In the given fig.  $AM \perp BC$  and  $AN$  is bisector of  $\angle A$ . If  $\angle B = 65^\circ$  and  $\angle C = 33^\circ$ , then the value of  $\angle MAN$  will be

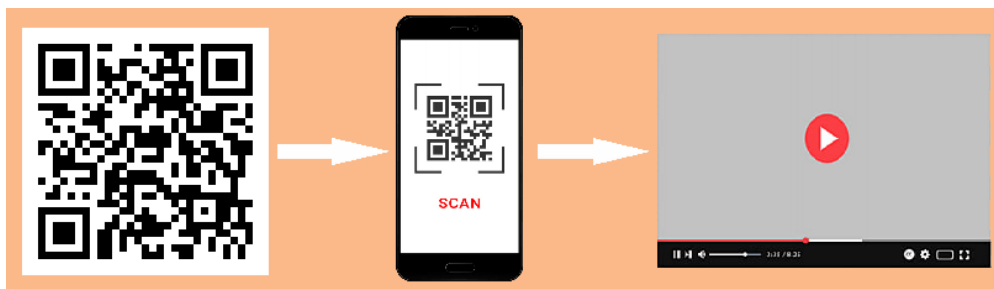


- (a)  $33^\circ$
- (b)  $25^\circ$
- (c)  $16^\circ$
- (d)  $41^\circ$

Ans: (c)

Sol. Solution Check From: 4:15

<https://www.youtube.com/watch?v=drqxLPLkWal>



23. If  $x + \frac{1}{y} = 1$  and  $y + \frac{1}{z} = 1$ , then what is the value of  $\left(z + \frac{1}{x} + 1\right)$ .
- (a) 0 (b) 1  
(c) 2 (d) 3

Ans: (c)

Sol. Solution Check From: 4:00

[https://www.youtube.com/watch?v=PfTgS3q3\\_6o](https://www.youtube.com/watch?v=PfTgS3q3_6o)

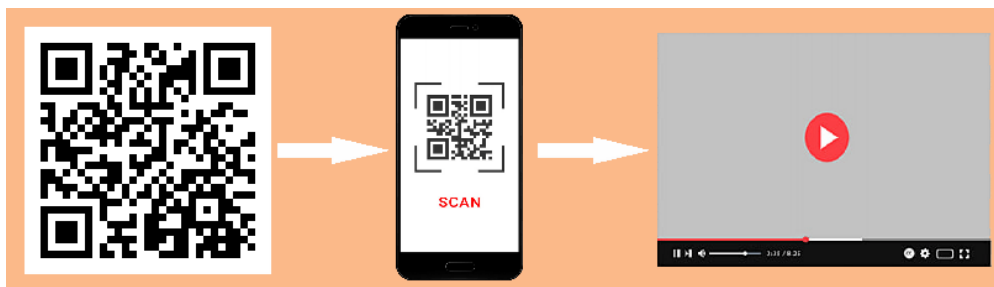


24. Let  $P(x)$  be a polynomial of degree 3 and  $P(n) = \frac{1}{n}$  for  $n = 1, 2, 3, 4$ . Then the value of  $P(5)$  is
- (a) 0 (b)  $\frac{1}{5}$   
(c)  $-\frac{2}{5}$  (d)  $\frac{3}{5}$

Ans: (a)

Sol. Solution Check From: 15:05

<https://www.youtube.com/watch?v=KMUuLscXoq4>



25. If  $\alpha \neq \beta$  but  $\alpha^2 = 5\alpha - 3$ ,  $\beta^2 = 5\beta - 3$  then equation whose roots are  $\frac{\alpha}{\beta}$  &  $\frac{\beta}{\alpha}$  is

(a)  $3x^2 - 19x + 3 = 0$

(b)  $3x^2 + 19x + 3 = 0$

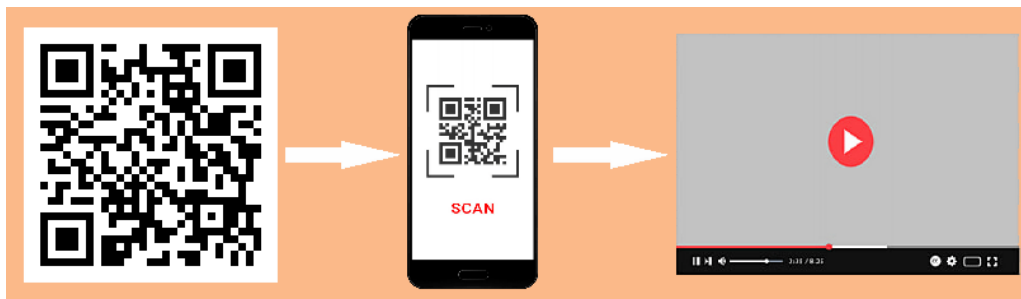
(c)  $3x^2 - 18x + 3 = 0$

(d)  $3x^2 + 18x + 3 = 0$

Ans: (a)

Sol. Solution Check From: 49:05

<https://www.youtube.com/watch?v=MITTncHczs8>



26. Let  $x$  be the greatest number by which if we divide 366, 513 and 324, then in each case the remainder is the same. Find the sum of digits of  $x$ .

(a) 2

(b) 5

(c) 3

(d) 4

Ans: (c)

Sol. Solution Check From: 24:00

[https://www.youtube.com/watch?v=b\\_xjmq\\_CsuQ](https://www.youtube.com/watch?v=b_xjmq_CsuQ)



27. If  $N = \sqrt[3]{4} + \sqrt[3]{2} + 1$ , then the value of  $\frac{1}{N^3} + \frac{3}{N^2} + \frac{3}{N}$  is

(a) 2

(b) 4

(c) 7

(d) 1

Ans: (d)

**Sol.** Solution Check From: 23:00

<https://www.youtube.com/watch?v=jv7fAtuMubo>



**28.** The mean of marks scored by 100 students was found to be 40. Later on, it was discovered that a score of 53 was misread as 83. Then the correct mean will be

- (a) 39.7 (b) 39.9  
(c) 39.6 (d) 39.8

**Ans:** (a)

**Sol.** Solution Check From: 11:00

<https://www.youtube.com/watch?v=jv7fAtuMubo>



**29.** If the angle of elevation of a cloud from a point 'h' meter above lake is ' $\alpha$ ' and the angle of depression of its reflection in the lake is ' $\beta$ ', find the distance of the cloud from the point of observation.

- (a)  $\frac{2h \sec \alpha}{\tan \beta - \tan \alpha}$  (b)  $\frac{2h}{\tan \beta - \tan \alpha}$   
(c)  $\frac{2h \sec \alpha}{\tan \beta + \tan \alpha}$  (d)  $\frac{2h}{\tan \beta + \tan \alpha}$

**Ans:** (a)



## Biology

31. Choose correct statement/s

- I. Respiration in roots occurs by diffusion of oxygen and carbon dioxide through root hairs.  
 II. The leaves of plants have tiny pores on their surface called guard cells for gaseous exchange.

(a) I only                      (b) II only                      (c) I and II                      (d) None

**Ans:** (a)

**Sol:** The leaves of plants have tiny pores on their surface called stomata for gaseous exchange.

32. The smallest cell organelle was discovered by

(a) Porter                      (b) Robert Hooke                      (c) Palade                      (d) Kolliker

**Ans:** (c)

**Sol:** George Palade (1955) first observed ribosomes (smallest cell organelle) in animal cells so ribosomes are also known as Palade particles.

33. Pulmonary artery carries

(a) Oxygenated blood                      (b) Deoxygenated blood  
 (c) Both                      (d) None

**Ans:** (b)

**Sol:** In human blood circulation - deoxygenated blood from body enters into heart through veins. From heart it goes to lungs for oxygenation through pulmonary artery.

34. A pea plant having tall height and green seed colour (TTyy) is crossed with another pea plant having dwarf height and yellow seed colour (ttYY). What would be the nature of plant and its seed colour in the first generation (F<sub>1</sub> generation)?

(a) Tall green                      (b) Dwarf green                      (c) Dwarf yellow                      (d) Tall yellow

**Ans:** (d)

**Sol:** Tall height is dominant over dwarf and yellow seed colour is dominant over green. So, in F<sub>1</sub> generation plant with Tall height and yellow seed colour appear.

35. Which of the following is common to both plant and animal cells?

- (a) Plastid, Ribosome, Cell wall  
 (b) Centriole, Mitochondria, Leucoplast  
 (c) Chloroplast, Endoplasmic reticulum, Vacuole  
 (d) Endoplasmic reticulum, Ribosomes, Golgi apparatus

**Ans:** (d)

**Sol:** Endoplasmic reticulum, Ribosomes, Golgi apparatus, Vacuole, Mitochondria are common to both plant and animal cells. Plastids (chloroplast, leucoplast, chromoplast) and cell wall are associated with plant cell only. Centriole is characteristic of animal cell.

**36.** If 20 J of energy is trapped at producer level, then how much energy will be available to peacock as food in the following chain?

Plant → Mice → Snake → Peacock

(a) 0.02 J                      (b) 0.002 J                      (c) 0.2 J                      (d) 20 J

**Ans:** (a)

**Sol:** According to this law, during the transfer of organic food energy from one trophic level to the next higher level, only about ten percent of the transferred energy is stored as flesh. Plant with 20 J will transfer 10% of it to mice that is 2 J, mice will transfer 10% of 2J to snake i.e. 0.2 J and snake will transfer 10% of 0.2J to peacock i.e. 0.02 J

**37.** Sequence of events which occur in a reflex action are

- (a) Receptor – motor neuron – CNS – sensory neuron – effector muscle
- (b) Effector muscle – CNS – sensory nerve – sensory organ
- (c) CNS – sensory neuron – motor neuron – effector muscle
- (d) Receptor organ – sensory neuron – CNS – motor neuron – effector muscle

**Ans:** (d)

**Sol:** Sequence of events in a reflex action are-

Receptor in the skin detects a stimulus (the change in temperature).

Sensory neuron sends electrical impulses to a relay neuron, which is located in the CNS.

Motor neuron sends electrical impulses to an effector from CNS.

Effector produces a response (muscle contracts to move hand away).

**38.** DNA (Deoxyribonucleic acid) and RNA (Ribonucleic acid) are found in cells of all living beings. DNA is different from RNA in having

(a) Uracil                      (b) Adenine                      (c) Thymine                      (d) Guanine

**Ans:** (c)

**Sol:** DNA differs from the RNA because, the thymine present in DNA is replaced by uracil in RNA. DNA has deoxyribose sugar while RNA has ribose sugar.

39. The plant hormone which is gaseous in nature is  
 (a) Abscisic acid (b) Cytokinin  
 (c) Auxin (d) Ethylene

**Ans:** (d)

**Sol:** The gaseous plant hormone, ethylene, with the simplest structure as compared to other plant hormones, has some important functions in plants including the germination of seed, abscission and tissue senescence.

40. One common passage for respiration in bacteria, protists, fungi, plants and animals is  
 (a) Kreb's cycle (b) Glycolysis  
 (c) Pyruvate (d) Phosphorylation

**Ans:** (b)

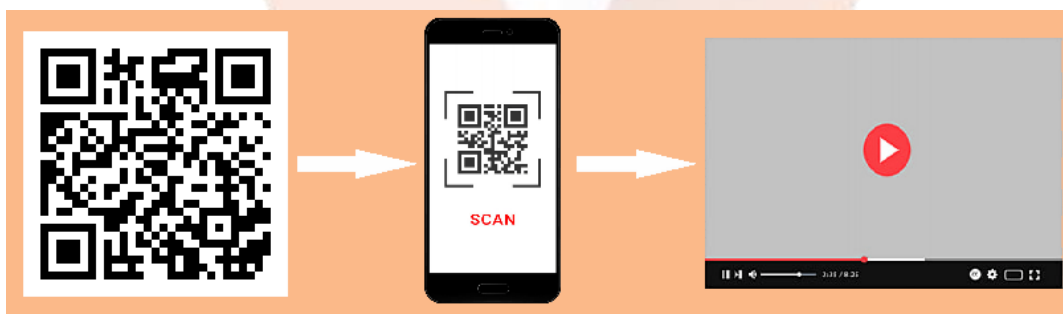
**Sol:** One common passage for respiration in bacteria, protists, fungi, plants and animals is glycolysis.

## MENTAL ABILITY

41. A watch which gains 5 second in 3 minutes was set right at 7 a.m. In the afternoon of the same day, when the watch indicated quarter past 4 o'clock, what will be the true time.

**Sol.** Solution Check From : 17:37

<https://www.youtube.com/watch?v=xvtSeP6g1k4>



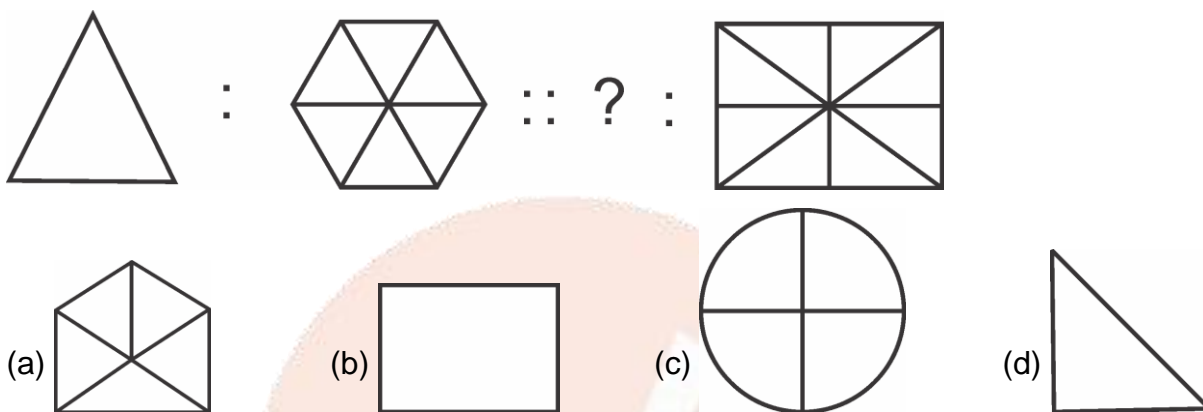
42. At what time between 9 and 10 am will a digital clock be showing a PALINDROMIC time ?

**Sol.** Solution Check From : 24:52

<https://www.youtube.com/watch?v=xvtSeP6g1k4>



43. Complete the given figure analogy by choosing the correct answer from the given alternative:

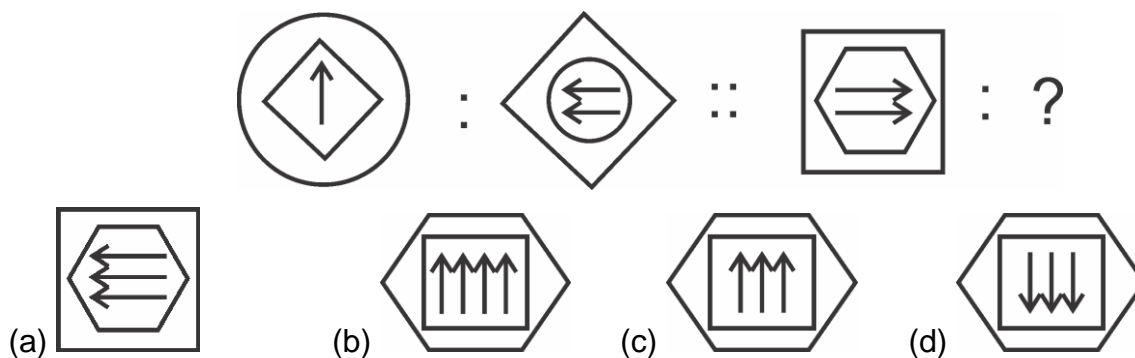


**Sol.** Solution Check From : 08:09

<https://www.youtube.com/watch?v=038AnI7b4fc>



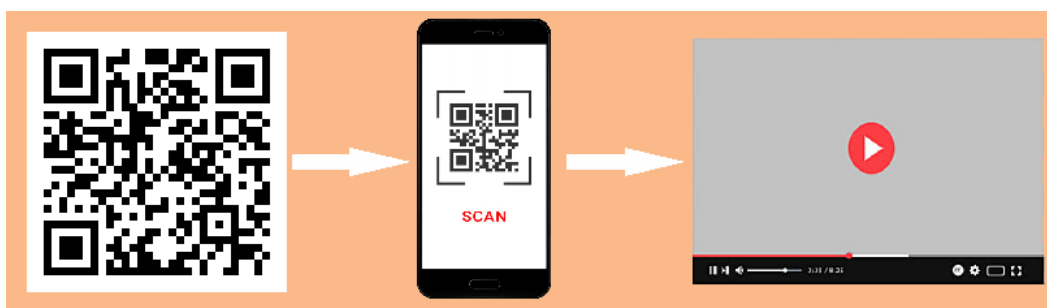
44. Complete the given figure analogy by choosing the correct answer from the given alternative :



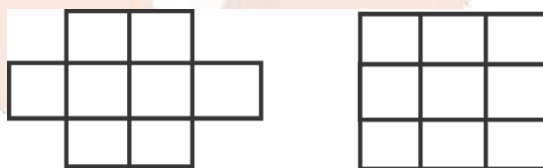
Ans (c)

Sol. Solution Check From : 13:38

<https://www.youtube.com/watch?v=038AnI7b4fc>



45. The square boxes in the figure below are to be painted with different colours such that no two adjacent boxes (even diagonally) have same colour. How many minimum colours do you need in each case ?



- (a) 3,3                      (b) 3,4                      (c) 4,4                      (d) 4,3

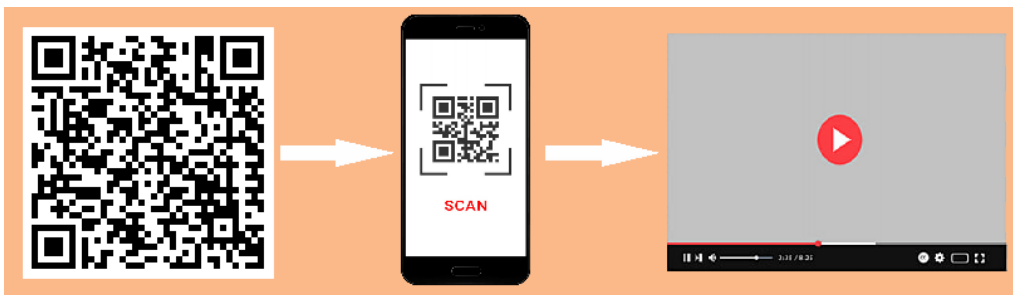
Ans (c)

Sol. Solution Check From : 15:45

<https://www.youtube.com/watch?v=UUNPFOVF5nE&list=PLIDpKxppqzb0F4WgLCyw pNn4dWvl surVGx>



<https://www.youtube.com/watch?v=UUNPFOVF5nE&list=PLIDpKxpqzb0F4WgLCywpNn4dWvlsurVGx>



48. Find the missing term

5,7,14,24,42, ?, 119

(a) 71

(b) 67

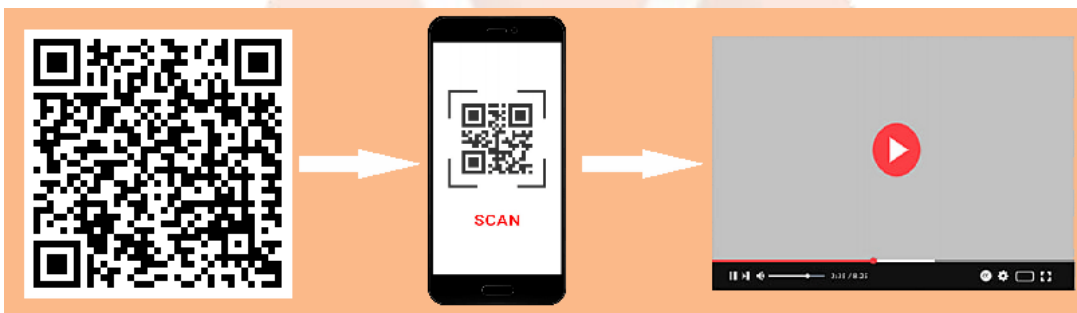
(c) 65

(d) 63

Ans (a)

Sol. Solution Check From : 04:05

[https://www.youtube.com/watch?v=hCZu\\_pqr3Yw&list=PLIDpKxpqzb0F4WgLCywpNn4dWvlsurVGx&index=2](https://www.youtube.com/watch?v=hCZu_pqr3Yw&list=PLIDpKxpqzb0F4WgLCywpNn4dWvlsurVGx&index=2)



49. If 20 people shake Hand with each other, how many handshakes are there in total ?

(a) 380

(b) 190

(c) 95

(d) 100

Ans (b)

Sol. Solution Check From : 12:24

[https://www.youtube.com/watch?v=hCZu\\_pqr3Yw&list=PLIDpKxpqzb0F4WgLCywpNn4DwlsurVGx&index=2](https://www.youtube.com/watch?v=hCZu_pqr3Yw&list=PLIDpKxpqzb0F4WgLCywpNn4DwlsurVGx&index=2)



50. What single discount is equivalent to two successive discounts of 20% & 15% ?  
 (a) 64%                      (b) 35%                      (c) 32%                      (d) 50%

Ans (c)

Sol. Solution Check From : 20:20

[https://www.youtube.com/watch?v=hCZu\\_pqr3Yw&list=PLIDpKxpgzb0F4WgLCywpNn4dWvlsurVGx&index=2](https://www.youtube.com/watch?v=hCZu_pqr3Yw&list=PLIDpKxpgzb0F4WgLCywpNn4dWvlsurVGx&index=2)



51. What is the larger angle between minute and hour hand at 4:40 ?  
 (a)  $100^\circ$                       (b)  $140^\circ$                       (c)  $180^\circ$                       (d)  $260^\circ$

Ans (a)

Sol. Solution Check From : 15:27

<https://www.youtube.com/watch?v=tvoRTb3v1CU>



52. An accurate clock shows 8'O clock in the morning. Through how many degrees will the hour hand rotate when the clock shows. 2o'Clock in the afternoon ?

- (a)  $184^\circ$                       (b)  $185^\circ$                       (c)  $180^\circ$                       (d)  $175^\circ$

**Ans** (c)

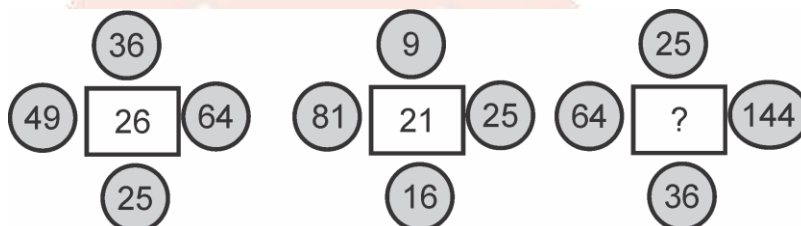
**Sol.** Solution Check From : 18:08

<https://www.youtube.com/watch?v=tvoRTb3v1CU>



53. We need to identify a similar pattern being following in first 2 figures and apply the same pattern in 3<sup>rd</sup> figure and find the required number

Square of natural numbers



- (a) 31                      (b) 29                      (c) 49                      (d) 52

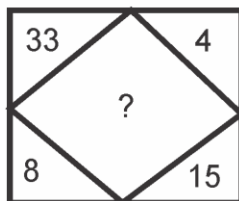
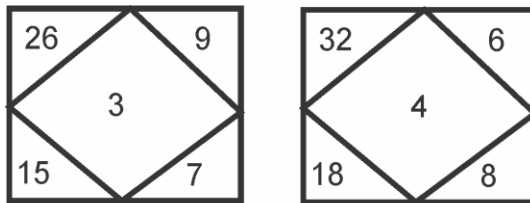
**Ans** (a)

**Sol.** Solution Check From : 05:40

<https://www.youtube.com/watch?v=R4hRPMhaYZA>



54. Find the missing term

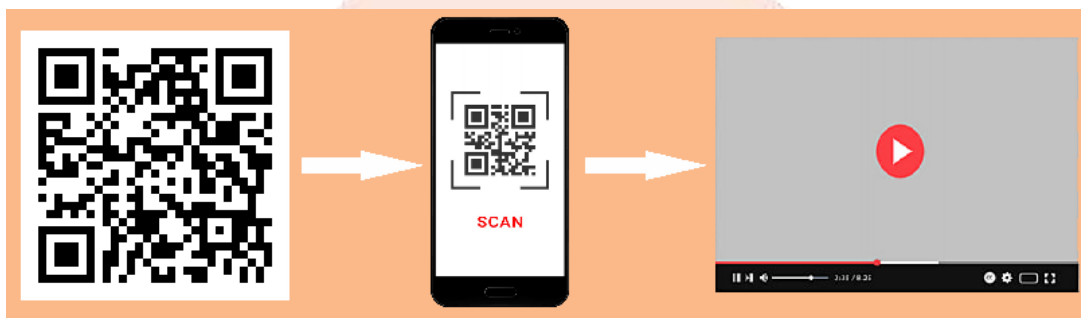


- (a) 5                      (b) 12                      (c) 6                      (d) 8

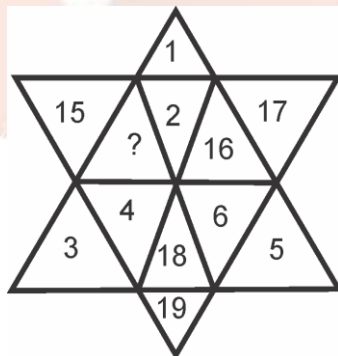
Ans (c)

Sol. Solution Check From : 11:41

<https://www.youtube.com/watch?v=R4hRPMhaYZA>



55. Find the missing number

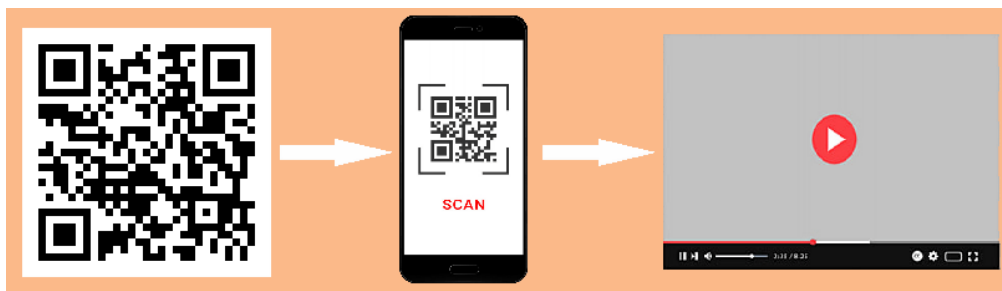


- (a) 8                      (b) 15                      (c) 16                      (d) 14

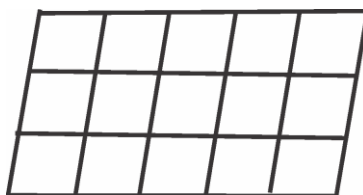
Ans (d)

Sol. Solution Check From : 14:38

<https://www.youtube.com/watch?v=d-cM7UUv7ZU>



56. How many parallelograms are there in the figure?



- (a) 90                      (b) 85                      (c) 60                      (d) 70

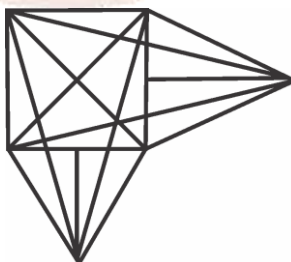
Ans (a)

Sol. Solution Check From : 14:14

<https://www.youtube.com/watch?v=6UL2eDHqTyM>



57. Find the total number of straight lines



- (a) 12                      (b) 16                      (c) 18                      (d) 20

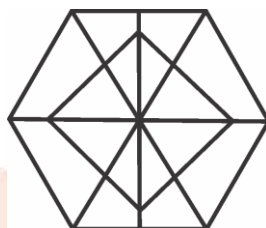
Ans (b)

**Sol.** Solution Check From : 36:00

<https://www.youtube.com/watch?v=6UL2eDHgTyM>



**58.** Count total no. of triangles in the figure



(a) 24

(b) 28

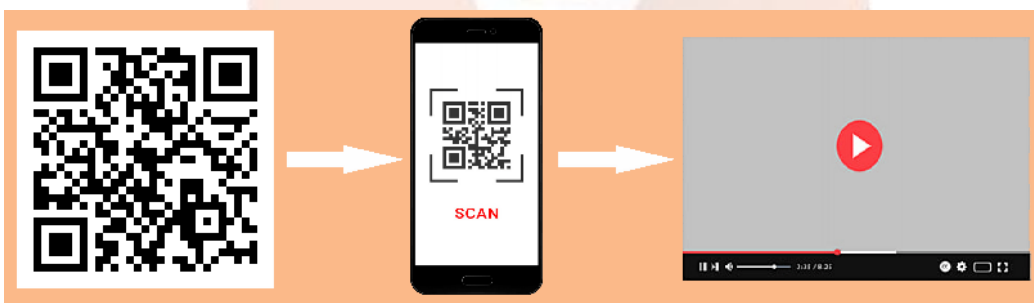
(c) 32

(d) 36

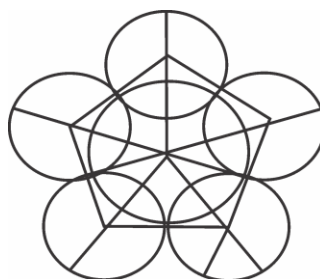
**Ans** (a)

**Sol.** Solution Check From : 39:17

<https://www.youtube.com/watch?v=6UL2eDHgTyM>



**59.** Count Total no. of Semi circles



- (a) 20                      (b) 18                      (c) 16                      (d) 14

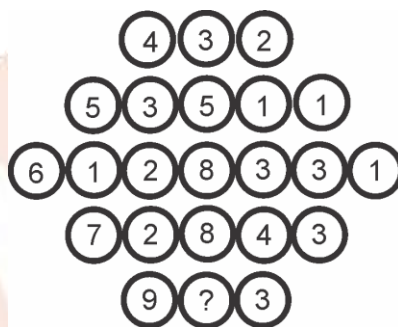
**Ans** (b)

**Sol.** Solution Check From : 45:18

<https://www.youtube.com/watch?v=6UL2eDHgTyM>



60. Find the value of ..... ?



- (a) 4                      (b) 6                      (c) 15                      (d) 2

**Ans** (b)

**Sol.** Solution Check From : 49:25

<https://www.youtube.com/watch?v=6UL2eDHgTyM>



61. Which of the following picture was page of music book by E.T. Paul
- (a) Dawn of century (b) Dawn of industrial age  
(c) Dawn of Agricultural age (d) Dawn of 21st Century

**Ans. (a)**

62. Assertion (A) : Gandhiji's idea of satyagraha emphasised on the power of truth and the need to search for truth.

Reasoning (R) : Gandhiji believed that a satyagrahi could win the battle by appealing to the conscience of the oppressor.

Select the correct option from the given alternatives.

- (a) A is true and R is false.  
(b) Both A and R are true but R is not the correct explanation of A.  
(c) Both A and R are true and R is the correct explanation of A  
(d) Both A and R are false.

**Ans (c)**

63. Put the following events in sequence.

- (i) Return of Lenin (ii) October Revolution  
(iii) Russian peace with Germany (iv) February Revolution  
(v) Centralised Planning
- (a) I, III, IV, V, II (b) iv, i, ii, iii, v (c) iv, ii, i, iii, v (d) ii, v, i, iii, v

**Ans (b)**

64. Choose the correct statements:

- i. The Zollverein was formed in 1834  
ii. It abolished tariff barriers.  
iii. It reduced the number of currencies from thirty to one  
iv. it was initiative of Prussia and joined by all German states

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

**Ans. (c)**

65. Which article in Indian Constitution stipulates that there shall be Vice- President of India  
(a) Article 63                      (b) Article 65                      (c) Article 66                      (d) Article 62

Ans. (a)

66. Point out the difference between the local government in India before and after the Constitutional amendment in 1992.

- i. it became mandatory to hold regular elections to the focal government bodies.
- ii. one third positions reserved for women
- iii. Elected officials exercise supreme power in the government.

- (a) Only i                      (b) i and ii                      (c) i, ii and iii                      (d) ii and iii

Ans. (b)

67. Choose the incorrect statement out of the following statements:

- (a) The southwest monsoon is a continuation of the southeast trade wind, deflected towards the Indian subcontinent after crossing the equator.
- (b) In winter, India is under the influence of North West monsoon due to westerly jet stream
- (c) The southwest monsoon sets in over the Kerala coast by 1st June.
- (d) The shift in the position of the ITCZ is related to the phenomena of the withdrawal of the westerly jet stream from its position over the north Indian plain.

Ans. (d)

68. **Statement (I):** 75% of Indian rainfall is received from South-West Monsoon

**Statement (II):** Tamil Nadu which is located in the leeward side receives abundant rainfall

- (a) Statement (I) and (II) are correct
- (b) Statement (I) and (II) are incorrect
- (c) Statement (I) is correct and (II) is incorrect
- (d) Statement (I) and incorrect and (II) is correct

Ans. (c)

69. In the context of democracies, what is successfully done by democracies?

- (a) Eliminated conflicts among people
- (b) Eliminated economic inequalities among people
- (c) Eliminated differences of opinion about how marginalized actions are to be treated.
- (d) Rejected the idea of political inequality

**Ans. (d)**

**70.** The national assembly of France voted in April 1792 to declare war against

\_\_\_\_\_.

(a) Germany and Austria

(b) Germany and England

(c) Prussia and England

(d) Prussia and Austria

**Ans. (d)**





## "The True Test of Talent"

Vedantu Olympiad Litmus Test is one of India's most prominent entry-level tests for Olympiad aspirants. The students who crack VOLT are eligible to be trained by India's Top Master Teacher's, absolutely free!

So, if you've got the will to crack Olympiads,  
then register for **VOLT-2021**

*Only Limited Seats are available*

**Register Now**

To Register visit on this link now:

**[olympiad.vedantu.com](https://olympiad.vedantu.com)**



Get prepared for following Competitive Exams  
with **Vedantu Olympiad School**

### School Olympiads

UIMO	Unified International Mathematics Olympiad
NSO ( SOF )	National Science Olympiad
IMO	International Mathematics Olympiad
NSTSE	National - Level Science Talent Search Examination
IGKO	International General Knowledge Olympiad

### State / Regional Olympiads

NTSE Stage 1	National Talent Search Examination Stage 1
NSEP / IOQP Paper 1	National Standard Examination in Physics / Indian Olympiad Qualifier in Physics Paper 1
NSEB / IOQB Paper 1	National Standard Examination in Biology / Indian Olympiad Qualifier in Biology Paper 1
NSEC / IOQC Paper 1	National Standard Examination in Chemistry / Indian Olympiad Qualifier in Chemistry Paper 1
NSEJS / IOQJS Paper 1	National Standard Examination in Junior Science / Indian Olympiad Qualifier in Junior Science Paper 1
PRMO / IOQM Paper 1 / RMO	Pre-Regional Mathematical Olympiad / Indian Olympiad Qualifier in Mathematics Paper 1 / Regional Mathematical Olympiad
NSEA / IOQA Paper 1	National Standard Examination in Astronomy / Indian Olympiad Qualifier in Astronomy Paper 1



Get prepared for following Competitive Exams  
with **Vedantu Olympiad School**

National & International Olympiads

NTSE Stage 2	National Talent Search Examination Stage 2
KVPY	Kishore Vaigyanik Protsahan Yojana
INMO	Indian National Mathematical Olympiad
INCHO / IOQC Paper 2	Indian National Chemistry Olympiad / Indian Olympiad Qualifier in Chemistry Paper 2
INPHO / IOQP Paper 2	Indian National Physics Olympiad / Indian Olympiad Qualifier in Physics Paper 2
INBO / IOQB Paper 2	Indian National Biology Olympiad / Indian Olympiad Qualifier in Biology Paper 2
INAO / IOQA Paper 2	Indian National Astronomy Olympiad / Indian Olympiad Qualifier in Astronomy Paper 2
INJSO / IOQJS Paper 2	Indian National Junior Science Olympiad / Indian Olympiad Qualifier in Junior Science Paper 2
EGMO	European Girls' Mathematical Olympiad
IMO	International Mathematics Olympiad
IBO	International Biology Olympiad
IAO	International Astronomy Olympiad
IPHO	International Physics Olympiad
ICHO	International Chemistry Olympiad



# India's Top Teachers are Awaiting to Train You

Dear Parents or Guardian,

In the race of winning a Gold Medal for one's own country. Vedantu wants our nation 'India' always at the top. Hence, we are calling all olympiad aspirants across the nation to be a part of this mission. Thousands of students have already joined our olympiad batches and won the initial stages already.

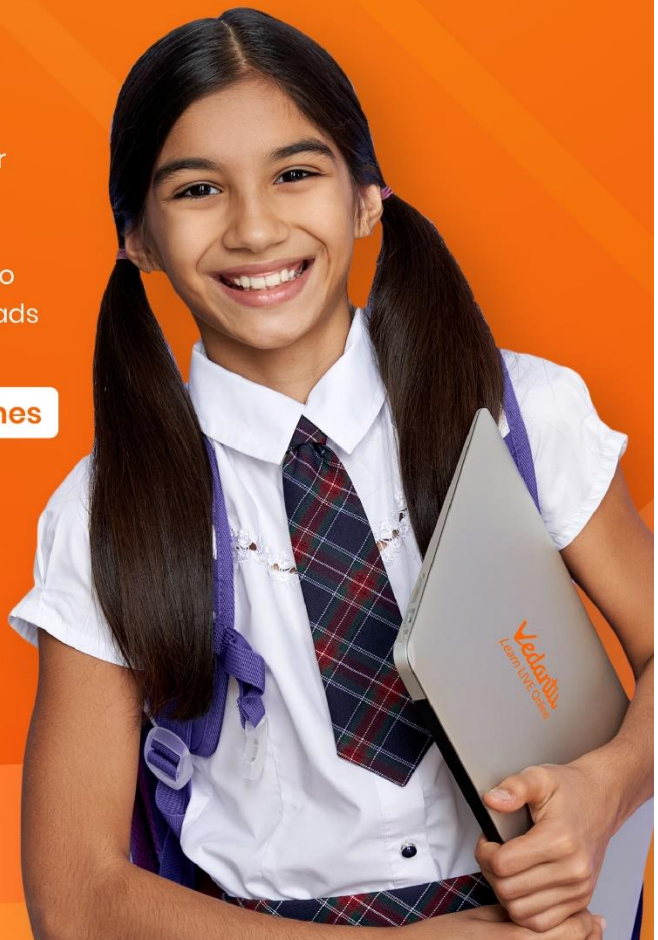
**Hurry up! You could be India's next Olympiad Gold Medalist**

How to be a part of Vedantu's Olympiad  
Victory mission Absolutely free?

- Fill the below-given form with each detail carefully!
- Vedantu Olympiad School will analyze your details and we will let you know if you get selected
- After your selection; Feel privileged to get to learn from India's Top teachers for Olympiads

<http://vdnt.in/vos2021olympaidbatches>

Or Scan the QR CODE:





**Come start your  
Olympiad journey  
with us!**

**Download the App**



or Scan QR code



[olympiad.vedantu.com](https://olympiad.vedantu.com)



[vos@vedantu.com](mailto:vos@vedantu.com)

