



## RRB JE 29th May 2019 Shift-3

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## RRB JE 29th May 2019 Shift-3

### Instructions

For the following questions answer them individually

### Question 1

Simplify:  $\sqrt{6 + \sqrt{6 + \sqrt{6 + \sqrt{6 + \dots}}}}$

- A 3
- B  $\frac{1}{6}$
- C 6
- D 2

Answer: A

### Explanation:

Let say,  $x = \sqrt{6 + \sqrt{6 + \sqrt{6 + \dots}}}$

So,  $x^2 = 6 + \sqrt{6 + \sqrt{6 + \dots}} = 6 + x$ .

or,  $x^2 - x - 6 = 0$ .

or,  $x^2 - 3x + 2x - 6 = 0$ .

or,  $x(x - 3) + 2(x - 3) = 0$ .

or,  $(x + 2)(x - 3) = 0$ .

So, either  $x=3$  or  $x=-2$ .

But negative value is possible.

A is correct choice.

## RRB NTPC Free Mock Tests

### Question 2

If  $x = a \sec \theta + b \tan \theta$  and  $y = a \tan \theta + b \sec \theta$ , then find  $x^2 - y^2$ .

- A  $a^2 - b^2$
- B  $a + b$
- C  $a^2 + b^2$
- D  $\sqrt{a^2 + b^2}$

Answer: A

### Explanation:

$x = a \sec \theta + b \tan \theta$ .

or,  $x^2 = (a \sec \theta + b \tan \theta)^2 = a^2 \sec^2 \theta + b^2 \tan^2 \theta + 2ab \sec \theta \tan \theta$ .

$y^2 = (a \tan \theta + b \sec \theta)^2 = a^2 \tan^2 \theta + b^2 \sec^2 \theta + 2ab \sec \theta \tan \theta$ .

So,  $x^2 - y^2 = a^2 \sec^2 \theta + b^2 \tan^2 \theta + 2ab \sec \theta \tan \theta - a^2 \tan^2 \theta - b^2 \sec^2 \theta - 2ab \sec \theta \tan \theta$ .

or,  $x^2 - y^2 = a^2 (\sec^2 \theta - \tan^2 \theta) - b^2 (\sec^2 \theta - \tan^2 \theta) = a^2 - b^2$ . ( $a^2 \sec^2 \theta - a^2 \tan^2 \theta = a^2$ ).

A is correct choice.

**Question 3**

'Hammer', 'anvil' and 'stirrup' are bones found in which part of the body?

- A The elbow
- B The ear
- C Ribcage
- D The vertebral column

**Answer: B**

**Question 4**

Which of the following will best complete the relationship given below?

ZYX: TSR :: MLK : ?

- A HGF
- B EFG
- C GFE
- D EDC

**Answer: C**

**Explanation:**

ZYX: TSR

both the words are in sequence of consecutive letters.

So, only EFG follows the sequence MLK.

C is correct choice.

## RRB JE Previous Papers ( Download Pdf)

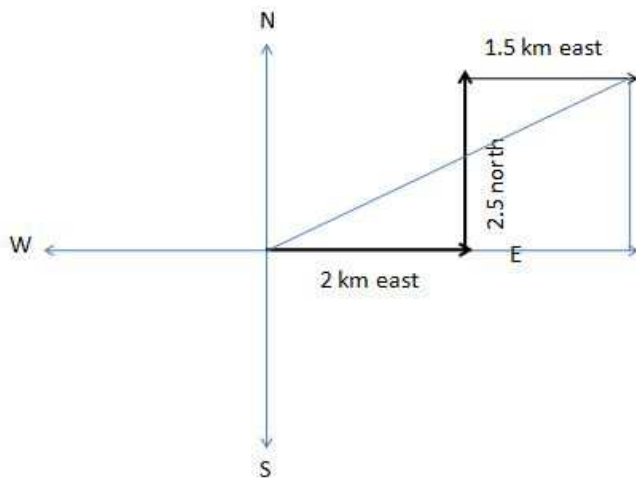
**Question 5**

A boy walks 2 km to the east and walks 2.5 km to the north. Again he turns to the east and walks 1.5 km. How far is he from the starting point ?

- A 1.5 km
- B 4.3 km
- C 2.5 km
- D 5.5 km

**Answer: B**

**Explanation:**



Distance between Starting point and Final point is  $= \sqrt{3.5^2 + 2.5^2} = \sqrt{18.5} = 4.30 \text{ km}$ .

B is correct choice.

### Question 6

In this question, a statement is given followed by two conclusions. Choose the conclusion(s) which best fit(s) logically.

**Statement:**

Company ABC has marketed the product. Go ahead, purchase it if price and quality are your considerations.

**Conclusions:**

I. The product must be good in quality.

II. The price of the product must be reasonable.

- A Both conclusions I and II follow
- B Either conclusion I or II follows
- C Only conclusion I follows
- D Only conclusion II follows

**Answer:** A

**Explanation:**

**Statement:**

Company ABC has marketed the product. Go ahead, purchase it if price and quality are your considerations.

It means that Company ABC has the authority to certify the associated product that is being discussed .

And they review a product ,only if ,the product price is reasonable and good in quality.

So, both the options are correct.

A is correct choice.

### Question 7

With which of the following sports is Parupalli Kashyap associated?

- A Cricket
- B Badminton
- C Football
- D Tennis

**Answer:** B

**Question 8**

Find the ODD one out from the given options.

- A 147
- B 151
- C 123
- D 131

**Answer:** A

**Explanation:**

147 has two prime factors of  $7^2$  and 3.

But numbers in other options have only two prime factors.

So, A is correct choice.

**Question 9**

The Simple Interest and Compound Interest on a certain sum of money for two years are Rs.8400 and Rs.8652 respectively. Find the rate of interest.

- A 4.5%
- B 5%
- C 6%
- D 5.5%

**Answer:** C

**Explanation:**

Let say, Sum is P and rate of interest is r %.

So,  $2Pr/100=8400$

or,  $Pr/100=4200$ .

and,  $P(1 + r/100)^2 - P = 8652$ .

By solving it we get  $r=6\%$ .

C is correct choice.

**Question 10**

Which of the following statements is/are CORRECT for carbon compounds?

- A Both poor conductors of electricity and do not have strong forces of attraction between their molecules
- B Do not have strong forces of attraction between their molecules
- C Poor conductors of electricity
- D Good conductors of electricity

**Answer:** A

**Question 11**

If  $5 @ 29 = 32$ ,  $41 @ 78 = 117$  and  $16 @ 32 = 46$ , then what will be  $22 @ 46$ ?

- A 48
- B 31
- C 52
- D 66

**Answer: D**

**Explanation:**

$$5@29 = 5 + 29 - 2 = 32.$$

$$41@78 = 41 + 78 - 2 = 117.$$

$$16@32 = 16 + 32 - 2 = 46.$$

$$22@46 = 22 + 46 - 2 = 66.$$

D is correct choice.

**Question 12**

If  $\sin A = \cos B$ , where  $A$  and  $B$  are acute, then find  $(A + B)$ .

- A  $60^\circ$
- B  $50^\circ$
- C  $90^\circ$
- D  $45^\circ$

**Answer: C**

**Explanation:**

Given,  $\sin A = \cos B$ , it can be written as

$$\sin A = \sin(90 - B)$$

$$A = 90 - B$$

$$A + B = 90.$$

C is correct choice.

**Question 13**

P invests half as much as Q and Q puts in half as much as R in a business. If the monthly profit of Rs.7000 is shared between them, then what is the share of R ?

- A Rs.4000
- B Rs.2000
- C Rs.3000
- D Rs.1000

**Answer: A**

**Explanation:**

Let say, R invested x Rs.

So, Q invests  $(x/2)$  Rs.

and P invests  $(x/4)$  Rs.

So, P,Q,R will share the profit in

$(x/4:x/2:x)$  or 1:2:4 ratio.

So, R will receive  $= (7000 \times (4/7)) = 4000$  Rs.

A is correct choice.

## RRB Group-D Previous Papers

### Question 14

Two men walk along the same direction at 4.5 km/hr and 5.75 km/hr respectively. If they start walking together at their respective speeds, how many kilometres apart are they at the end of 3.5 hours?

A 30.725 km

B 4.375 km

C 5.75 km

D 4.5 km

Answer: B

#### Explanation:

The man with the 4.5 km/h speed will reach after 3.5 hour  $= 3.5 \times 4.5 = 15.75$  km.

The man with the 5.75 km/h speed will reach after 3.5 hour  $= 5.75 \times 3.5 = 20.125$  km.

So they will be apart by  $(20.125 - 15.75)$  km or 4.375 km.

B is correct choice.

### Question 15

Complete the series.

8, 30, 74, 162, (...)

A 349

B 338

C 316

D 301

Answer: B

#### Explanation:

$$8 \times 2 + 14 = 30$$

$$30 \times 2 + 14 = 74$$

$$74 \times 2 + 14 = 162$$

$$162 \times 2 + 14 = 338$$

B is correct choice.

### Question 16

LCM and HCF of two numbers are 2400 and 16 respectively. If one number is 480, find the other number.

- A 60
- B 40
- C 80
- D 90

**Answer:** C

**Explanation:**

Multiplication of two number = LCM×HCF

So,  $480 \times x = 2400 \times 16$ .

or,  $x = (2400 \times 16) / 480 = 80$ .

C is correct choice.

## RRB Free Videos (You Tube Channel)

**Question 17**

Ranjith got two times as many sums wrong as he got right. If he attempted 48 sums in all, how many did he solve correctly?

- A 16
- B 19
- C 25
- D 11

**Answer:** A

**Explanation:**

Let say, he got right  $x$  numbers of sums.

So, he got wrong  $= 2x$ .

So,  $(2x+x)=48$

or,  $3x=48$

or,  $x=16$ .

So, A is correct choice.

**Question 18**

In this question, statements are given followed by three conclusions. Choose the conclusion(s) which best fit(s) logically.

**Statements:**

$O \geq T > W = G; D \leq T$

**Conclusions:**

- I.  $W > D$
- II.  $W < O$
- III.  $O \geq D$

- A Only conclusions II and III are true
- B Only conclusions I and II are true
- C Only conclusions I and III are true



D Only conclusion I is true

Answer: A

Explanation:

There is no relation between W and D .

So, Conclusion I is not valid.

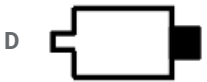
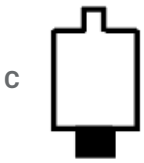
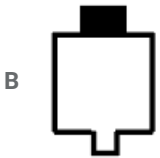
But,  $O \geq T > W$  implies that  $O > T$ .

And,  $O \geq W$  and  $W \geq D$  implies that  $O \geq D$ .

So, A is correct choice.

Question 19

Find the ODD one out from the given options.



Answer: D

Explanation:

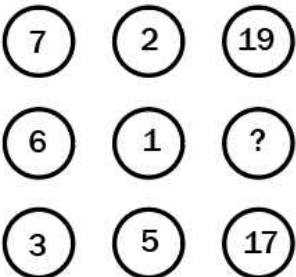
Image in Option D is rotated in anti-clockwise direction.

So, D is correct choice.

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Question 20

Choose the alternative that best replaces the question mark(?) in the given figure.



A 14

B 18

C 12

D 15

Answer: D

**Explanation:**

From first row =  $19 - 7 - 2 = 10$ .

Third row =  $17 - 5 - 3 = 9$ .

and second row =  $15 - 6 - 1 = 8$ .

D is correct choice.

**Question 21**

Which of the following games is played on a board divided into 64 black-and-white squares ?

A Chess

B Scrabble

C Chinese Checkers

D Ludo

Answer: A

**Question 22**

The population of a village increased from 18000 to 22500. What is the increase percentage?

A 15%

B 25%

C 30%

D 20%

Answer: B

**Explanation:**

Percentage increase =  $(22500 - 18000) / 18000$

=  $4500 / 18000 = 25\%$ .

B is correct choice.

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**Question 23**

What is the SI unit of relative density of a substance ?

A  $kg\ m^{-3}$

B  $m^3$

C  $kg\ m^3$

D No unit

Answer: D

**Question 24**

Arjun, Bharath and Chandru played a cricket match. The ratio of runs scored by Arjun and Bharath is 1 : 2 and the ratio of runs scored by Bharath and Chandru is 3 : 4. If together they score 204 runs, how many runs has Chandru made more than Arjun?

- A 62 runs
- B 60 runs
- C 70 runs
- D 66 runs

**Answer: B**

**Explanation:**

Arjun:Bharath= 1:2=3:6.

Bharath:Chandru= 3:4=6:8.

So, Arjun:Bharath:Chandru=3:6:8.

Let, say they made  $3x$ ,  $6x$  and  $8x$  runs.

So,

$$(3x + 6x + 8x) = 204.$$

or,  $17x=204$ .

or,  $x=12$ .

So, Arjun made= 36 runs and Chandru made =96 runs.

Difference of their runs=  $96-36=60$  runs.

B is correct choice.

**Question 25**

Find the missing group of alphabets in the following series.

YP, TK, (...), MD, KB

- A PG
- B UV
- C RI
- D NF

**Answer: A**

**Explanation:**

YP=25-16=9.

TK=20-11=9.

PG=16-7=9.

MD=13-4=9.

KB=11-2=9.

So, A is correct choice.

**RRB General Science Notes (Download Pdf)**

**Question 26**

A rectangular carpet has an area of  $120 \text{ m}^2$  and a perimeter of 46 m. Find the length of its diagonal.

- A 15 m
- B 16 m
- C 20 m
- D 17 m

**Answer:** D

**Explanation:**

Let say, length and breadth of rectangular carpet are  $l$  and  $b$ .

So,  $lb = 120$

and,  $2(l + b) = 46$

or,  $(l+b)=23$ .

So,  $l = 15$  and  $b = 8$  is only combination possible.

So, length of it's diagonal=

$\sqrt{(15^2 + 8^2)}=17 \text{ m}$ .

D is correct choice.

**Question 27**

Which of the following is an example of sound-absorbent material used to reduce reverberation?

- A Compressed fibre board
- B Ceramic
- C Iron
- D Glass

**Answer:** A

**Question 28**

In a certain code, 'ABCDEF' is written as 'ZYXWVU'. How would 'MEAT' be written in that code ?

- A NVZU
- B NVZG
- C NWZG
- D NVGZ

**Answer:** B

**Explanation:**

ABCDEF : ZYXWVU

$A+Z=1+26=27$ .

$B+Y=2+25=27$ .

$C+X=3+24=27$ .

$D+W=4+23=27$ .

$$E+V=5+22=27.$$

$$F+U=6+21=27.$$

Similarly, MEAT = NVZG

B is correct choice.

## RRB GK Material (Download Pdf)

### Question 29

Find the missing number in the following series.

4, 7, 11, 18, 29, 47, (...), 123, 199

A 102

B 84

C 70

D 76

Answer: D

Explanation:

$$4+7=11$$

$$7+11=18$$

$$11+18=29$$

$$18+29=47$$

$$29+47=76$$

$$47+76=123$$

$$76+123=199.$$

D is correct choice.

### Question 30

Read the following information carefully and answer the question given below.

Twelve people are sitting in two parallel rows containing six people each, in such a way that there is an equal distance between adjacent persons. In row-1, P, Q, R, S, T and V are seated, and all of them are facing south. In row-2, A, B, C, D, E and F are seated, and all of them are facing north. Therefore, in the given seating arrangement each member seated in a row faces another member of the other row. A sits third to the right of D. Neither A nor D sits at the extreme ends. T faces D. V does not face A, and V does not sit at any of the extreme ends. V is not an immediate neighbour of T. B sits at one of the extreme ends. Only two people sit between B and E. E does not face V. Two persons sit between R and Q. R is not an immediate neighbour of T. C does not face V. P is not an immediate neighbour of R.

How many members sit between T and S?

A One

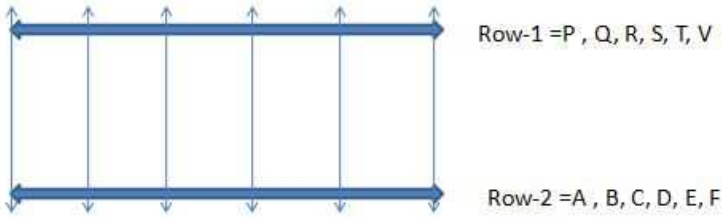
B Four

C Three

D Two

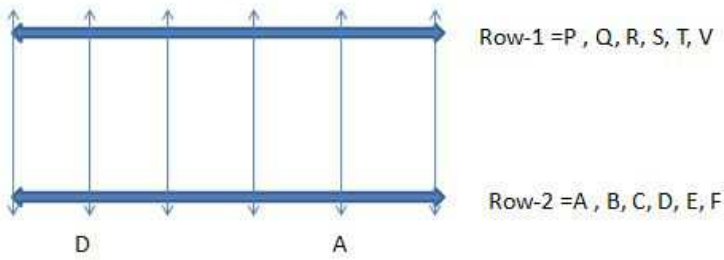
Answer: D

Explanation:

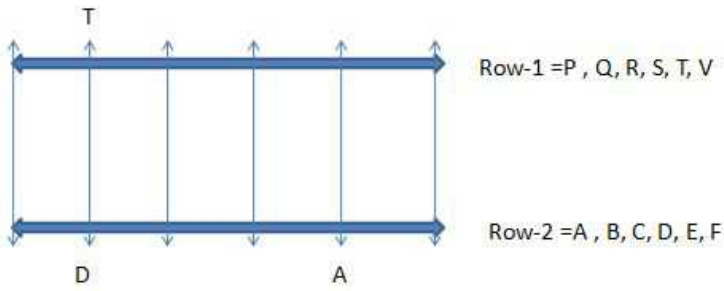


In row-1, P, Q, R, S, T and V are seated, and all of them are facing south.

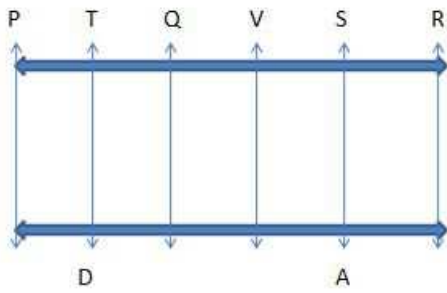
In row-2, A, B, C, D, E and F are seated, and all of them are facing north.



A sits third to the right of D.  
Neither A nor D sits at the extreme ends.



T faces D.



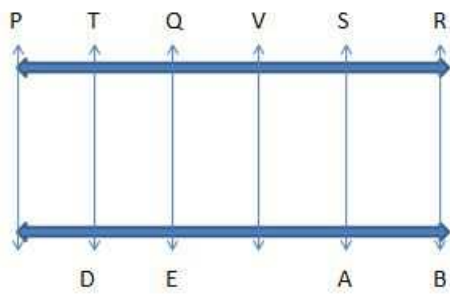
Row-1 = P, Q, R, S, T, V

Row-2 = A, B, C, D, E, F

V does not face A, and V does not sit at any of the extreme ends. V is not an immediate neighbour of T.

P is not an immediate neighbour of R.

Means that V sits beside Q and P sits beside T and S sits beside R.



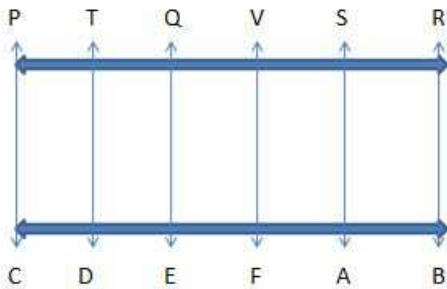
Row-1 = P, Q, R, S, T, V

Row-2 = A, B, C, D, E, F

B sits at one of the extreme ends.

Only two people sit between B and E. E does not face V.

Means that B sits on right side of A.



Row-1 = P, Q, R, S, T, V

Row-2 = A, B, C, D, E, F

C does not face V.

So, there are 2 people sit between T and S.

D is correct choice.

### Question 31

Find the value of 0.18

A  $\frac{17}{90}$

B  $\frac{27}{90}$

C  $\frac{18}{100}$

--

D  $\frac{17}{100}$

**Answer: A**

**Explanation:**

Let say,  $x = 0.8$ .

So,  $10x = 8 + 0.8 = 8 + x$ .

or,  $9x = 8$ .

or,  $x = \frac{8}{9}$ .

So,  $0.18 = 0.10 + \frac{8}{90} = \frac{1}{10} + \frac{8}{90} = \frac{9+8}{90} = \frac{17}{90}$ .

A is correct choice.

## RRB NTPC Previous Papers (Download PDF)

**Question 32**

Which of the following glands prepares an animal for flight ?

- A Thyroid
- B Pancreas
- C Adrenal
- D Pineal

**Answer: C**

**Question 33**

Which of the following trophies is NOT associated with cricket?

- A Ranji Trophy
- B Ryder Cup
- C Deodhar Trophy
- D The Ashes

**Answer: B**

**Question 34**

One should NOT sleep under a tree at night, because-

- A Nitrogen is released
- B Carbon monoxide is released
- C Oxygen is released
- D Carbon dioxide is released

**Answer: D**

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**Question 35**

Virupaksha Temple, which is a UNESCO World Heritage Site, is dedicated to the deity-

- A Shiva
- B Ganesh
- C Krishna
- D Vishnu

**Answer: A**

**Question 36**

Who is considered as the father of Indian surgery ?

- A Sushruta
- B Charaka
- C Atreya
- D Vagbhata

**Answer: A**

**Question 37**

What was the theme of 'International Women's Day', 2019?

- A Dialogue, tolerance and peace
- B Let's bring change to the world
- C Bridging health and social care
- D Think equal, build smart, innovate for change

**Answer: D**

**RRB NTPC Free Mock Tests**

**Question 38**

The resistance of a conductor directly proportional to its-

- A All the options
- B Length
- C Area of cross section
- D Thickness

**Answer: B**

**Question 39**

An Object is sold at a profit of 50% and tax levied is 4%. What is the net profit ?

- A 44%
- B 40%
- C 36%
- D 56%

Answer: A

**Explanation:**

Let say , cost price= x.

So, Selling price= 1.5x.

So, after tax selling price=( 0.96×1.5x)=1.44x.

So, net profit= (1.44x-x)/x=44 %.

A is correct choice.

**Question 40**

Which lens is used for correcting 'Hypermetropia' in humans?

- A Concave
- B Progressive
- C Convex
- D Bifocal

Answer: C

**RRB JE Previous Papers ( Download Pdf)**

**Question 41**

If  $x + \frac{1}{x} = 1$ , then find the value of  $x^3 + \frac{1}{x^3}$ .

- A -1
- B 2
- C 0
- D -2

Answer: D

**Explanation:**

$$x + \frac{1}{x} = 1.$$

$$\text{So, } x^3 + \frac{1}{x^3} = (x + \frac{1}{x}) (x^2 - x \cdot \frac{1}{x} + \frac{1}{x^2}) = 1 \cdot ((x + \frac{1}{x})^2 - 1 - 2 \cdot x \cdot \frac{1}{x}) = 1^2 - 1 - 2 = -2.$$

D is correct choice.

**Question 42**

What are homoloqus chromosomes ?

- A X-chromosomes

- B Autosomes
- C Heterozygous chromosomes
- D Y-chromosomes

Answer: B

**Question 43**

The ages of A, B and C are in the ratio 2 : 3 : 4. The sum of their ages is 108. What will be the ratio of their ages twelve years hence ?

- A 2 : 5 : 6
- B 1 : 2 : 3
- C 1 : 3 : 5
- D 3 : 4 : 5

Answer: D

**Explanation:**

Let say, ages of A,B and C are  $2x$ ,  $3x$  and  $4x$ .

So,  $(2x+3x+4x)=108$ .

or,  $x=108/9=12$ .

So, their ages are 24,36 and 48.

So, ages of their ratio after 12 years

=  $36:48:60=3:4:5$ .

D is correct choice.

## RRB JE Free Mock Test

**Question 44**

Which of the following salts is used in the preparation of sodium hydroxide, baking soda, washing soda?

- A Sodium carbonate
- B Potassium chloride
- C Magnesium chloride
- D Sodium chloride

Answer: D

**Question 45**

Across which of the following rivers is Mettur Dam built ?

- A Mahanadi
- B Cauvery
- C Sindhu
- D Bhavani

Answer: B

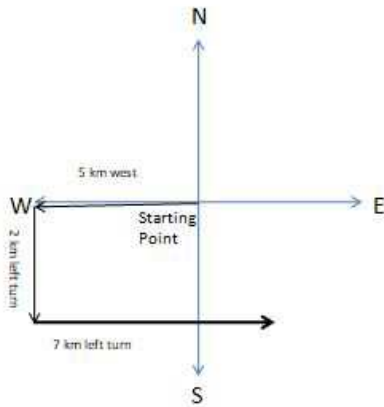
**Question 46**

Rahim started from point X and walked straight 5 km west, then turned left and walked straight 2 km and again turned left and walked straight 7 km. In which direction is he from the point X?

- A North east
- B South west
- C South east
- D North west

**Answer: C**

**Explanation:**



So, Final direction is South-East.

C is correct choice.

## Daily Free RRB Online Test

**Question 47**

Find the missing number in the following series.  
7776, (...), 216, 36, 6

- A 1263
- B 1275
- C 1296
- D 1287

**Answer: C**

**Explanation:**

$6 \times 6 = 36$ ,  $36 \times 6 = 216$ ,  $216 \times 6 = 1296$ ,  $1296 \times 6 = 7776$ .

C is correct choice.

**Question 48**

A dilute ferrous sulphate solution was gradually added to the beaker containing acidified potassium permanganate solution. The light purple colour of the solution fades and finally disappears. Which of the following is the CORRECT explanation for the observation?

- A Potassium permanganate is an unstable compound
- B Ferrous sulphate acts as an oxidising agent and oxidises potassium permanganate
- C Potassium permanganate is an oxidising agent, it oxidises ferrous sulphate
- D The colour disappears due to dilution

Answer: C

**Question 49**

The headquarter of Wildlife Institute of India is located at-

- A Bhopal
- B New Delhi
- C Mysuru
- D Dehradun

Answer: D

## RRB Group-D Previous Papers

**Question 50**

Which is the main fuel used in a nuclear powerplant ?

- A Caesium-137
- B Uranium-235
- C Polonium-210
- D Strontium-90

Answer: B

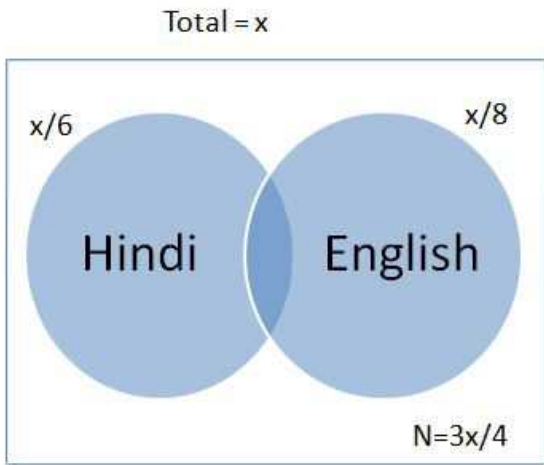
**Question 51**

In a class  $\frac{3}{4}$  of the students do not know either Hindi or English.  $\frac{1}{6}$  of the students know English and  $\frac{1}{8}$  of the students know Hindi. What part of the students know both English and Hindi?

- A  $\frac{1}{12}$
- B  $\frac{1}{4}$
- C  $\frac{5}{6}$
- D  $\frac{1}{24}$

Answer: D

Explanation:



Let say, total number of students = x.

So, number of students who knows both Hindi and English is =  $\left(\frac{3x}{4} + \frac{x}{6} + \frac{x}{8} - x\right) = \frac{18x+4x+3x-24x}{24} = \frac{x}{24}$ .

So,  $\frac{1}{24}$  of students knows Hindi and English.

D is correct choice.

**Question 52**

If  $x = 100, y = 99$  then find the value of  $\frac{x^2 + y^2 + xy}{x^3 - y^3}$

- A 0
- B 2
- C 199
- D 1

**Answer: D**

**Explanation:**

$$(x^3 - y^3) = (x - y)(x^2 + xy + y^2)$$

So, required ratio =  $1/(x-y) = 1/(100-99) = 1$ .

D is correct choice.

**RRB Free Videos (You Tube Channel)**

**Question 53**

Acids are ..... in taste.

- A Bitter
- B Sour
- C Salty
- D Sweet

**Answer: B**

**Question 54**

A sum increases by 100% in 8 years at a certain rate of Simple Interest. What will be the Compound Interest on Rs.8000 after 2 years at the same rate of interest?

- A Rs.2125
- B Rs.2050
- C Rs.2075
- D Rs.2025

**Answer:** A

**Explanation:**

Let say, rate of interest=  $r\%$ .

So,  $P(1+8r/100)=2P$

or,  $8r/100=1$

or,  $r = 12.5\%$ .

So, compounded amount=

$$8000(1 + 0.125)^2$$

$$=10125.$$

Compound interest= $10125-8000=2125$  Rs.

A is correct choice.

**Question 55**

**Which isotope was chosen as the standard reference for measuring atomic masses?**

- A Carbon-12
- B Carbon-13
- C Carbon-11
- D Carbon-14

**Answer:** A

## 20 RRB NTPC Mocks-Tests Rs.149

**Question 56**

**An incident ray makes an angle of  $30^\circ$  with the surface of a plane mirror. What is the angle of reflection?**

- A  $45^\circ$
- B  $30^\circ$
- C  $15^\circ$
- D  $60^\circ$

**Answer:** B

**Explanation:**

If angle of incidence is  $30^\circ$ , then angle of reflection shall be equal to it.

B is correct choice.

**Question 57**

If  $687 + 509 = 560897$ , then  $619 + 703 = ?$

- A 760139
- B 760931
- C 193670
- D 760391

**Answer:** A

**Explanation:**

$687 + 509 = 560897$

By assemble 687 and 509 we get 56, 08, 97.

$619 + 703$

By assemble 619 and 703 we get 76, 01, 39.

So, it will be = 760139.

A is correct choice.

**Question 58**

P can do some work in 9 days. If Q is 50% more efficient than P, then how long will Q take to do the work ?

- A 13.5 days
- B 4.5 days
- C 6 days
- D 3 days

**Answer:** C

**Explanation:**

Time taken by P:Q=150:100.

So,  $9:x = 150:100$ .

or,  $x=900/150=6$ .

So, Q will take 6 days.

C is correct choice.

## 10 RRB JE Mocks-Tests Rs.117

**Question 59**

A square sheet of paper is folded into a cylinder by rolling along its side. What is the ratio of side of the square to the base radius of the cylinder ?

- A  $1 : \pi$
- B  $1 : 2\pi$
- C  $1 : 4\pi$
- D  $2\pi : 1$

**Answer:** D



**Explanation:**

If the square sheet is folded to cylindrical shape then length of the side of the square is the circumference of base of cylinder.

So, side of square =  $2\pi r$ .

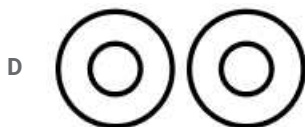
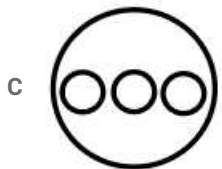
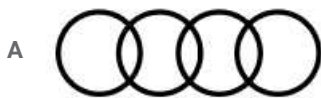
So, required ratio =  $2\pi r : r = 2\pi : 1$ .

D is correct choice.

**Question 60**

Choose the figure that best represents the relationship among the classes given below.

Batsman, Ball, Cricket, Stump



Answer: C

**Explanation:**

Batsman, Ball and Stump all are part of cricket.

So, C is correct choice.

**Question 61**

A, B and C can run around a circular path once in 252 seconds, 308 seconds and 198 seconds respectively. If they start running from a point simultaneously, after what time will they meet again at the starting point?

A 46 minutes 12 seconds

B 45 minutes

C 42 minutes 50 seconds

D 26 minutes 30 seconds

Answer: A

**Explanation:**

They will meet after time taken by them which is most common to their individual time taken by them.

So, required time = LCM(252, 308, 198).

$252 = 2 \times 2 \times 7 \times 9$ .

$308 = 2 \times 2 \times 7 \times 11$ .

$198=2 \times 9 \times 11.$

So,  $LCM(252,308,198)=2 \times 2 \times 11 \times 7 \times 9=2772$  sec.

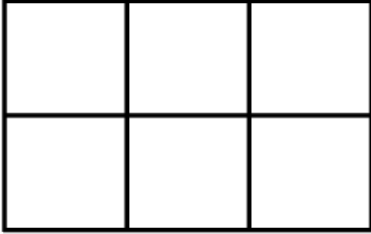
So, required time is 46 min 12 sec.

A is correct choice.

## RRB General Science Notes (Download Pdf)

### Question 62

How many squares are therein the given figure ?



A 10

B 8

C 4

D 6

Answer: B

#### Explanation:

In middle two medium size square and 6 total squares are there in the picture.

So, total  $2+6=8$  squares are there in the image.

B is correct choice.

### Question 63

Find the number of factors of 12 excluding 1 and 12.

A 4

B 3

C 2

D 1

Answer: A

#### Explanation:

Factors of 12 are : 1,2,3,4,6,12.

So, A is correct choice.

### Question 64

Which Mughal emperor was also known as Salim ?

A Jahangir

B Shah Jahan

- C Akbar
- D Aurangzeb

Answer: A

## RRB GK Material (Download Pdf)

### Question 65

Dhanush missile is a naval version of \_\_\_\_\_ missile.

- A Akash
- B Agni
- C Prithvi
- D Nag

Answer: C

### Question 66

Choose the alternative that best replaces the question mark(?) in the given figure.

8	9	10
6	5	4
25	?	19
23	27	21

- A 12
- B 21
- C 18
- D 24

Answer: C

#### Explanation:

From first column:

$$8 \times 6 = 23 + 25 = 48.$$

$$10 \times 4 = 19 + 21 = 40.$$

Similarly,  $5 \times 9 = 18 + 27 = 45.$

C is correct choice.

### Question 67

Which ingredient makes bread fluffy ?

- A Yeast
- B Vanilla

C Flour

D Egg

Answer: A

## RRB NTPC Previous Papers (Download PDF)

### Question 68

Find the ODD one out from the given options.

A 11

B 9

C 18

D 6

Answer: A

### Explanation:

9,18 and 6 are composite numbers.

But 11 is a prime number.

A is correct choice.

### Question 69

Which of the following decreases in moving from left to right along a period ?

A Electron affinity

B Atomic radius

C Ionisation energy

D Electro negativity

Answer: B

### Question 70

Read the following information carefully and answer the question given below.

During a vacation, a game is being played. For the game, 9 people from J to R (mix of boys and girls) have to stand in a vertical row. Boys are wearing black shoes and girls are wearing pink shoes. The row starts at top and with a pink shoe. Boys and girls stand alternately in the row. Each position in the row can be occupied by one person only.

i) J stands seven places before K.

ii) Third pink shoes is L.

iii) Second boy after L is M.

iv) Fourth place in the row is occupied by N.

v) O stands ahead of J.

vi) P stands between L and J.

vii) R is a girl.

Which of the following is a pair of girls ?

A P and L

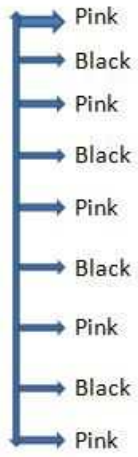
B R and M

C N and Q

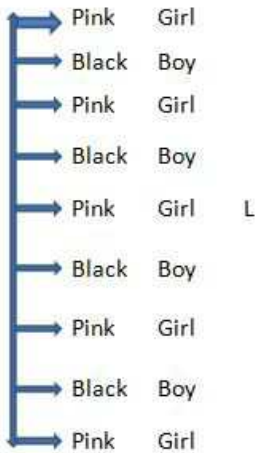
D O and N

Answer: A

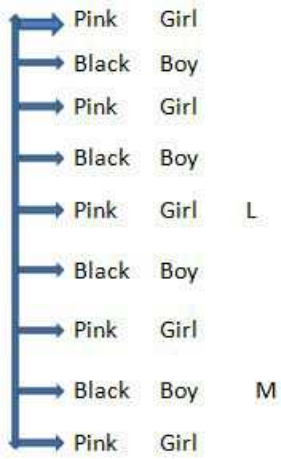
Explanation:



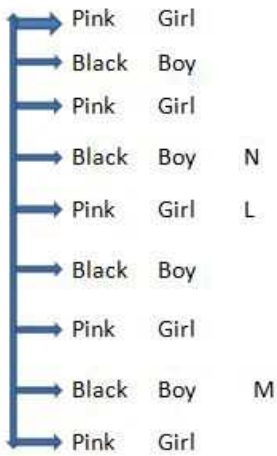
The row starts at top and with a pink shoe.  
Boys and girls stand alternately in the row.  
And, ii) Third pink shoes is L.  
Means that top in the line is wearing Pink shoes.



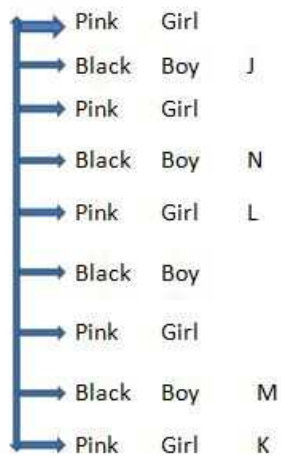
Boys are wearing black shoes and girls are wearing pink shoes.



iii) Second boy after L is M.



iv) Fourth place in the row is occupied by N.



i) J stands seven places before K.

→	Pink	Girl	O
→	Black	Boy	J
→	Pink	Girl	P
→	Black	Boy	N
→	Pink	Girl	L
→	Black	Boy	
→	Pink	Girl	
→	Black	Boy	M
→	Pink	Girl	K



- v) O stands ahead of J.
- vi) P stands between L and J.

→	Pink	Girl	O
→	Black	Boy	J
→	Pink	Girl	P
→	Black	Boy	N
→	Pink	Girl	L
→	Black	Boy	Q
→	Pink	Girl	R
→	Black	Boy	M
→	Pink	Girl	K

vii) R is a girl.

So, P and L are girls.

A is correct choice.

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**Question 71**

In a code language, 'KUMAR' is coded as 'LVNBS'. How is 'EMOTIONAL' coded in that language ?

- A FNPUJPOBM
- B FNQUJQMBM
- C FNQUJPOBM
- D FNQUJQOBM

**Answer:** A

**Explanation:**

KUMAR : LVNBS

$K+1=L$ ,  $U+1=V$ ,  $M+1=N$ ,  $A+1=B$ ,  $R+1=S$ .

So, EMOTIONAL = FNPUJPOBM.

A is correct choice.

**Question 72**

Which part of our body does rheumatism affect ?

- A Neck
- B Heart
- C Head
- D Joint

**Answer:** D

**Question 73**

Find the decimal equivalent of  $\frac{1}{25}$ .

- A 0.4
- B 0.2
- C 0.004
- D 0.04

**Answer:** D

**Explanation:**

$$\frac{1}{25} = \frac{100}{100 \times 25} = \frac{4}{100} = 0.04.$$

D is correct choice.

**RRB NTPC Free Mock Tests**

**Question 74**

**Simplify:**  $23 \times 2(45 - 15) + 168 \div 4 \div 2 - (11)^2$

- A 1280
- B 1080
- C 1410
- D 685

**Answer:** A

**Explanation:**

$$23 \times 2(45 - 15) + 168 \div 4 \div 2 - (11)^2.$$

$$= 23 \times 2 \times 30 + 168 \div 4 \div 2 - 121.$$

$$= 23 \times 2 \times 30 + 168 \div 8 - 121.$$

$$= 23 \times 2 \times 30 + 21 - 121.$$

$$= 1401 - 121.$$

$$= 1280.$$

A is correct choice.



Question 75

Find the missing group of alphabets in the following series.

ZA, WB, (...), KG, BK

A PG

B IR

C RP

D RD

Answer: D

Explanation:

**Conversion Table**

A = 1	K = 11	U = 21
B = 2	L = 12	V = 22
C = 3	M = 13	W = 23
D = 4	N = 14	X = 24
E = 5	O = 15	Y = 25
F = 6	P = 16	Z = 26
G = 7	Q = 17	
H = 8	R = 18	
I = 9	S = 19	
J = 10	T = 20	

$$ZA = 26 + 1 = 27.$$

$$WB = 23 + 2 = 25.$$

$$RD = 18 + 4 = 22.$$

$$KG = 11 + 7 = 18.$$

$$BK = 2 + 11 = 13.$$

So, it's a sequence of difference of 2,3,4 and 5.

D is correct choice.

Question 76

If  $\sin A = \frac{1}{2}$  and  $A$  and  $B$  are complementary angles, then find the value of  $\sin(A - B)$ .

A -1

B 0

C  $-\frac{1}{2}$

D  $\frac{1}{2}$

Answer: C

Explanation:

According to question,  $A + B = 90^\circ$ .

$$\sin(A - B) = \sin A \cos B - \sin B \cos A$$

$$= \sin A \sin A - (\cos A) \cos A. \quad (\text{As } \cos(90 - A) = \sin A).$$

$$= \sin^2 A - \cos^2 A.$$

$$= \sin^2 A - (1 - \sin^2 A).$$

$$= 2\sin^2 A - 1.$$

$$=2\left(\frac{1}{2}\right)^2 - 1.$$

$$=2 - 1.$$

$$=1.$$

C is correct choice.

## RRB JE Previous Papers ( Download Pdf)

### Question 77

Father is aged 3 times more than his son. After 8 years, he would be 2.5 times his son's age. Further after 8 years, what would be the ratio of his age to that of his son?

- A 3:1
- B 5:2
- C 2:1
- D 11:4

**Answer: C**

#### Explanation:

Let say, son's age =  $a$ .

So, Father's age =  $4a$ .

After 8 years,

$$4a + 8 = 2.5(a + 8).$$

$$\text{or, } 1.5a = 20 - 8 = 12.$$

$$\text{or, } a = 8.$$

$$\text{So, required ratio} = (32 + 8 + 8) : (8 + 8 + 8) = 48 : 24 = 2 : 1.$$

C is correct choice.

### Question 78

**Why are luggages fitted with rollers?**

- A Wheels reduce friction and rolling makes the movement smooth and easy
- B Rolling friction is higher than sliding friction. Hence, luggages are fitted with rollers
- C Rollers give grip to luggage so that movement is tough
- D Rollers obstruct easy and smooth movement

**Answer: A**

### Question 79

Ram cycles from a place A to B and again back to A at a uniform speed of 12 km/h. His friend Gopi sails on a boat from A to B and back to A where his still water speed is 10 km/h and flow of river is 4 km/h. Who will return to A first?

- A Both reach at same time
- B Gopi
- C Cannot be determined

D Ram

Answer: D

Explanation:

Let say, distance between A and B is  $d$  km.

RAM's Time :

$$\text{Time taken} = \frac{d}{12} + \frac{d}{12} = \frac{d}{6} \text{ hr.} = \frac{7d}{42} \text{ hr.}$$

GOPI's Time :

$$\text{Time taken} = \frac{d}{14} + \frac{d}{6} = \frac{3d+7d}{42} \text{ hr} = \frac{10d}{42} \text{ hr.}$$

So, time taken by Ram will be less than Gopi.

D is correct choice.

## RRB JE Free Mock Test

Question 80

An isotope of iodine is used in the treatment of-

- A Rickets
- B Nyctalopia
- C Goitre
- D Scurvy

Answer: C

Question 81

Which of the following vitamin deficiencies is fulfilled by golden rice ?

- A Vitamin K
- B Vitamin B
- C Vitamin A
- D Vitamin C

Answer: C

Question 82

The refractive index of second medium with respect to the first medium  $n_{21}$  is given by which formula?

- A The sum of the speed of light in the first medium and the speed of light in the second medium  $v_1 + v_2$
- B The product of the speed of light in first medium and the speed of light in the second medium.  $v_1 \times v_2$
- C Ratio of speed of light in first medium to speed of light in second medium.  $v_1/v_2$
- D Ratio of speed of light in second medium to speed of light in first medium.  $v_2/v_1$

Answer: C

## Daily Free RRB Online Test

Question 83

Who was the first woman Prime Minister of Great Britain?

- A Cherie Blair
- B Hillary Clinton
- C Margaret Thatcher
- D Imelda Marcos

Answer: C

Question 84

The most reactive among the halogens is-

- A Fluorine
- B Chlorine
- C Bromine
- D Iodine

Answer: A

Question 85

Which of these transports oxygen to every cell of the body?

- A R.B.C and W.B.C.
- B R.B.C. and hormone
- C W.B.C.
- D R.B.C.

Answer: D

## RRB Group-D Previous Papers

Question 86

At which of the following speed do bullets travel?

- A Supersonic
- B Hyposonic
- C Subsonic
- D Infrasonic

Answer: A

**Question 87**

Onion is a .....

- A Fruit
- B Root
- C Seed
- D Bulb

**Answer: D**

**Question 88**

In this question, two statements are given followed by two conclusions. Choose the conclusion(s) which best fit(s) logically.

**Statements:**

- 1) All students are girls.
- 2) No girl is beautiful.

**Conclusions:**

- I. Some students are beautiful.
- II. No student is beautiful.

- A Only conclusion I follows
- B Only conclusion II follows
- C Neither conclusion I nor II follows
- D Both conclusions I and II follow

**Answer: B**

**Explanation:**

**Statements:**

- 1) All students are girls.
- 2) No girl is beautiful.

We can imply that students and girls don't have any relation with beautiful.

So, B is correct choice.

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**Question 89**

Aluminium foil used for wrapping-

- A Food items
- B Wires
- C Plastic
- D Cloth

**Answer: A**

**Question 90**

A situation marked by rising prices and stagnation in demand is known as-

- A Stagflation
- B Cost-push inflation
- C Demand-pull inflation
- D Wage-push inflation

Answer: A

**Question 91**

Hari bought a cardboard for Rs.18000 and spent Rs.5000 on transport and Rs.2000 on labour. He made 500 boxes and sold them at Rs.60 per box. What was his profit percentage?

- A 20%
- B 22%
- C 15%
- D 25%

Answer: A

**Explanation:**

His total expenditure =  $18000 + 5000 + 2000 = 25000$  Rs.

Total Selling price =  $500 \times 60 = 30000$  Rs.

Profit percentage =  $\frac{30000 - 25000}{25000} \times 100 = 20\%$ .

A is correct choice.

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**Question 92**

Which of the following two banks merger with Bank of Baroda was effective from 1 April 2019 ?

- A Axis Bank and Vijaya Bank
- B Dena Bank and Axis Bank
- C Vijaya Bank and Dena Bank
- D Vijaya Bank and SBI Bank

Answer: C

**Question 93**

Srinivas can do a job in 15 days and Ramesh can do the same job in 9 days. With the help of Ravi, they did the job in 3 days. In how many days can Ravi alone do the same job?

- A  $6\frac{2}{5}$  days
- B 10 days
- C  $6\frac{1}{5}$  days
- D  $6\frac{3}{7}$  days

**Answer: D**

**Explanation:**

Let say, Ravi do the job in x days .

$$\text{So, } \frac{1}{x} + \frac{1}{15} + \frac{1}{9} = \frac{1}{3}.$$

$$\text{or, } \frac{1}{x} = \frac{1}{3} - \frac{1}{15} - \frac{1}{9}.$$

$$\text{or, } \frac{1}{x} = \frac{15-3-5}{45}.$$

$$\text{or, } x = \frac{45}{7} = 6\frac{3}{7}.$$

D is correct choice.

**Question 94**

**The outermost fibrous coating of the eye is called-**

- A Sclera
- B Ciliary Body
- C Choroid
- D Iris

**Answer: A**

## 10 RRB JE Mocks-Tests Rs.117

**Question 95**

**Complete the series.**

**8, 13, 13, 23, 18, 33, (...)**

- A 21
- B 23
- C 35
- D 31

**Answer: B**

**Explanation:**

It is an alternate series of :

(8,13,18,23 ..... ) and (13,23,33,43 .....)

B is correct choice.

**Question 96**

**Who was the first person to land on the moon?**

- A Neil Armstrong
- B Edwin Aldrin
- C Alan Bean
- D Rakesh Sharma

**Answer: A**

**Question 97**

Which of the following is the highest mountain peak in India ?

- A Nanda Devi
- B Anamudi
- C Kanchenjunga
- D Kamet

**Answer: C**

## RRB General Science Notes (Download Pdf)

**Question 98**

Which of the following Articles is for "Protection of interests of Minorities"?

- A Article 27
- B Article 29
- C Article 30
- D Article 26

**Answer: B**

**Question 99**

Which of the following states consists of super energetic and super excited particles ?

- A Plasma
- B Gas
- C Liquid
- D Solid

**Answer: A**

**Question 100**

From a cube of side 6 cm, a hemisphere of maximum volume is scooped out. What is the remaining volume?

- A  $216 - 12\pi$
- B  $\left[27 - \left(\frac{2\pi}{3}\right) \times 6\right]$
- C  $216 - 18\pi$
- D  $36 - \left(\frac{3\pi}{3}\right)$

**Answer: C**

**Explanation:**

vol of cube =  $6 * 6 * 6 = 216cm^3$



radius of max.hemisphere=3cm

vol. of hemisphere= $\frac{2}{3}\pi 3^3 = 18\pi$ .

vol. of remaining part= $(216 - 18\pi) \text{ cm}^3$ .

C is correct choice.

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