



RRB JE 25th May 2019 Shift-2

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Instructions

For the following questions answer them individually

Question 1

An alarm was set at 11 AM on Monday on a clock that was set correctly at 1 AM on Sunday, but the clock started gaining 20 seconds every 24 hours. What was the actual time when the alarm went off?

- A 10:31:40 AM
- B 10:51:20 AM
- C 10:30:00 AM
- D 11:30:00 AM

Answer: E

Explanation:

Total time between Sunday at 1 AM to Monday at 11 AM = 24 hours + 10 hours = 34 hours

Now total gain in seconds in 34 hours = $\frac{20}{24} \times 34 = \frac{85}{3}$

The actual time at which alarm went off is

= 10:59: $(60 - \frac{85}{3})$

= 10:59: $\frac{95}{3}$

= 10:59:32

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Question 2

If $8 \# 2 @ 4 = 12$ and $5 \# 4 @ 2 = 18$, then what will be $4 \# 8 @ 3$?

- A 26
- B 29
- C 32
- D 13

Answer: B

Explanation:

Here,

is \times (multiplication)

@ is $-$ (subtraction)

So,

$8 \# 2 @ 4 = 12$ will be $8 \times 2 - 4 = 12$

$5 \# 4 @ 2 = 18$ will be $5 \times 4 - 2 = 18$

Then $4 \# 8 @ 3$ will be $4 \times 8 - 3 = 29$

Question 3

Complete the series.

A, C, A, E, A, G, A, I, A, (...)

A Q

B K

C P

D N

Answer: B

Explanation:

The pattern of series is every next A adds next consequent odd no

$$A + 1 = C$$

$$A + 3 = E$$

and so on $A + 9 = K$

Question 4

'A' is to the south east of 'C', 'B' is to the east of 'C' and north east of 'A'. If 'D' is to the north of 'A' and north west of 'B', then what is the direction of 'C' with respect to 'D'?

A South west

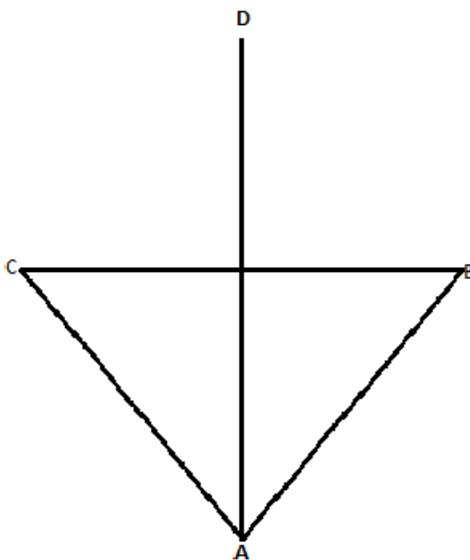
B North west

C South east

D North east

Answer: A

Explanation:



C is to the southwest of D

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Question 5

Where are the Elephanta Caves located?

A Konark

B Bengaluru

C Mumbai

D Jaipur

Answer: C

Question 6

Find the equivalent fraction pairs from the following fractions.

$\frac{2}{5}, \frac{8}{11}, \frac{42}{63}, \frac{57}{63}, \frac{48}{120}, \frac{2}{3}$

A $(\frac{2}{5}, \frac{8}{11})$

B $(\frac{42}{63}, \frac{2}{3})$

C $(\frac{2}{5}, \frac{48}{120})$

D $(\frac{2}{5}, \frac{48}{120})$ and $(\frac{42}{63}, \frac{2}{3})$

Answer: D

Explanation:

Equate every fraction with other remaining fractions one by one

If the product of numerator of one and denominator of other is equal to product of denominator of one and numerator of the other than that pair is said to be equivalent

Lets take fraction $\frac{2}{5}$ and $\frac{48}{120}$

$$2 \times 120 = 5 \times 48$$

$$240 = 240$$

So, $\frac{2}{5}$ and $\frac{48}{120}$ are equivalent

Similarly

$\frac{42}{63}$ and $\frac{2}{3}$ are equivalent

Question 7

If $\sqrt{2x-1} - \sqrt{x-4} = 2$, then find the value of 'x'.

A 13, 5

B 6, -9

C -13, -5

D -13, 5

Answer: A

Explanation:

$$\sqrt{2x-1} = 2 + \sqrt{x-4}$$

Squaring both sides we will get

$$(\sqrt{2x-1})^2 = (2 + \sqrt{x-4})^2$$

$$2x - 1 = 4 + (x-4) + 4\sqrt{x-4}$$

$$2x - x - 1 = 4\sqrt{x-4}$$

$$x - 1 = 4\sqrt{x - 4}$$

Again squaring both sides ,

$$(x - 1)^2 = 4(\sqrt{x - 4})^2$$

$$x^2 + 1 - 2x = 16(x - 4)$$

$$x^2 + 1 - 2x = 16x - 64$$

$$x^2 - 18x + 65 = 0$$

On solving the above equation ,we get two rational roots that are 13 and 5

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Question 8

A man started from a place. After walking a kilometer, he turns left. Then walking for half a kilometer, he again turns left. He is going eastwards. Towards which direction did he start?

- A East
- B West
- C South
- D North

Answer: C

Question 9

The pupil is a part of

- A Kidney
- B Eye
- C Bone Marrow
- D Gall Bladder

Answer: B

Question 10

When atoms bond together chemically, _____ are formed.

- A Elements
- B Molecules
- C Both Elements and Alloys
- D Alloys

Answer: B

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Question 11

In which phase of the moon, is the moon invisible?

- A Gibbous Moon
- B Crescent Moon
- C New Moon
- D Full Moon

Answer: C

Question 12

Who was first Indian to be elected as the President of the United Nations?

- A Vijayalakshmi Pandit
- B Annie Besant
- C Sarojini Naidu
- D Indira Gandhi

Answer: A

Question 13

Edges of a cuboid are in the ratio 1 : 2 : 3. Its surface area is 88 cm^2 . What is its volume?

- A 120 cm^3
- B 64 cm^3
- C 48 cm^3
- D 24 cm^3

Answer: C

Explanation:

let edges of cuboid be $1x, 2x, 3x$

given surface area = 88 cm^2

total surface area of cuboid = $2(lw+wh+hl)$

$$88 = 2(1x \cdot 2x + 2x \cdot 3x + 3x \cdot 1x)$$

$$88 = 2(2x^2 + 6x^2 + 3x^2)$$

$$88 = 2 \cdot 11x^2$$

$$88 = 22x^2$$

$$x^2 = \frac{88}{22}$$

$$x^2 = 4$$

$$x = 2$$

dimension of cuboid are 2cm, 4cm and 6cm

volume of cuboid = $l \cdot b \cdot h$

$$= 2 \cdot 4 \cdot 6$$

$$= 48 \text{ cm}^3$$

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Question 14

Which of the following states of India is the largest producer of lignite coal?

- A Maharashtra
- B Gujarat
- C Madhya Pradesh
- D Tamil Nadu

Answer: D

Question 15

Which type of lens is a natural lens present in the human eye?

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

Answer: C

Question 16

The drying of milk of lime (white washing) is due to the action of-

- A Nitrogen in air
- B Oxygen in air
- C Carbon dioxide in air
- D Hydrogen in air

Answer: C

Explanation:

Whitewash cures through a reaction with carbon dioxide in the atmosphere to form calcium carbonate in the form of calcite, a type of reaction generally known as carbonation or by the more specific term, carbonation.

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Question 17

Find the ODD one out from the given options.

- A APQ
- B DTJ
- C LCI
- D BJV

Answer: C

Explanation:

If we add the values of alphabet in the given options ,all have values greater than 30 except LCI whose value is less than 30

$$A + P + Q = 34$$

$$D + T + J = 34$$

$$L + C + I = 24$$

$$B + J + V = 37$$

Question 18

A and B invest some amount in the ratio 3 : 5 in a business. After 6 months, C joins them with an investment equal to that of B. In what ratio should the yearly profit be shared among A, B and C?

A 3 : 5 : 6

B 6 : 10 : 5

C 6 : 7 : 5

D 3 : 5 : 4

Answer: B

Explanation:

Ratio of investment of A and B is 3:5

A and B invests for 12 months whereas C invests for 6 months

Given investment of C is equal to that of B

Profit = investment * time

$$P = I * T$$

Ratio of their profit will be= A : B : C

$$3*12 : 5*12 : 5*6$$

$$6 : 10 : 5$$

so the ratio in which the profit would be shared among A,B and C is 6:10:5

Question 19

Interest on Rs.800 in 3 years at 4% Simple Interest equals twice the interest on Rs.300 at 8% in 'n' years,thenfind 'n'.

A 3

B 1.5

C 2

D 4

Answer: C

Explanation:

$$SI = \frac{P * R * T}{100}$$

Given,

$$\frac{800 * 3 * 4}{100} = 2 * \frac{300 * 8 * n}{100}$$

$$96 = 2 * 24n$$

$$96 = 48n$$

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Question 20

In a certain code, 'JOVIAL' is written as 'NQZKEN'. How would 'FIGURE' be written in that code?

- A JKKVWG
- B JKKWVG
- C JKKWGV
- D JKWKVG

Answer: B

Explanation:

Each letter of the word JOVIAL follows the pattern +3 and +1 alternatively .

$$J + 3 = N$$

$$O + 1 = Q$$

$$V + 3 = Z$$

$$I + 1 = K$$

$$A + 3 = E$$

$$L + 1 = N$$

Similarly, FIGURE is JKKWVG

Question 21

Which of the following is NOT a root?

- A cabbage
- B Beetroot
- C Turnip
- D Radish

Answer: A

Question 22

In a certain code language, 'TELEPHONE' is written as 'ENOHPELET'. How is 'ALIGATOR' written in that code?

- A ROTAGILE
- B ROTAGILA
- C ROTEGILA
- D ROTAGIAL

Answer: B

Explanation:

Here the entire word is reversed from left to right
so,code for ALIGATOR is ROTAGILA

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Question 23

Which of these statements is NOT true?Which of these statements is NOT true?

- A Proteins are inactive at low temperatures
- B Proteins denature by change in pH
- C Proteins are not affected by temperature
- D Proteins denature at high temperature

Answer: C

Question 24

Who was the first Indian woman to feature on an Indian stamp after 15 August 1947 ?

- A Kasturba Gandhi
- B Saroji naidu
- C MeeraBhai
- D Rani Laxmibai

Answer: C

Question 25

If $\tan A + \tan B = a$ and $\cot A + \cot B = b$, then $\frac{1}{a} - \frac{1}{b}$ is equal to

- A $\sin(A + B)$
- B $\cos(A + B)$
- C $\cot(A + B)$
- D $\tan(A + B)$

Answer: C

Explanation:

$$\tan A + \tan B = a \text{ ---(1)}$$

$$\cot A + \cot B = b \text{ ---(2)}$$

$$\text{From equation (1), } \frac{1}{\tan A} + \frac{1}{\tan B} = a$$

$$\text{Or } \frac{\cot A + \cot B}{\cot A \cot B} = a$$

$$\text{Or } \frac{b}{\cot A \cot B} = a$$

$$\text{Or } a = \cot A \cot B$$

$$\text{Now, } \cot(A + B) = \frac{\cot A \cot B - 1}{\cot A + \cot B}$$

$$\cot(A + B) = \frac{a-1}{b}$$

$$\cot(A + B) = \frac{b-a}{ab}$$

$$\cot(A + B) = \left(\frac{b}{ab}\right) - \left(\frac{a}{ab}\right)$$

$$\cot(A + B) = \frac{1}{a} - \frac{1}{b}$$

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Question 26

Which of the following statements is FALSE?

1. Focal length of a convex lens is positive.
2. Focal length of a concave lens is negative.
3. All measurements to the right of the optic centre are positive.
4. All measurements to the left of the optic centre are positive.

- A Statement 1 only
B Statement 2 only
C Statement 3 only
D Statement 4 only

Answer: D

Question 27

What is the SI unit of pressure?

- A Newton N
B Newton metre N-m
C Newton per metre N / m
D Pascal Pa

Answer: D

Question 28

The formula of current I = _____ /time (t).

- A Resistance (R)
B Power (P)
C Charge (Q)
D Volt (V)

Answer: C

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Question 29

Which of the following Articles in the Constitution grants us the Right to Equality?

- A Article 32
- B Article 368
- C Article 14-18
- D Article 23-24

Answer: C

Question 30

Five friends A, B, C, D and E are sitting on a bench facing north. A is sitting next to B. D is sitting next to C. D is not sitting with E. E is on the left end of the bench. C is on the second position from the right. A sits to the right of B. A and C are sitting together. Who is sitting in the middle of the bench?

- A C
- B D
- C B
- D A

Answer: D

Explanation:

1. E is one the left end of the bench
2. C is second from right
3. A and C are sitting together

CASE 1 :

E A C

CASE 2:

E C A

CASE 2 is not possible because, A sits right to B

1. D is sitting next to C
2. D is not sitting with E

E B A C D

So, A is in the middle of the bench.

Question 31

Blue litmus when added to an acidic solution changes to

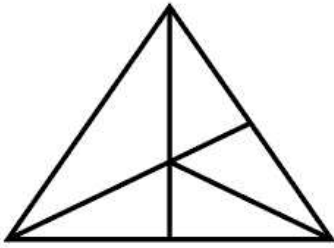
- A Green
- B White
- C Violet
- D Red

Answer: D

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Question 32

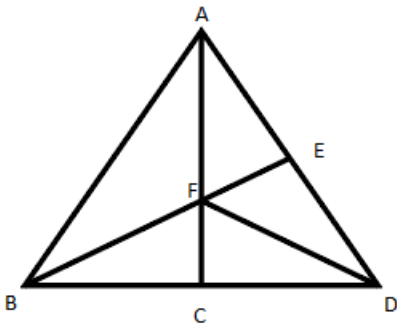
How many triangles are there in given figure?



- A 19
- B 10
- C 12
- D 15

Answer: C

Explanation:



Number of small triangles given in the figure = 5 which are triangles AFB , BCF , CFD , DFE , EFA

Number of small triangles consisting of 2 triangles in the figure = 4 which are triangles ABC , ADC , DFA , BFD

Number of small triangles consisting of 3 triangles in the figure = 2 which are triangles BED , CAD

Number of biggest triangles consisting all the small triangles = 1 which is triangle ABD

Total triangles = $5+4+2+1$

$$= 12$$

Question 33

Which of the following is used as an antiseptic to sterilise wounds and syringes in hospitals?

- A Propanol
- B Ethyl alcohol
- C Butanol
- D Methanol

Answer: B

Question 34

If $832.58 - 242.31 = 779.84 - a$, find the value of 'a'

- A 189.57
- B 179.57
- C 199.57
- D 295.05

Answer: A

Explanation:

$$832.58 - 242.31 = 779.84 - a$$

$$590.27 = 779.84 - a$$

$$a = 779.84 - 590.27$$

$$a = 189.57$$

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Question 35

Which of the following hockey players was awarded with Rajiv Gandhi Khel Ratna Award?

- A Leslie Claudius
- B Udham Singh
- C Dhanraj Pillay
- D All of the options

Answer: C

Question 36

From where is the solar energy obtained?

- A Sea
- B Moon
- C Sun
- D Stars

Answer: C

Question 37

Find the greatest number that can be formed out of the digits 9, 0, 8, 7, 9.

- A 90987
- B 99870
- C 98970
- D 99780

Answer: B

Explanation:

we may say the procedure of forming the greatest number is as follows

- a) The smallest digit is placed at one's place
- b) The next greater digit is placed at tens place
- c) The next greater digit is placed at hundreds place and so on
- d) The greatest digit is placed at the highest place of the number

Hence by using the above concept greatest number that can be formed out of the digits 9,0,8,7,9

Is = 99870

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Question 38

Which number is a factor of all numbers?

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

Answer: D

Question 39

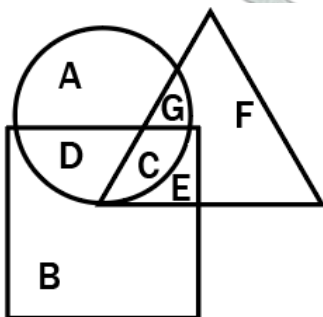
On what factor does the colour of scattered light depend upon?

- A The amount of impurity
- B The colour of the scattering particles
- C The refractive index of the particles
- D The size of the scattering particles

Answer: D

Question 40

In the given figure, the circle represents writers, triangle represents engineers, and square represents dancers. Which region represents writers and dancers but not an engineers?



- A D
- B C

C G

D A

Answer: A

Explanation:

In the above diagram it is clearly showing that

Circle contains = A,D,C,G it is related to writers

Triangle contains=G,C,E,F it is related to engineers

Square contains = D,C,E,B it is related to dancers

Where we got from the question the region represents writers and dancers but not an engineers?

Answer is D because from the above explanation we got to know that is writers and dancers contains D where Engineers not contains D hence the answer is chosen as D

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Question 41

Total age of x and y is 15 years more than the sum of the ages of y and z. What is the value of(x - z)?

A 9

B 10

C 12

D 15

Answer: D

Explanation:

$$x+y=15+(y+z)$$

$$x+y-y-z=15$$

$$x-z=15$$

So, (x-z) is 15 years

Question 42

Three of the following four of alphabets and numerals have the same relationship between their elements as in the case of the pair ROUT : 5487 and hence form a group. Which of the following does not belong to the group?

A OUR : 485

B OUT : 487

C ROT : 587

D TOR : 745

Answer: C

Explanation:

ROUT: 5487

Where R=5, O=4, U=8, T=7

Where in the options R O T is given has 5 8 7

But correct answer is 5 4 7 because R=5, O=4, T=7

In these type of problems we should use eliminate options methods to get solutions in the early time

Question 43

Compare Rolling friction and Sliding friction

- A Rolling friction is always equal to sliding friction
- B Rolling friction is either greater or equal to sliding friction
- C Rolling friction is smaller than the sliding friction
- D Rolling friction is greater than sliding friction

Answer: C

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Question 44

The Union Home Secretary of India recently launched an online portal named for the a grant for security Clearance?

- A "e-Sahaj"
- B "e-Filing"
- C "e-Clearance"
- D "e-Security"

Answer: A

Question 45

With which of the following sports is Koneru Humpy associated?

- A Chess
- B Golf
- C Batminton
- D Hockey

Answer: A

Question 46

Complete the series.

458, 435, 415, 398, 384, (...)

- A 373
- B 327
- C 382
- D 358

Answer: A

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Question 47

Find the value of $\tan 10^\circ \tan 15^\circ \tan 80^\circ \tan 75^\circ$

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

Answer: B

Explanation:

We have $(\tan 10^\circ \tan 15^\circ \tan 80^\circ \tan 75^\circ)$

= Where $\tan(90^\circ - \theta) = \cot \theta$ hence $\tan 80^\circ = \tan(90^\circ - 10^\circ) = \cot 10^\circ$

Where $\cot \theta$ is the inverse of $\tan \theta$

= In the same way $\tan 75^\circ = \tan(90^\circ - 15^\circ) = \cot 15^\circ$

= Where $\cot 10^\circ = (1/\tan 10^\circ)$ & $\cot 15^\circ = (1/\tan 15^\circ)$

$= (\tan 10^\circ \times \tan 15^\circ \times \frac{1}{\tan 10^\circ} \times \frac{1}{\tan 15^\circ})$

= 1

Question 48

When is 'National Sports Day' celebrated?

- A August 15
- B July 27
- C August 29
- D November 12

Answer: C

Question 49

Which of these medical instruments usually has a metal needle attached to it?

- A Thermometry
- B Syringe
- C Stethoscope
- D Spatula

Answer: B

Question 50

CE-20 is a/an _____ that was developed by ISRO .

- A Aircraft carrier
- B High thrust cryogenic engine
- C Multirole fighter aircraft D)
- D Main battle tank

Answer: B

Question 51

If time upstream = $n \times$ time downstream and speed in still water is 'x' and speed of stream is 'y', then find $x : y$.

- A $\frac{n}{2}$
- B $\frac{n+1}{n-1}$
- C $\frac{n}{n-1}$
- D $\left(\frac{n-1}{n+1}\right)$

Answer: B

Question 52

When the number 42 is misread as 24, what is the percentage error?

- A 18%
- B 42.86%
- C 55.34%
- D 28%

Answer: B

Explanation:

A number was Read as 24 but it was actually 42. So $42-24$ is the error so 18 is the error

Now 18 we have to represent as a percent if 42 so $18 \times \frac{100}{42}$ is the error percent which is

Option b answer=42.86%

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Question 53

Complete the series.

4, 5, 8, 15, 30, (...)

- A 78
- B 72
- C 61

D 69

Answer: C

Explanation:

step by step explanation

Adding the next term is the concept to solve this type of problems

$$4+1=5$$

$$5+3=8$$

$$8+7=15$$

$$15+15=30$$

$$30+y=x$$

Now let's look at the series 1,3,7,15,y

$$1 \times 2 + 1 = 3$$

$$3 \times 2 + 1 = 7$$

$$7 \times 2 + 1 = 15$$

$$15 \times 2 + 1 = 31$$

$$y = 31$$

Then $X = 30 + y$

$$X = 30 + 31$$

$$X = 61$$

Question 54

Three friends—P, Q and R are living in the same locality. The house of Q is to the east of P's house, and R's house is to the south of P's house. What is the direction of R's house with respect to Q's house?

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

Answer: D

Question 55

Find the total surface area of a hemispherical bowl of thickness 'd' and internal radius 'r'.

- A $4\pi r^2 + 4\pi r d + 3d^2$
- B $\pi(4r^2 + 3rd + d^2)$
- C $\pi(4r^2 + 6rd + 3d^2)$
- D $4\pi r^2 + 6\pi r d + 3d^2$

Answer: C

Question 56

In which part of the body is thyroid gland situated?

- A Chest
- B Abdomen
- C Throat
- D Head

Answer: C

Question 57

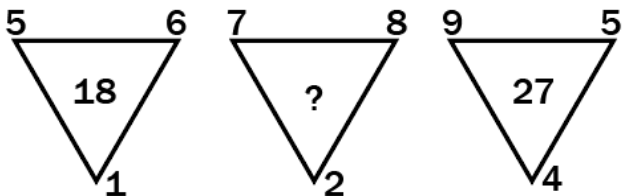
A jar of milk contains 40% water. A part of it is replaced by another milk containing 19% water. Now the percentage of water is 26%. What quantity of milk was replaced?

- A $\frac{1}{5}$
- B $\frac{2}{3}$
- C $\frac{1}{3}$
- D $\frac{2}{5}$

Answer: B

Question 58

Choose the Alternative that best replaces the question mark in the given figure?



- A 41
- B 32
- C 39
- D 27

Answer: C

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Question 59

Which of the following attractive forces exists between different layers of graphite?

- A Electromagnetic forces
- B Columbic forces
- C Gravitational forces

D Vander Waals forces

Answer: D

Question 60

The light rays that are used for eliminating bacteria in test tubes used in pathology labs are

A Microwave radiations

B Ultra Violet radiations

C X-Rays

D Infrared rays

Answer: B

Question 61

A train running at a speed of 60 km/hr crosses a pole in 9 seconds. What is the length of the train?

A 324 m

B 120 m

C 150 m

D 180 m

Answer: C

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Question 62

The protein in haemoglobin is

A Albumin

B Hem

C Globin

D Globulin

Answer: C

Question 63

Solve for x and y: $9x + 3y + 12 = 0$; $18x + 6y + 24 = 0$

A No unique solution. There are infinitely many solutions $x = 1$; $y = 7$

B $x = 1$; $y = 7$

C $x = 4$; $y = -16$

D $x = 2$; $y = -10$

Answer: A

Explanation:

Take first Equation and multiply this equation by 2 $9x+3y+12=0$;

After multiplication of the equation it becomes $18x+6y+24=0$

Then

$$18x+6y+24=0$$

$18x+6y+24=0$ hence by solving these two equations we got this answer it is no unique solutions

Question 64

Find the missing group of alphabets in the following series. WCC....MM..RH

- A CW
- B WC
- C MM
- D HR

Answer: D

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Question 65

If doubling a number and adding 20 to the result gives the same answer as multiplying the number by 8 and taking away 4 from the product, find the number.

- A 2
- B 3
- C 4
- D 6

Answer: C

Explanation:

let the number be X

According to the question

$$2x+20=8x-4;$$

On solving the equation

$$8x-2x=20+4$$

$$6x=24$$

$$X=4$$

Question 66

Sixteen women working 7 hours a day will complete a job in 48 days. How many women are needed to complete the same job in 32 days working 12 hours a day?

- A 17
- B 14

C 12

D 10

Answer: B

Explanation:

by using this trick solve this type of problems

$$\frac{\text{women} \times \text{days} \times \text{hours}}{\text{workers}} = \frac{\text{women} \times \text{days} \times \text{hours}}{\text{workers}}$$

$$\text{Women} \times \text{days} \times \text{hours} = \text{women} \times \text{days} \times \text{hours}$$

$$16 \times 7 \times 48 = \text{women} \times 32 \times 12$$

$$\text{Women} = \frac{16 \times 7 \times 48}{32 \times 12}$$

$$\text{Women} = 14 \text{ days}$$

Question 67

Find the value of $\cos(A + B)$, if $\tan A = \frac{3}{4}$ and $\tan B = \frac{5}{12}$ and A and B are in quadrant I.

A $\frac{33}{65}$

B $\frac{16}{65}$

C 1

D $\frac{15}{48}$

Answer: A

Explanation:

$$\text{Using this formula } \Rightarrow \tan(a+b) = \frac{\tan A + \tan B}{1 - \tan A \cdot \tan B}$$

\Rightarrow then substitute tana and tanb values

$$\Rightarrow 1 - \frac{3/4 \times 5/12}{33}$$

$$\tan(a+b) = \frac{56}{33}$$

To find the $\cos(a+b)$

Use this formula $\sec^2 a = 1 + \tan^2 a$

Where in formula replace a by a+b

$$\sec^2(a+b) = 1 + \tan^2(a+b)$$

$$= 1 + \left(\frac{56}{33}\right)^2$$
$$= \frac{4225}{1089}$$

$$\sec^2(a+b) = \left(\frac{65}{33}\right)^2$$

$$\text{Therefore } \sec(a+b) = \frac{65}{33}$$

And we know that The reciprocal of cosine function is secant

$$\text{Hence } \cos(a+b) = \frac{33}{65}$$

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Question 68

Who was the first Indian to receive the Nobel Prize?

- A Amartya Sen
- B Rabindranath Tagore
- C Mother Teresa
- D Har Gobind Khorana

Answer: B

Question 69

The Simple Interest on a certain sum at the rate of 5% per annum for 3 years is Rs.1260. Find the Compound Interest for that sum at the same rate and for the same period.

- A Rs.1448.05
- B Rs.1324.05
- C Rs.1384.05
- D Rs.1428.05

Answer: B

Explanation:

Given data in the question is clearly, Rate=5%

Time=3years

Simple interest=1260₹

Formula is Simple interest = $\frac{\text{principal} \times \text{rate of interest} \times \text{time}}{100}$

So we can write as, principal = $\frac{\text{simple interest} \times 100}{\text{rate of interest} \times \text{time}}$

$$= \frac{1260 \times 100}{5 \times 3}$$

Principal =8400₹

Before finding compound interest we need to find amount

Formula for amount is

$$\text{Amount} = \text{principal} \times \left(1 + \frac{\text{rate}}{100}\right)^n$$

$$= 8400 \times \left(1 + \frac{5}{100}\right)^3$$

$$= 8400 \times \left(\frac{105}{100}\right)^3$$

$$= 8400 \times \left(\frac{21}{20}\right)^3$$

By solving we get Amount=9724.05₹

To calculate compound interest formula is C.I=A-P

That is compound interest=Amount-principal

$$= ₹(9724.05-8400)$$

Compound interest=1324.05₹

Question 70

Which number will best complete the relationship given below?

343 : 7 :: 729 : ?

- A 12
- B 11
- C 9
- D 7



Answer: C

Explanation:

where $343=7 \times 7 \times 7$

In the same way $729=9 \times 9 \times 9$

OR

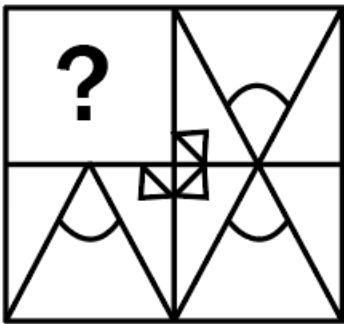
Cube of $\sqrt[3]{343}=7$

Cube of $\sqrt[3]{729}=9$

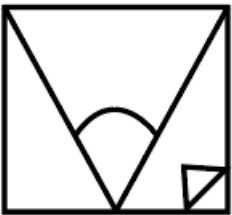
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Question 71

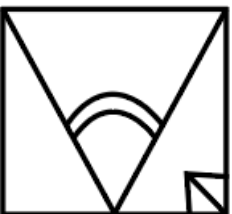
choose from the alternative from the figure that best completes the pattern given below?



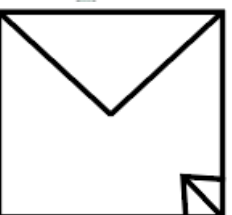
A



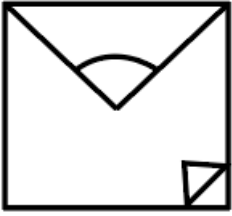
B



C



D



Answer: A

Explanation:

clearly, option A completes the original figure which looks like the figure given below

This problem is based on the concept is figure completion

Figure completion is a process to find out the missing part of an incomplete figure to complete it

In this type of questions, a figure is given and a part of it is missing, generally one by fourth part of the figure and the candidate is asked to find that missing part from the given set of answer figures

Question 72

Which city is called 'The Pink City of India'?

- A Jaipur
- B Pathankot
- C Jodhpur
- D kalka

Answer: A

Question 73

'A' sells a suitcase to 'B' at 10% profit. 'B' sells it to 'C' at 30% profit for Rs.2860. What is the cost price for 'A'?

- A 1000
- B 1600
- C 2000
- D 2200

Answer: C

Explanation:

According to the question

Let the cost price of the suitcase for A be ₹x, then

110% of 130% of x =2860

$$x \times \frac{110}{100} \times \frac{130}{100} = 2860$$

$$x = \frac{2860}{110} \times \frac{100}{130} \times 1$$

$$x = ₹2000$$

Question 74

Find the average speed when the first half of a journey is done at a speed of 60 km/h and the second half at a speed of 40 km/h.

- A 45 km/h
- B 50 km/h
- C 48 km/h
- D 52 km/h

Answer: C

Explanation:

$$\begin{aligned} \text{Average speed} &= \frac{(2xy)}{(x+y)} \\ &= \frac{(2 \times 60 \times 40)}{(60+40)} = 48 \text{ km/h} \end{aligned}$$

Other method :

Let the total distance be 100 km

$$\text{Time taken in 1st half} = \frac{50}{60} = \frac{5}{6}$$

$$\text{Time taken in 2nd half} = \frac{50}{40} = \frac{5}{4}$$

$$\text{Total time taken in 100 km} = \frac{5}{4} + \frac{5}{4} = \frac{25}{4}$$

$$\text{Average speed} = \frac{\text{Total distance}}{\text{Total time taken}}$$

$$= \frac{100}{\frac{25}{4}} = \frac{100 \times 4}{25} = 48 \text{ km/h}$$

Question 75

The most abundant metal in the earth crust is

- A Calcium
- B Aluminium
- C Iron
- D Sodium

Answer: B

Question 76

In the following question, correct the equation by interchanging the two signs.

$$4 \times 3 - 6 \div 2 + 7 = 8$$

- A $-$ and \times
- B $+$ and \div
- C $+$ and $-$
- D \times and \div

Answer: C

Explanation:

$$4 \times 3 - 6 \div 2 + 7 = 8$$

$$12 - 6 \div 2 + 7 = 8$$

$$12 - 3 + 7 = 8$$

$$12 + 3 - 7 = 8 \text{ (We are interchanging } - \text{ to } + \text{ and } + \text{ to minus)}$$

$$8 = 8$$

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Question 77

The length of a rectangular plot is thrice its breadth. If the area of the rectangular plot is 867 m^2 , then what is the length of the rectangular plot ?

A 68 m

B 17 m

C 34 m

D 51 m

Answer: D

Explanation:

Let the breadth of the rectangle be x

So, length of the rectangle be $3x$

Area of rectangle = *Length* \times *Breadth*

According to the question,

$$3x \times x = 867 \text{ m}^2$$

$$x^2 = 289$$

$$x = 17$$

Required length = 51 m

Question 78

Complete the series.

5, 6, 14, 45, 184, (...)

A 917

B 876

C 925

D 902

Answer: C

Explanation:

5, 6, 14, 45, 184, (?)

$$5 \times 1 + 1 = 6$$

$$6 \times 2 + 2 = 14$$

$$14 \times 3 + 3 = 45$$

$$45 \times 4 + 4 = 184$$

$$184 \times 5 + 5 = 925$$

Question 79

Which of the following is India's first indigenous nuclear ballistic missile submarine?

- A INS Kalvari
- B INS Arihant
- C INS Shalki
- D INS Sindhugosh

Answer: B

Explanation:

INS Arihant is **India's first indigenous nuclear submarine**. The Arihant was launched on 26 July 2009, the anniversary of Vijay Diwas (Kargil War Victory Day) by former Prime Minister Dr Manmohan Singh's wife Gursharan Kaur. INS Arihant is armed with four K-4 **submarine** launched **ballistic missile** with a range of 3,500 km.

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Question 80

Simplify: $1.2 \times 2.5 \times 0.5$

- A 150
- B 0.15
- C 15
- D 1.5

Answer: D

Explanation:

$$1.2 \times 2.5 \times 0.5$$

$$(1.2 \times 0.5) \times 2.5$$

$$0.6 \times 2.5$$

$$1.5$$

Question 81

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

Eight colleagues—A,B,C,D, E, F, G and are sitting around circular table facing the center but not necessarily in the same order. Each one of them holds a different post—Manager, Secretary, Chairman, President, Vice President, Group Leader, Financial Advisor and Managing Director.

A sits third to the right of the Managing Director, and only two people sit between the Managing Director and H. The Vice President and the Secretary are immediate neighbours. Neither A nor H is a Vice President or a Secretary. The Vice President is not an immediate neighbour of the Managing Director. The Managers its second to the left of E. E is not an immediate neighbour of H. The Manager is an immediate neighbour of both the Group Leader and the Financial Advisor. The Financial Advisors its third to the right of B. B is not the Vice President. C sits to the immediate right of the Chairman. A is not the Chairman. F is not an immediate neighbour of A. G is not an immediate neighbour of the Manager.

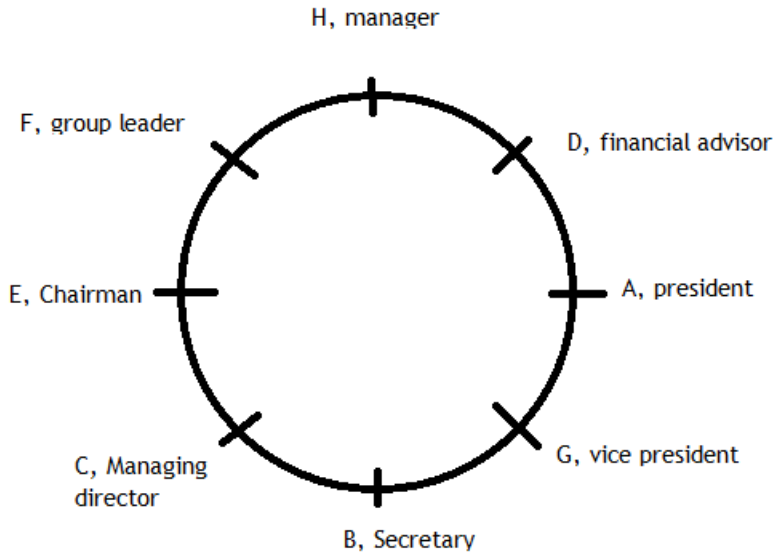
Who among the following sits third to the left of E?

- A Secretary

- B Vice president
- C President
- D Financial Advisor

Answer: D

Explanation:



So, Financial Advisor sits third to the left of E.

Question 82

Which number will best complete the relationship given below?

15 : 65 :: 24 : ?

- A 130
- B 103
- C 126
- D 134

Answer: C

Explanation:

$$15 \times 4 + 5 = 65$$

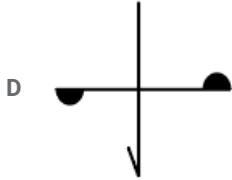
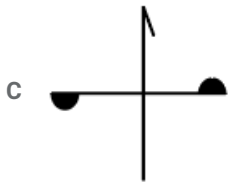
$$24 \times 5 + 6 = 126$$

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Question 83

Find the ODD one out from the given options?





Answer: B

Question 84

A sum of Rs.16400 is borrowed to be paid back in 2 years by equal payments allowing 5% Compound Interest. Find the annual payment.

- A Rs.7600
- B Rs.7495
- C Rs.7590
- D Rs.8820

Answer: D

Explanation:

Let x be the instalment amount

As we know that for equal instalment,

$$P = \frac{x_r}{(1+100)^1} + \frac{x_r}{(1+100)^2}$$

$$16400 = \frac{x_5}{(1+100)^1} + \frac{x_5}{(1+100)^2}$$

$$16400 = \frac{20x}{21} + \frac{400x}{441}$$

$$16400 = \frac{820x}{441}$$

$$x = \frac{16400 \times 441}{820}$$

$$x = 8820$$

Required annual payment = Rs 8820

Question 85

The electron distribution in an aluminium atom is

- A 2, 8, 3
- B 8, 2, 3
- C 2, 8, 2

D 2, 3, 8

Answer: A

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Question 86

Which medical technique is used to find out stones in kidney and gall bladder, which is also used for examining the foetus during pregnancy?

- A Electrocardiography
- B Ultrasonography
- C Magnetic resonance imaging
- D Echocardiography

Answer: B

Question 87

Find the HCF of $2 \times 3^2 \times 5^2$, $5 \times 3 \times 2^2$ and $5^2 \times 3 \times 2^2$

- A 30
- B 90
- C 60
- D 150

Answer: A

Explanation:

$$2 \times 3^2 \times 5^2$$

$$5 \times 3 \times 2^2$$

$$5^2 \times 3 \times 2^2$$

$$\text{Common factor} = 2 \times 3 \times 5 = 30$$

Question 88

According to law of refraction what is said about the incident ray, refracted ray and the normal to the interface of two transparent media at the point of incidence?

- A All have the same angle
- B All lie in the same plane
- C All are refracted
- D All have the same length

Answer: B

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Question 89

With which of the following is the term 'Olfactory' associated?

- A See
- B Feel
- C Smell
- D Hear

Answer: C

Question 90

Jaundice is a disease of the _____.

- A Liver
- B Heart
- C Lung
- D Eye

Answer: A

Question 91

Which of the following reactions is an example of endothermic reaction?

- A Burning of natural gas
- B Decomposition of ferrous sulphate
- C Dilution of sulphuric acid
- D Dissolution of sodium hydroxide in water

Answer: B

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Question 92

Which of the following is NOT a contagious disease?

- A Measles
- B Arthritis
- C Influenza
- D Typhoid

Answer: B

Question 93

If $14 * 64 = 39$, $25 * 37 = 31$ and $9 * 17 = 13$, then what will be $52 * 46$?

- A 49
- B 51
- C 42
- D 38

Answer: A

Explanation:

$$14 * 64 = 39, 7 + 32 = 39$$

$$25 * 37 = 31, 12.5 + 18.5 = 31$$

$$9 * 17 = 13, 4.5 + 8.5 = 13$$

$$\text{So, } 52 * 46 = 26 + 23 = 49$$

Question 94

Find the missing number in the following series.

1, 6, 15, (...), 45, 66, 91

- A 25
- B 28
- C 26
- D 27

Answer: B

Explanation:

1, 6, 15, (?), 45, 66, 91

$$1 + 5 = 6$$

$$6 + 9 = 15$$

$$15 + 13 = 28$$

$$28 + 17 = 45$$

$$45 + 21 = 66$$

$$66 + 25 = 91$$

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Question 95

Which of the following transactions is the best when considering the corresponding profit percentage?

- A Cost price Rs.60, profit Rs.24
- B Cost price Rs.40, profit Rs.15
- C Cost price Rs.36, profit Rs.18
- D Cost price Rs.50, profit Rs.24

Answer: C

Explanation:

$$\text{Profit \%} = \frac{P \times 100}{C.P} = 40\%$$

$$\text{For A, Profit \%} = \frac{24 \times 100}{60} = 40\%$$

$$\text{For B, Profit \%} = \frac{15 \times 100}{40} = 37.5\%$$

$$\text{For C, Profit \%} = \frac{18 \times 100}{36} = 50\%$$

$$\text{For D, Profit \%} = \frac{24 \times 100}{50} = 48\%$$

Required transaction = C

Question 96

Non-metals like sulphur and chlorine are found on the of the periodic table.

- A Middle
- B Right hand side
- C Zigzag
- D Left hand side

Answer: B

Question 97

Which of the following is a chemical change?

- A Evaporation of alcohol
- B Crushing a can
- C Rusting of iron
- D Melting of ice

Answer: C

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Question 98

Sum of numerator and denominator of a fraction is 13. Adding 3 and 9 to the numerator and denominator respectively, the fraction becomes $\frac{2}{3}$. What is the product of the numerator and denominator of the original fraction?

- A 30
- B 42
- C 24
- D 45

Answer: B

Explanation:

Let the numerator be x and denominator be y

$$x + y = 13, x = 13 - y \text{ ---- i}$$

According to the question,

$$\begin{aligned}(x+3) &= 2 \\ (y+9) &= 3\end{aligned}$$

$$3x + 9 = 2y + 18$$

$$3x - 2y = 9 \quad \text{---ii}$$

From i and ii,

$$3(13 - y) - 2y = 9$$

$$39 - 3y - 2y = 9$$

$$-5y = -30$$

$$y = 6$$

So, $x = 7$

Required product = 42

Question 99

Who among the following will be ICC's Chief Executive Officer after the 2019 World Cup?

- A Kevin Roberts
- B Thabang Moreoe
- C Tom Harrison
- D Manu Sawhney

Answer: D

Question 100

When was the Central Pollution Control Board constituted?

- A 1970
- B 1974
- C 1986
- D 1981

Answer: B

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