



RRB JE 30th May 2019 Shift-2

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Instructions

For the following questions answer them individually

Question 1

D is a point on BC of $\triangle ABC$ where $BD = \left(\frac{1}{2}\right)DC$. Find the ratio of areas of $\triangle ABD$ and $\triangle ABC$.

- A 3:1
- B 1:3
- C 2:3
- D 3:2

Answer: B

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Question 2

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

Statements:

- 1) No magazine is cap.
- 2) All caps are cameras.

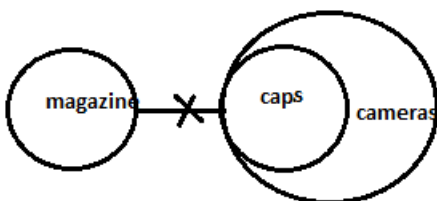
Conclusions:

- I. No camera is magazine.
- II. Some cameras are magazines

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

Answer: C

Explanation:



Question 3

Who suggested the four main groups of human blood in 1890?

- A Chadwick
- B Ronald Ross
- C Karl Landsteiner
- D Louis Pasteur

Answer: C

Question 4

Yamuna and Gomati are the tributaries of river-

- A Godavari
- B Ganga
- C Krishna
- D Mahanadi

Answer: B

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Question 5

The main structural material of hair is-

- A Biotin
- B Thiamine
- C Keratin
- D Vitamin

Answer: C

Question 6

In which of the following countries was the 21st FIFA World Cup-2018 held?

- A Argentina
- B Spain
- C Russia
- D Brazil

Answer: C

Question 7

Which metal can be displaced by copper from its salt solution?

- A Gold
- B Mercury
- C Zinc
- D Silver

Answer: C

Explanation:

Since gold and mercury are less reactive than **copper**, but zinc is more reactive. Therefore, zinc **will** replace **copper from its salt solution**.

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Question 8

Find the missing number in the series.

49, 64, (...), 100, 121

- A 72
- B 81
- C 92
- D 88

Answer: B

Explanation:

series is square of consecutive numbers starting from 7

$$49 = 7^2$$

$$64 = 8^2$$

$$81 = 9^2$$

$$100 = 10^2$$

$$121 = 11^2$$

Question 9

By using a windmill, which energy is tapped to rotate wind turbines to drive generators?

- A The kinetic energy of the moving wind
- B The heat energy of wind
- C The chemical energy of wind
- D The sound energy of wind

Answer: A

Question 10

P does half as much work as Q. R does half as much work as P and Q together. If R alone can finish it in 40 days, then all of them together will finish the work in how many days?

- A 15
- B $\frac{40}{3}$
- C 30
- D 20

Answer: B

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Question 11

Where is India's first hi-tech forensic lab, which was recently inaugurated, located?

- A Chennai
- B Delhi
- C Kolkata
- D Mumbai

Answer: B

Question 12

How is the voltmeter connected in all circuits to measure the voltage between two points?

- A Across
- B In parallel
- C In series
- D In line

Answer: B

Question 13

A precious crystal piece worth Rs.15600 is accidentally dropped and was broken into three pieces, their weights respectively proportional to 2, 3 and 5 units. Value of the crystal varies directly as the cube of its weight. Calculate the percentage loss in the value.

- A 75%
- B 84%
- C 25%
- D 16%

Answer: B

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Question 14

If an item is sold for Rs.8000 at 25% profit, then find the profit.

- A Rs.1000
- B Rs.1600
- C Rs.1200
- D Rs.1800

Answer: B

Explanation:

SP =Rs. 8000

Profit% = 25%

$$SP = \frac{(100+25)}{100} * CP$$

$$CP = \frac{100}{125} * SP$$

$$CP = \frac{100}{125} * 8000$$

$$CP = \text{Rs. } 6400$$

$$\text{profit} = SP - CP = 8000 - 6400 = \text{Rs. } 1600$$

Question 15

Adipose tissue stores -

- A Carbohydrate
- B Protein
- C Adrenalin
- D Fat

Answer: D

Question 16

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

Statement:

Any student who does not behave properly while in school brings bad name to himself and also for the school.

Conclusions:

- I. Such student should be removed from the school.
- II. Strict discipline does not improve the behavior of the students.

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

Answer: B

Explanation:

Neither conclusion I nor II follows

1. Such student should be removed from the school. - this doesn't follow as this is not the correct way to discipline a student.
2. Strict discipline does not improve the behavior of the students - this also doesn't follow because proper discipline can improve behavior of the students

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Question 17

Which of the following is WRONGLY matched?

- A Sodium chloride - common salt
- B Sodium hydroxide - caustic soda
- C Calcium carbonate - slaked lime
- D Sodium carbonate - washing soda

Answer: C

Question 18

Simplify: $\frac{1}{15} \div \frac{1}{11} - \frac{1}{10}$

- A 2
- B 5
- C 3
- D 4

Answer: B

Question 19

A tank gets filled by a pipe in 2 hours. But due to a leak, it takes 30 more minutes to fill the tank. How long will it take a full tank to get emptied by the leak, when the pipe is closed?

- A 2 hours 45 minutes
- B 10 hours
- C 5 hours
- D 2 hours 30 minutes

Answer: B

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Question 20

Evaluate: $2 \tan^2 45^\circ + \cos^2 30^\circ - \sin^2 60^\circ$

- A 1
- B 2
- C 0
- D $\frac{1}{2}$

Answer: B

Question 21

Which of the following states inaugurated a web portal 'Banglar Shiksha' for school students in 2019?

- A Arunachal Pradesh
- B West Bengal
- C Rajasthan
- D Tamil Nadu

Answer: B

Question 22

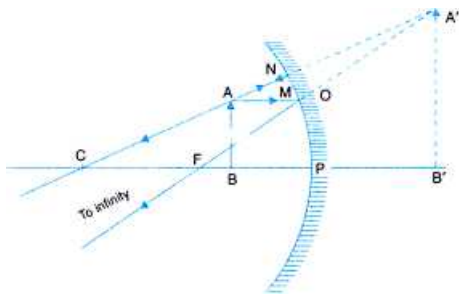
To get a virtual, erect and enlarged image behind a concave mirror, where should the object be placed ?

- A At focus F
- B Between pole P and focus F
- C Between centre of curvature C and focus F
- D At the centre of curvature C

Answer: B

Explanation:

the object should be placed in front of the concave mirror between the pole and the principal focus (i.e.object distance should be < 20) to obtain an erect image. this image is virtual ,erect and enlarged.



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Question 23

Find the ODD one out from the given options.

- A 23 - 14
- B 29 - 82
- C 36 - 27
- D 18 - 45

Answer: B

Explanation:

$$23 - 14 = 9$$

$$36 - 27 = 9$$

$$18 - 45 = -27$$

$$29 - 82 = -53$$

except (29-82), all others pairs difference is a multiple of 9

Question 24

Which number will best complete the relationship given below?

$$27 : 16 :: 125 : ?$$

- A 36
- B 30
- C 34

D 32

Answer: A

Explanation:

it follows the pattern

$$3^3 : 4^2 :: 5^3 : 6^2$$

$$27 : 16 :: 125 : 36$$

Question 25

A man goes towards east 5 km, then he takes 120 degrees right turn and goes 5 km. He again takes 120 degrees right turn and goes 5 km. With respect to the starting point, where is he now?

A East

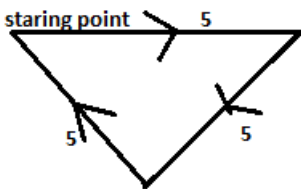
B West

C At the starting point

D North east

Answer: C

Explanation:



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Question 26

Varun walked 4.5 km towards south direction and turned right. After reaching 3 km, he turned left and walked 5 km. What is the distance he covered towards south?

A 8.5 km

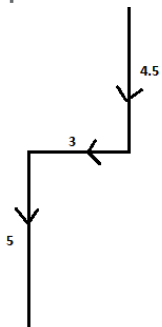
B 5 km

C 9.5 km

D 4.5 km

Answer: C

Explanation:



distance he covered towards south = $4.5 + 5 = 9.5$

Question 27

In a certain code language 'no more food' is written as 'ta ka da', 'more than that' is written as 'sa pa ka'. How is 'that' written in that code language?

- A ka
- B ta or da
- C da
- D sa or pa

Answer: D

Explanation:

more = ka

that = sa or pa

than = sa or pa

Question 28

A is now 9 years older than B. In 10 years, A will be twice as old as B was 10 years ago. Find the present age of A.

- A 39
- B 36
- C 48
- D 23

Answer: C

Explanation:

given, $A = B + 9$

$$A + 10 = 2(B - 10)$$

$$A + B + 10 = 2B - 20$$

$$B = 39$$

$$A = 39 + 9 = 48$$

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Question 29

In a data, sum of the deviations about the mean is always:

- A Cannot be determined
- B Zero
- C Negative
- D Positive

Answer: B

Question 30

Which of the following are known as 'nucleons?'

- A Protons and electrons
- B Neutrons and electrons
- C Only protons
- D Protons and neutrons

Answer: D

Question 31

With which of the following sports is Viswanathan Anand associated?

- A Chess
- B Billiards
- C Polo
- D Golf

Answer: A

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Question 32

What are the three main lubricants used in moving parts of a machine?

- A Oil, rubber, adhesives
- B Oil, grease, graphite
- C Graphite, sandpaper, resin
- D Grease, resins and sandpaper

Answer: B

Question 33

The outermost layer of skin is called-

- A Keratin
- B Cutin
- C Epidermis
- D Dermis

Answer: C

Question 34

Keeping the potential difference constant, the resistance of a circuit is doubled. What happens to the current?

- A It becomes one-fourth
- B It becomes four times
- C It gets doubled
- D It gets halved

Answer: D

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Question 35

The possibility of fraternal twin occurs -

- A At conception
- B At zygotic stage
- C Subsequent to fertilisation
- D At fertilisation stage

Answer: D

Question 36

LCM of two numbers 'p' and 'q' is 935 and $(p > q)$. What is the maximum sum of the digits of 'q' out of the possible pairs 'p', 'q'?

- A 13
- B 5
- C 20
- D 8

Answer: A

Question 37

If in a certain code, 'HEAVY' is written as 'ICBTZ', then how will 'QUICK' be written in that code?

- A RSJAL
- B OSJAL
- C RSKAL
- D RSAJL

Answer: A

Explanation:

follow series of alternate +1 and -2

$$Q + 1 = R$$

$$U - 2 = S$$

$$I + 1 = J$$

$$C - 2 = A$$

$$K + 1 = L$$

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Question 38

A boatman goes 2 km upstream in 1 hour and 1 km downstream in 10 minutes. What is the speed of boat in still water?

- A 4.5 km/h
- B 2.5 km/h
- C 4 km/h
- D 3 km/h

Answer: C

Explanation:

$$x - y = 2 \quad \text{---(1)}$$

$$x + y = \frac{10}{60} \quad \text{---(2)}$$

from eqn (1), $x - y = 2$ or $x = y + 2$

from eqn (2), $x + y = 6$

$$y + 2 + y = 6$$

$$y = 2 \text{ km/hr}$$

speed of boat in still water

$$x = y + 2 = 4 \text{ km/hr}$$

Question 39

The element, which has zero electron affinity in the 3rd period is-

- A Al
- B P
- C S
- D Ar

Answer: D

Question 40

Which of the following states is the largest state in India in terms of area?

- A Rajasthan
- B Gujarat
- C Maharashtra
- D Karnataka

Answer: A

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Question 41

With the market price coming down by 25%, Sita is able to procure 1 kg of sugar more for Rs.30. What is the original price of sugar?

- A Rs.7.30
- B Rs.7.50
- C Rs.10
- D Rs.16.50

Answer: C

Explanation:

Original price = (% reduction * total amount) / (obtained in kg(100-% reduction))

$$= (25 * 30) / (1(100-25))$$

$$= (25 * 30) / (1 * 75)$$

$$= (30) / (1 * 3)$$

$$= 30/3$$

$$= \text{Rs.}10$$

Question 42

What is the sum of all two-digit numbers ≤ 50 ?

- A 1350
- B 1250
- C 1230
- D 1330

Answer: C

Question 43

For a particular sum at a certain rate, find the ratio of Simple Interest got for 4 years and 8 years.

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

Answer: C

Explanation:

ratio of SI for 4 year : ratio of SI for 8 yr

$$= \frac{p \times r \times 4}{100} : \frac{p \times r \times 8}{100}$$

$$= \frac{4}{8}$$

$\frac{1}{2}$
=2
=1:2



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Question 44

The diameter of a circular wheel is 1.4 m. How many revolutions will it make in travelling 22 km?

- A 5000
- B 2000
- C 2500
- D 500

Answer: A

Explanation:

diameter of the circular wheel = 1.4

radius = $1.4/2 = 0.7$

distance travelling in 1 revolution (C) = circumference of the wheel

$=2\pi r$

$=2 \times \frac{22}{7} \times 0.7$

$=4.4\text{m}$

number of revolutions made by the wheel travelling 22km

$=22\text{km}/C$

$= 22000\text{m}/4.4\text{m}$

$=5000$ revolutions

Question 45

What is the full form of NABARD?

- A National Bank for Agriculture and Regional Department
- B National Bank for Agriculture and Rural Development
- C National Bank for Agriculture and Rural Department
- D National Bank for Agriculture and Regional Development

Answer: B

Question 46

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

Eight friends— A, B, C, D, E, F, G and H are sitting around a circular table facing the centre. Each one of them likes different brands of car—Swift, Indica, Polo, Volvo, Audi, BMW, Maruti and Kwid, but not necessarily in the same order.

A sits third to the right of the person who likes Kwid. A does not like Polo. E is not an immediate neighbour of H. C sits on the immediate right of the person who likes Polo. Neither A nor H likes Audi or a Indica. The person who likes Audi is not an immediate neighbour of the person who likes Kwid. The person who likes Swift sits second to the left of E. The person who likes Swift is an immediate neighbour of the both persons who like BMW and Maruti. Person who likes Maruti sits third to the right of B. B does not like Audi. F is not an immediate neighbour of A. G is not an immediate neighbour of the person who likes Swift. Only two people sit between the person who likes Maruti and H. The persons who like Audi and the Indica are immediate neighbours of each other.

Which of the following is TRUE with respect to the given seating arrangement?

- A The persons who like BMW and Indica are immediate neighbours to each other
- B E sits to the immediate left of the person who likes Kwid
- C F and D are immediate neighbours to each other
- D G sits second to the right of D

Answer: C

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Question 47

Which of the following IIT's students have developed a mobile-app to detect fake currency notes in 2019?

- A IIT Madras
- B IIT Kharagpur
- C IIT Bangalore
- D IIT Palakkad

Answer: B

Question 48

When did Chernobyl nuclear disaster take place?

- A 1984
- B 1986
- C 1982
- D 1990

Answer: B

Question 49

Find the missing number in the series.

21, (...), 22, 36, 23, 37

- A 32

B 21

C 22

D 35

Answer: D

Explanation:

there are 2 different series

21,22,23 and x,36,37

both series are increasing by 1

so x is 35

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Question 50

_____ is an active form of vitamin A.

A Niacin

B Pyridoxine

C Retinol

D Riboflavin

Answer: C

Question 51

Which number will best complete the relationship given below?

2 : 3 :: 23 : ?

A 31

B 25

C 29

D 27

Answer: C

Explanation:

2 : 3 :: 23 : ?

2 is a prime number and the next prime number is 3

23 is a prime number , so the next prime number would be 29

Question 52

Ethane, with the molecular formula C_2H_6 has-

A 7 covalent bonds

B 8 covalent bonds

C 6 covalent bonds

D 9 covalent bonds

Answer: A

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Question 53

The hormone thyroxine is commonly known as-

A TSH

B PTH

C T4

D T3

Answer: C

Question 54

A room is 15 ft long and 12 ft broad. A mat has to be placed on the floor of this room leaving 1.5 ft space from the walls. What will be the cost of the mat at the rate of Rs.3.50 per square feet?

A Rs.472.50

B Rs.496

C Rs.378

D Rs.630

Answer: C

Question 55

Prayagraj Kumbh Mela 2019, entered Guinness Book Of World Records for the-

A Largest sanitation drive

B All of the options

C Largest painting exercise of public sites

D Largest crowd management

Answer: B

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Question 56

After the death of which prime minister did Gulzarilal Nanda take over as the acting prime minister for the second time?

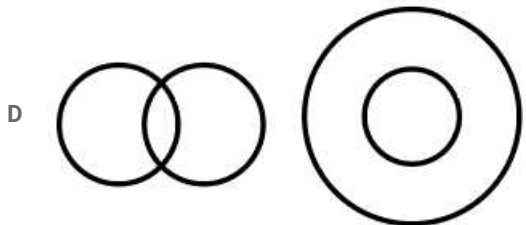
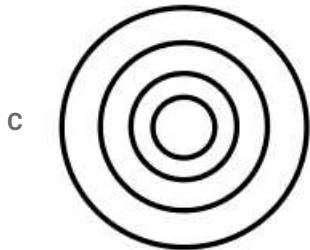
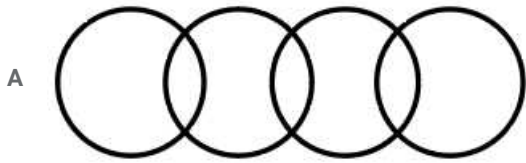
A Indira Gandhi

B Jawaharlal Nehru

C Lal Bahadur Shastri

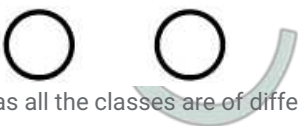
Question 57

Choose the figure that best represents the relationship among the classes given below.
Photography, Time, History, Theatre



Answer: B

Explanation:



as all the classes are of different genre.

Question 58

A number, when 35 is subtracted from it, reduces to its 80 percent. What is four-fifths of that number?

A 140

B 120

C 70

D 90

Answer: A

Explanation:

$$x - 35 = \frac{80}{100} \times x$$

$$x - 35 = \frac{4}{5} \times x$$

$$x - \frac{4}{5}x = 35$$

$$\frac{x}{5} = 35$$

$$x = 175$$

four-fifth of that number is

$$\frac{4}{5} \times 175 = 140$$

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Question 59

If 'nitco sco tingo' stands for 'softer than flower', 'tingo rho mst' stands for 'sweeter flower fragrance' and 'mst sco tmp' stands for 'sweeter than smile' what would 'softer' stand for?

A mst

B nitco

C tingo

D sco

Answer: B

Explanation:

flower = tingo

than = sco

softer = nitco

Question 60

Which formula gives the refractive index of second medium with respect to the first?

A $\sin i - \sin r$

B $\sin i / \sin r$

C $\sin i + \sin r$

D $\sin i \times \sin r$

Answer: B

Explanation:

Snell's law

$$n_1 \sin(i) = n_2 \sin(r)$$

$$\frac{n_1}{n_2} = \frac{\sin(i)}{\sin(r)}$$

$$\text{refractive index} = \frac{\sin(i)}{\sin(r)}$$

n_1 and n_2 are refractive indices of the corresponding medium

Question 61

If a certain sum becomes Rs.20720 in 4 years and Rs.24080 in 6 years, find the sum and rate of Simple Interest.

- A Rs.14000, 10%
- B Rs.16000, 12%
- C Rs.14000, 12%
- D Rs.16000, 8%

Answer: C

Explanation:

SI for 2 years = Rs.(24080-20720) = Rs. 3360

SI for 4 years = $\frac{3360}{2} \times 4 = \text{Rs. } 6720$

principal = Rs.(20720-6720) = Rs.14000

hence, rate = $\frac{100 \times 6720}{14000 \times 4} \% = 12\%$

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Question 62

Ultrasound is used to detect _____ in metal blocks.

- A Metal heat
- B Metal heaviness
- C Cracks and flaws
- D Metal opacity

Answer: C

Question 63

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

Statements :

- 1) All grasses are trees.
- 2) No tree is shrub.

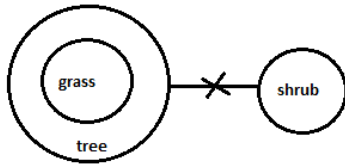
Conclusions:

- I. No grass is shrub.
- II. Some shrubs are grasses.

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

Answer: B

Explanation:



- I. No grass is shrub - true
- II. Some shrubs are grasses - false

Question 64

Three taps P, Q and R are fitted in a water tank to draw out water. Tap P fills 4 buckets in 24 minutes, Q fills 8 buckets in 1 hour and R fills 2 buckets in 20 minutes. All the taps are opened and the tank is emptied in 2 hours. If a bucket holds 10 litres of water, what is the capacity of the tank?

- A 200 litres
- B 180 litres
- C 480 litres
- D 240 litres

Answer: C

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Question 65

Which is the planet in the solar system which is nearest to the Sun?

- A Mars
- B Mercury
- C Earth
- D Venus

Answer: B

Question 66

Which of these square numbers cannot be expressed as the sum of two prime numbers?

- A 81
- B 121
- C 144
- D 49

Answer: C

Explanation:

odd + odd = even

odd + even = odd

2 is the only prime number, so if the sum of distinct prime numbers is odd, one of them must be 2 and sum of 2 and an odd number is odd

odd

a. $81 = 79 + 2$

79 is a prime number, 81 is not the answer

b. $121 = 119 + 2$

119 is a prime number, 121 is not the answer

c. $144 = 142 + 2$, 142 is not a prime number so 144 is the answer

d. $49 = 47 + 2$

47 is a prime number, 49 cannot be the answer

Question 67

As the pH value increases from 7 to 14, it represents

- A Neutral solution
- B Basic solution
- C Both acidic and neutral solution
- D Acidic solution

Answer: B

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Question 68

Onion and garlic are examples of-

- A Bulb
- B Stem tuber
- C Rhizome
- D Corm

Answer: A

Question 69

Which classical dance form is indigenous to Kerala?

- A Kuchipudi
- B Bharatanatyam
- C Kathakali
- D Kathak

Answer: C

Question 70

The general formula of alkynes is-

- A C_nH_{2n-2}
- B C_nH_{2n+4}
- C C_nH_{2n}
- D C_nH_{2n+2}

Answer: A

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Question 71

Lactometers, which are used to determine the purity of sample of milk, works on which principle?

- A Principle of periscope
- B Principle of potentiometer
- C Principle of scalar chain
- D Archimedes principle

Answer: D

Question 72

If $|-4x + 4| - 6 = -6$, then find the value of 'x'.

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

Answer: A

Explanation:

$$|-4x + 4| - 6 = -6$$

$$-4x + 4 - 6 = -6$$

$$-4x + 4 = -6 + 6$$

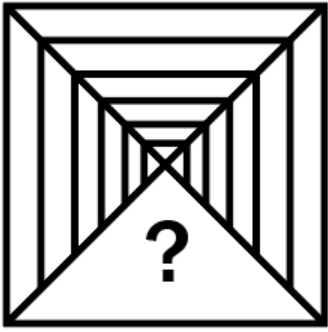
$$-4x + 4 = 0$$

$$4x = 4$$

$$x = 1$$

Question 73

Choose from the alternatives the figure that best completes the pattern given below.



A



B



C



D



Answer: B

Explanation:



this figure best completes the pattern given below as the horizontal lines are similar to other figures in the question

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Question 74

A chord of length 8 cm subtends an angle 60° at the centre. What is the radius of the circle?

A 12 cm

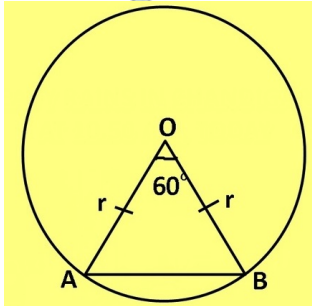
B 6 cm

C 8 cm

D 4 cm

Answer: C

Explanation:



Let O be the center of a circle in which a cord AB = 8 cm long such that angle AOB = 60° .

In triangle OAB, OA = OB = r, (radii of same circle)

Thus, angle OAB = angle OBA = x° (let).

$$x^\circ + x^\circ + 60^\circ = 180^\circ$$

$$\text{or. } 2x^\circ = 120^\circ \Rightarrow x = 120^\circ / 2 = 60^\circ$$

Hence the triangle OAB is an equilateral triangle, so that

OA = OB = AB = 8 cms. Answer.

Question 75

Krishnadevaraya was the ruler of _____ empire.

- A Chola
- B Chera
- C Vijayanagar
- D Pandya

Answer: C

Question 76

A 270 m long train running at a speed of 120 km/h crosses another train running in opposite direction at the speed of 80 km/h in 9 seconds. What is the length of the other train?

- A 240 m
- B 280 m
- C 260 m
- D 230 m

Answer: D

Explanation:

let first train be a and second train be b

length of a = 270 m

$$\text{speed of a} = 120 \text{ km/hr} = 120 \times \frac{5}{18} = \frac{100}{3} \text{ m/sec}$$

$$\text{speed of b} = 80 \text{ km/hr} = 80 \times \frac{5}{18} = \frac{200}{9} \text{ m/sec}$$

$$\text{average speed} = \frac{100}{3} + \frac{200}{9} = \frac{500}{9}$$

$$\frac{270+x}{9} = 9$$

$$270 + x = 9 \times \frac{500}{9}$$

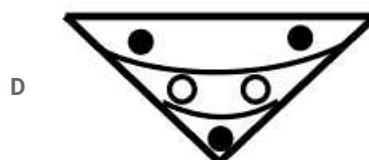
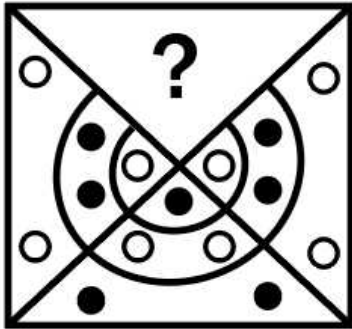
$$x = 500 - 270$$

$$x = 230 \text{ m}$$

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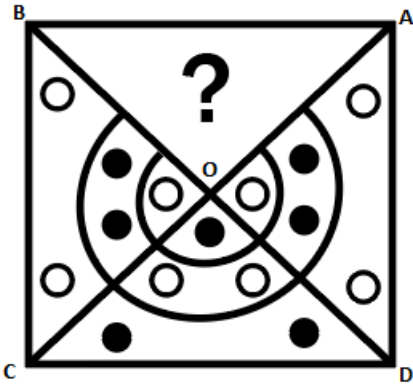
Question 77

Choose from the alternatives the figure that best completes the pattern given below.



Answer: B

Explanation:



OPTION B because it is opposite of COD as COB is opposite of AOD

Question 78

A pendulum of length 'l' swings through an angle of 45° and describes an arc of length 15.4 cm. Find the value of 'l'.

- A 22.2 cm
- B 19.6 cm
- C 20.6 cm
- D 18.4 cm

Answer: B

Explanation:

length of pendulum is l

angle of swing $\theta = 45^\circ$

length of arc = 15.4

length of pendulum = radius

length of arc of circle = $2\pi r \times \frac{\theta}{360}$

$$15.4 = \frac{\theta}{360} \times 2 \times \frac{22}{7} \times l$$

$$15.4 = \frac{1}{8} \times \frac{44}{7} \times l$$

$$15.4 = \frac{11}{14} \times l$$

$$l = 15.4 \times \frac{14}{11}$$

$$l = 19.6$$

Question 79

The conversion of liquid state into solid state is known as-

- A Vapourisation
- B Freezing
- C Sublimation
- D Evaporation

Answer: B

Question 80

Find the ODD one out from the given options.

- A RUGGER : GURREG
- B FIGURE : IFUGER
- C BREATH : ERBHTA
- D PARROT : RAPTOR

Answer: B

Explanation:

the first three letters are written in reverse and the last three words are written in reverse
so FIGURE should be written as

FIG = GIF

URE = ERU

FIGURE = GIFERU

Question 81

If ' \times ' means ' \div ', ' $-$ ' means ' \times ', ' \div ' means ' $+$ ' and ' $+$ ' means ' $-$ ', then $3 - 15 \div 16 \times 8 + 6 = ?$

- A 41
- B 47
- C 35
- D 30

Answer: A

Explanation:

$$3 - 15 \div 16 \times 8 + 6$$

$$= 3 \times 15 + 16 \div 8 - 6$$

$$= 41$$

Question 82

If $138.019 + 341.981 - 146.395 = 133.605 + a$, find the value of 'a'.

- A 120.085
- B 200
- C 248
- D 295.5

Answer: B

Explanation:

$$138.019 + 341.981 - 146.395 = 133.605 + a$$

$$480 - 146.395 = 133.605 + a$$

$$333.605 = 133.605 + a$$

$$a = 333.605 - 133.605$$

a= 200



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Question 83

Find the ODD one out from the given options.

- A UWY
- B NPR
- C EGJ
- D LNP

Answer: C

Explanation:

all the groups of alphabet except EGJ are have difference of 1 in between them

$$UWY - U+1=W, W+1=Y$$

$$NPR - N+1=P, P+1=R$$

$$LNP - L+1=N, N+1=P$$

$$EGJ - E+1=G, G+2=J$$

So, EGJ is the odd one out

Question 84

Ten years ago, a mother was thrice as old as her son. After 10 years, she will be twice as old as her son. What is the ratio of their present ages?

- A 3 : 2
- B 4 : 3
- C 7 : 3
- D 7 : 4

Answer: C

Explanation:

Let present age of son be x

10 years ago son's age was (x-10) and mothers age was 3(x-10)

present age of mother = 3(x-10)+10

after 10 years, mother's age = 3(x-10)+10+10 = 3x-10

son's age = x+10

given, after 10 years mother will be twice as her son

$$3x-10 = 2(x+10)$$

$$3x - 10 = 2x + 20$$

$$3x - 2x = 20 + 10$$

$$x = 30 \text{ (son's present age)}$$

mothers present age 3(x-10)+10 = 3x-20

$$= 3 \times 30 - 20$$

$$= 90 - 20$$

$$= 70$$

ratio of present age of mother and son is 70 : 30 or 7:3

Question 85

The Indian Constitution has been divided into ___ parts at the time of commencement.

- A 22
- B 16
- C 25
- D 24

Answer: A

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Question 86

Find the missing frequency 'x' in this data, given that the arithmetic mean is 28.

Profit %	0-10	10-20	20-30	30-40	40-50	50-60
No. of shops	12	18	27	x	17	6

- A 12
- B 15
- C 20
- D 24

Answer: C

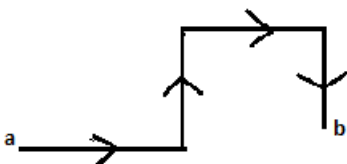
Question 87

Ramya walked eastwards and turned to her left. She turned right two times. Which direction is she walking now?

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

Answer: A

Explanation:



a - starting point

b - final point

Ramya walked eastward and then took a left turn and walked northwards. After that took first right turn and walked eastward and then took second right turn so now she is walking in south direction.

Question 88

Ascorbic acid is known as-

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

Answer: C

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Question 89

With which sport is the term 'deuce' associated?

- A Polo
- B Tennis
- C Basketball
- D Cricket

Answer: B

Question 90

Find the LCM of 2.05, 1.05 and 2.

- A LCM of 205, 105 and 200
- B LCM of $\frac{21}{20}$, $\frac{41}{20}$ and $\frac{20}{20}$
- C LCM of 205, 105 and $\frac{200}{10}$
- D LCM of $\frac{205}{100}$, $\frac{105}{100}$ and $\frac{200}{100}$

Answer: D

Explanation:

make the number of digits equal

2.05, 1.05, 2.00

$$= \frac{205}{100}, \frac{105}{100}, \frac{200}{100}$$

so, LCM of 2.05, 1.05 and 2 = LCM of

$$= \frac{205}{100}, \frac{105}{100}, \frac{200}{100}$$

Question 91

Simplify: $30 \times 3 \times 0.3 \times 0.03 \times 0.003$

- A 0.00243
- B 0.0000243
- C 0.002403
- D 0.000081

Answer: A

Explanation:

$$\begin{aligned}
 & 30 \times 3 \times 0.3 \times 0.03 \times 0.003 \\
 &= 30 \times 3 \times \left(\frac{3}{10}\right) \times \left(\frac{3}{100}\right) \times \left(\frac{3}{1000}\right) \\
 &= \frac{3 \times 3 \times 3 \times 3 \times 3}{100000} \\
 &= \frac{243}{100000} \\
 &= 0.00243
 \end{aligned}$$

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Question 92

The product of two numbers is 9375. The quotient, when the largest number is divided by the smallest number is 15. Find the sum of these numbers.

- A 400
- B 380
- C 395
- D 425

Answer: A

Explanation:

let the numbers be x and y and x be the larger number

given , $xy=9375$

$$\frac{x}{y}=15$$

$$\left(\frac{x}{y}\right) = \frac{9375}{15}$$

$$y^2 = 625$$

$$y = 25$$

$$\text{from } \frac{x}{y}=15$$

$$x = 15y$$

$$x = 15 \times 25$$

$$x = 375$$

$$\text{sum of x and y} = 375 + 25 = 400$$

Question 93

_____ are segmented stem that grows horizontally underground.

- A Rhizome

- B Bulb
- C Tuber
- D Sucker

Answer: A

Question 94

Find the wrong number in the following series.

133, 119, 107, 91, 77

- A 133
- B 107
- C 91
- D 119

Answer: B

Explanation:

$$77 + 14 = 91$$

$$91 + 16 = 107$$

$$107 + 12 = 119$$

$$119 + 14 = 133$$

91 should be added with 14 so that other numbers will follow the pattern of addition with 14

$$77 + 14 = 91$$

$$91 + 14 = 105$$

$$105 + 14 = 119$$

$$119 + 14 = 133$$

here 107 is the wrong number.

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Question 95

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

Eight friends— A, B, C, D, E, F, G and H are sitting around a square table in such a way that four of them sit at four corners of the square while four sit in the middle of each of the four sides. The ones who sit at the four corners face the center while those who sit in the middle of the sides face outside.

A, who faces the center, sits third to the right of F. E, who faces the center, is not an immediate neighbour of F. Only one person sits between F and G. D sits second to the right of B. B faces the center. C is not an immediate neighbour of A.

Who among the following sits opposite to A?

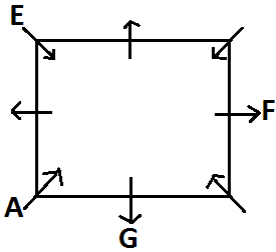
- A B
- B E
- C F
- D D

Answer: D

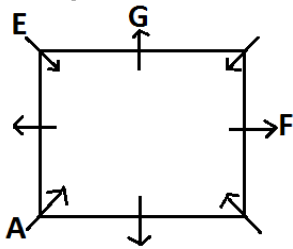
Explanation:

1. A who faces center sits third to the right of F.
2. E faces center but is not an immediate neighbor of A .
3. Only one person sits between F and G.

CASE 1 :

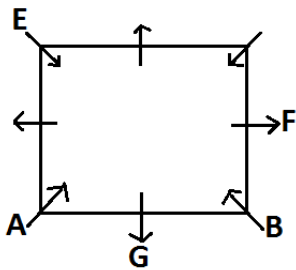


CASE 2 :

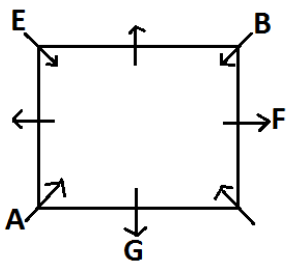


4. B faces center

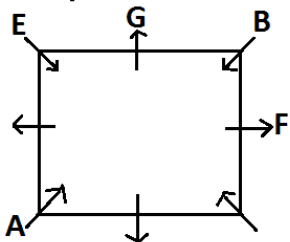
CASE 1 (A) :



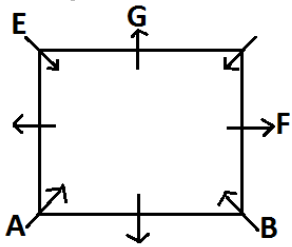
CASE 1 (B) :



CASE 2 (A) :

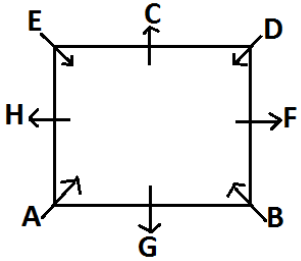


CASE 2 (B) :



5. D sits second to the right of B, So CASE 1(B) AND 2 (A) are not possible

6. C is not an immediate neighbor of A, so CASE 2(B) is not possible



D sits opposite to A

Question 96

One Coulomb of electric charge per second is-

- A 1 Ampere
- B 1 Joule
- C 1 Second
- D 1 Volt

Answer: A

Question 97

All noble gas molecules are-

- A Polyatomic
- B Monoatomic
- C Diatomic
- D Tri atomic

Answer: B

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Question 98

In a certain code, 'TRIPPLE' is written as 'SQHOOKD'. How is 'DISPOSE' written in that code?

- A CHRORND
- B CHRONDR
- C CHRONRD

D CHRNORD

Answer: C

Explanation:

Every letter of the word is decreased by 1

T = S

R = Q

I = H

P = O

P = O

L = K

E = D

So DISPOSE will be CHRONRD

Question 99

The notation (g) is used in the chemical equation to represent the particular element or compound in-

A Liquid state

B Solid state

C Aqueous

D Gaseous state

Answer: D

Question 100

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

BH : JP :: FK : ?

A OT

B NS

C MS

D NT

Answer: B

Explanation:

Each letter of 1st group moves 8 steps forward to obtain corresponding letters of 2nd group

Similarly, each letter in 3rd group moves 8 steps forward to obtain corresponding letters of 4th group

B + 8 = J

H + 8 = P

F + 8 = N

K + 8 = S

So letters of 4th group is NS

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