



2016 SSC CGL 09 Sep Morning Shift

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Reasoning

Instructions

For the following questions answer them individually

Question 1

Select the related word/letters/numbers from the given alternatives:

Magazine : Editor :: Drama : ?

- A Director
- B Hero
- C Heroine
- D Painter

Answer: A

Explanation:

Expression = Magazine : Editor :: Drama : ?

An editor is the person who determines the final content of a magazine, similarly a director is in charge of a drama.

=> Ans - (A)

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Question 2

Select the related word/letters/numbers from the given alternatives:

ACEG : IKMO :: QSUW : ?

- A YZCE
- B YACD
- C YACE
- D YBCE

Answer: C

Explanation:

Expression = ACEG : IKMO :: QSUW : ?

The pattern followed is :

A	C	E	G
(+8)	(+8)	(+8)	(+8)
I	K	M	O

Similarly, for QSUW :

Q	S	U	W
(+8)	(+8)	(+8)	(+8)
Y	A	C	E

=> Ans - (C)

Question 3

Select the related word/letters/numbers from the given alternatives:

12 : 39 :: 15 : ?

- A 48
- B 52
- C 39
- D 51

Answer: A

Explanation:

Expression = $12 : 39 :: 15 : ?$

The pattern followed is = $n : 3n + 3$

Eg = $12 : 3(12) + 3 = 12 : 39$

Similarly, $15 \times 3 + 3 = 45 + 3 = 48$

=> Ans - (A)

Question 4

For the following questions

Find the odd word/letters/number pair from the given alternatives.

- A Torch
- B Battery
- C Candle
- D Lamp

Answer: B

Explanation:

Torch, candle and lamp are source of lights, hence battery is the odd one out.

=> Ans - (B)

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Question 5

For the following questions

Find the odd word/letters/number pair from the given alternatives.'

- A CA
- B FD
- C KI
- D TQ

Answer: D

Explanation:

(A) : C (-2 letters) = A

(B) : F (-2 letters) = D

(C) : K (-2 letters) = I

(D) : T (-3 letters) = Q

=> Ans - (D)

Question 6

For the following questions

Find the odd word/letters/number pair from the given alternatives.

A 73-61

B 57-69

C 47-59

D 42-29

Answer: D

Explanation:

(A) : $73 - 61 = 12$

(B) : $69 - 57 = 12$

(C) : $59 - 47 = 12$

(D) : $42 - 29 = 13$

=> Ans - (D)

Question 7

Arrange the following words as per order in the dictionary.

1. Scarf 2.Scene 3.Shell 4.Survey 5.Stream

A 1, 2, 4, 5, 3

B 2, 4, 5, 1, 3

C 3, 1, 2, 5, 4

D 1, 2, 3, 5, 4

Answer: D

Explanation:

As per the dictionary,

= Scarf -> Scene -> Shell -> Stream -> Survey

≡ 12354

=> Ans - (D)

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Question 8

A series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

DCB, HGF, ?, PON

A LKJ

B QRO

C SUM

D XZY

Answer: A

Explanation:

Expression : DCB, HGF, ? , PON

In each term, there is a gap of three letters between them.

1st letter : D (+4 letters) = H (+4 letters) = L (+4 letters) = P

2nd letter : C (+4 letters) = G (+4 letters) = K (+4 letters) = O

3rd letter : B (+4 letters) = F (+4 letters) = J (+4 letters) = N

Thus, missing term = **LKJ**

=> Ans - (A)

Question 9

A series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

4, 9, 16, 25, 36, ?

A 49

B 56

C 21

D 94

Answer: A

Explanation:

The series is a square of natural numbers.

$$2^2 = 4$$

$$3^2 = 9$$

$$4^2 = 16$$

$$5^2 = 25$$

$$6^2 = 36$$

$$7^2 = \mathbf{49}$$

=> Ans - (A)

Question 10

A is D's brother. D is B's father. B&C; are sisters. How is C related to A?

A Cousin

B Niece

C Aunt

D Nephew

Answer: B

Explanation:

D is B's father and B&C; are sisters,

=> B and C are the daughters of D(male).

Also, A is D's brother, => A is the uncle of B and C.

Thus, C is A's niece.

=> Ans - (B)

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Question 11

At a college party 5 girls are sitting in a row. P is to the left of M and to the right of O. R is sitting to the right of N, but to the left of O. Who is sitting in the middle?

- A O
- B R
- C P
- D M

Answer: A

Explanation:

P is to the left of M and to the right of O, => O P M

R is sitting to the right of N, but to the left of O, => N R O

Thus, combining above statements, we get :

Arrangement = **N R O P M**

=> O is sitting in the middle.

=> Ans - (A)

Question 12

From the given alternative words, select the word which cannot be formed using the letters of the given word:

CONSULTATION

- A CONSTANT
- B NATION
- C SALUTE
- D STATION

Answer: C

Explanation:

The word CONSULTATION does not contain any 'E', and thus the word 'Salute' cannot be formed.

=> Ans - (C)

Question 13

If S = 19, SUN = 54 and CAKE = 20 , then MISTAKE = ?

- A 78
- B 68
- C 59

D 48

Answer: A

Explanation:

The words are represented as the sum of numbers they represent as A = 1 , B = 2 , C = 3 ,....., Z = 26

$$S = 19 , SUN = 19 + 21 + 14 = 54$$

$$\text{and CAKE} = 3 + 1 + 11 + 5 = 20$$

$$\text{Similarly, MISTAKE} = 13 + 9 + 19 + 20 + 1 + 11 + 5 = 78$$

=> Ans - (A)

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Question 14

If '+' stands for multiplication, '-' stands for addition, 'x' stands for division, then what is the value of $128 + 9 - 16 \times 4 = ?$

A 73

B 256

C 1156

D 1352

Answer: C

Explanation:

$$\text{Expression : } 128 + 9 - 16 \times 4 = ?$$

$$\equiv 128 \times 9 + 16 \div 4$$

$$= 1152 + 4 = 1156$$

=> Ans - (C)

Question 15

In this question, some equations are solved on the basis of a certain system. On the same basis find out the correct answer from amongst the four alternatives for the unsolved equation.

$$6 \times 2 \times 9 = 269$$

$$8 \times 7 \times 1 = 781$$

$$4 \times 1 \times 3 = ?$$

A 431

B 413

C 341

D 143

Answer: D

Explanation:

The pattern followed is that concatenation operator is followed and the positions of first two letters are interchanged.

$$\text{Eg} = 6 \times 2 \times 9 = 269$$

$$\text{and } 8 \times 7 \times 1 = 781$$

$$\text{Similarly, } 4 \times 1 \times 3 = 143$$

=> Ans - (D)

Question 16

Select the missing numbers from the given alternatives

9	11	13
3	4	7
3	4	5
81	176	?

- A 143
- B 169
- C 455
- D 545

Answer: C

Explanation:

In the first column, number at the end is obtained by taking the product of the other three.

Eg : $9 \times 3 \times 3 = 81$

and $11 \times 4 \times 4 = 176$

Similarly, $13 \times 7 \times 5 = 455$

=> Ans - (C)

General Science Notes for SSC CGL

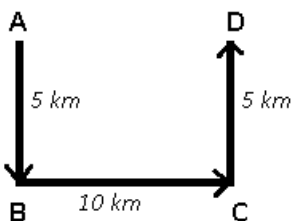
Question 17

To attend an exam, Sudhir reached the school by travelling 5 km towards South, and after a sharp left turn, he travelled for about 10 km. He again made a sharp left turn and reached in front of the school by travelling 5 km more. Which direction is Sudhir's starting point from the school?

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

Answer: B

Explanation:



Let Sudhir started from point A and travelled 5 km towards south and reached B, then he turned left and travelled east for 10 km till he reached point C. He again turned left and travelled north for 5 km and finally stopped at point D.

Thus, his starting position is to the west of his final position.

=> Ans - (B)

Question 18

Consider the given statement/s to be true and decide which of the given conclusions/assumptions can definitely be drawn from the given statement.

Statements: 1. All books are novels.

2. Some novels are poems.

Conclusions: I. Some books are poems.

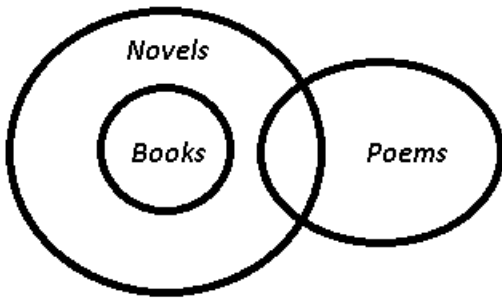
II. Some poems are novels.

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

Answer: B

Explanation:

The venn diagram for above statements is :



Conclusions: I. Some books are poems = false

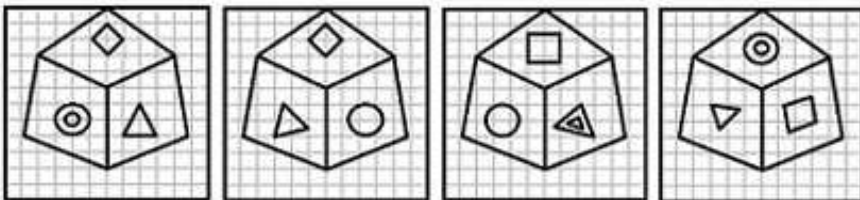
II. Some poems are novels = true

Thus, only conclusion II follows

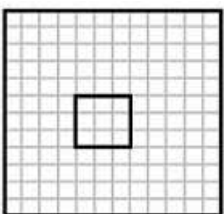
=> Ans - (B)

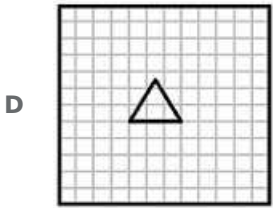
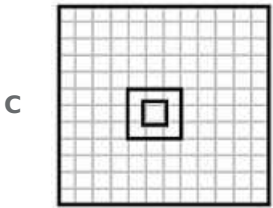
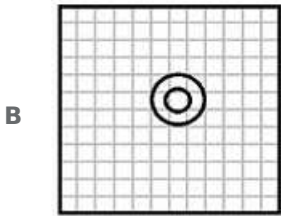
Question 19

Which symbol will appear on the face opposite to the face of a circle O in the cube given below?



A





Answer: B

Explanation:

From the second and third figure, we find that the sides with 'triangle, diamond, square and double triangle' are all adjacent to the side with a circle.

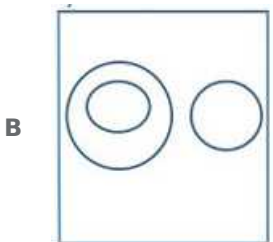
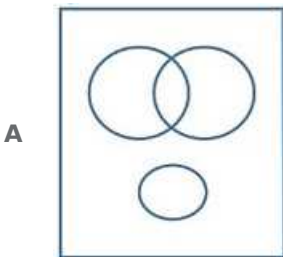
Thus, the only side left, i.e. the side with '2 circles' is opposite to the side having a circle.

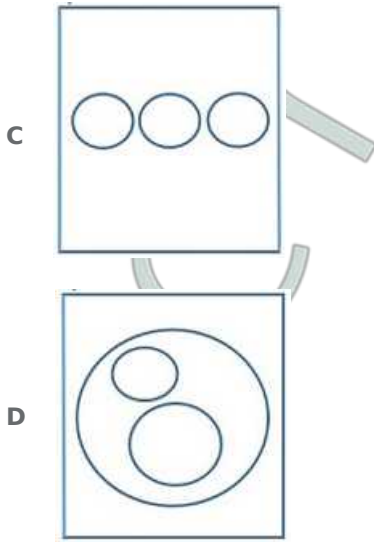
=> Ans - (B)

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Question 20

Which one of the following diagrams represents the relationship between Insects, Flies and Dogs?





Answer: B

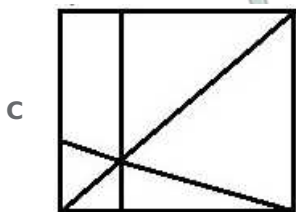
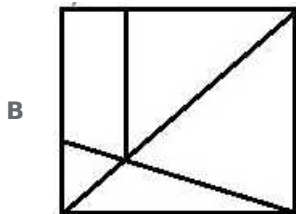
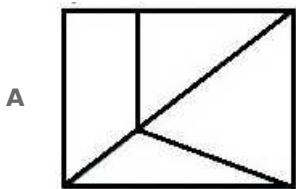
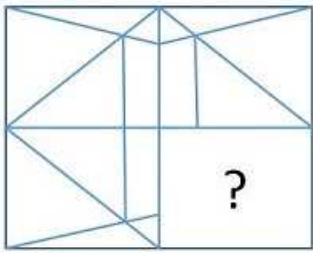
Explanation:

All the flies comes under the category of insects, but dogs are different from both of them, thus the second figure best describes above relationship.

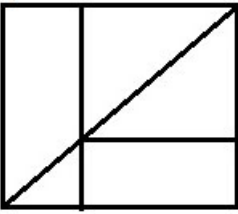
=> Ans - (B)

Question 21

Which answer figure will complete the pattern in the question figure?



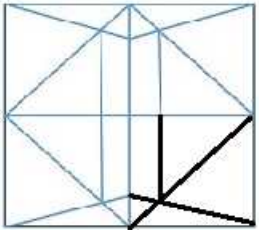
D



Answer: B

Explanation:

When we complete the above figure, we get :

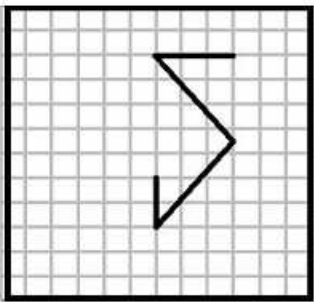


Now, the second figure resembles the above missing part in black colour.

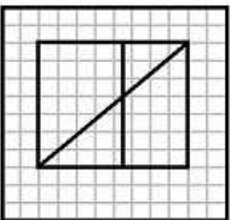
=> Ans - (B)

Question 22

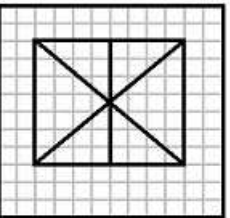
From the given answer figures, select the one in which the question figure is hidden.



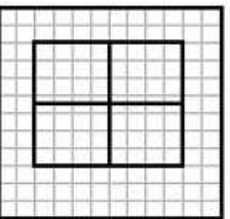
A



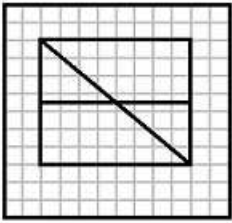
B



C



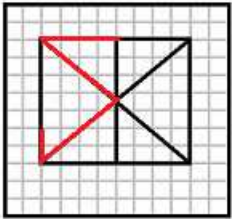
D



Answer: B

Explanation:

The question figure is embedded in the following figure :

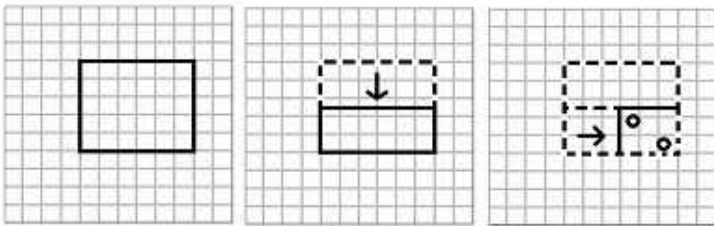


=> Ans - (B)

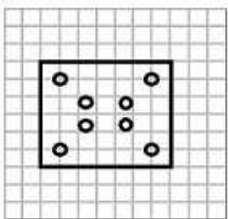
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Question 23

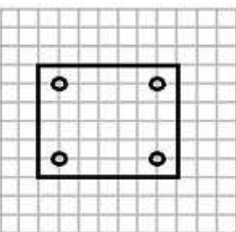
A piece of paper is folded and cut as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.



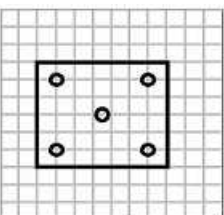
A

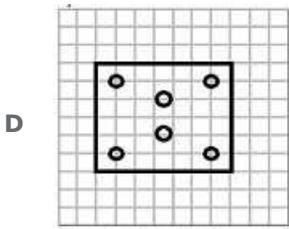


B



C

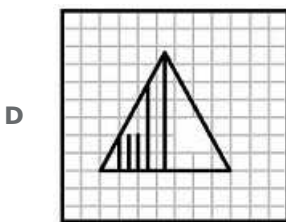
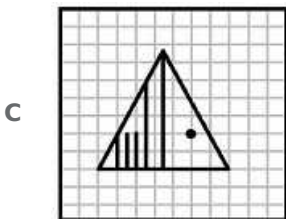
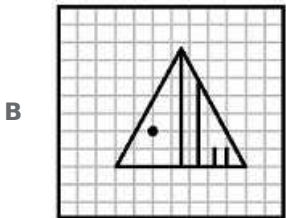
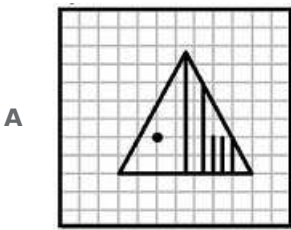
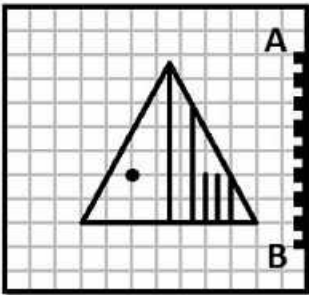




Answer: A

Question 24

Which of the answer figure is exactly the mirror image of the given figure, when the mirror is held on the line AB ?



Answer: C

Explanation:

A vertical mirror is placed, so the object at the left will appear at the right and vice-versa. In the second figure, there are just two small lines, hence it is incorrect.

Also, the small dot on the left side of the triangle will appear on the right side as shown in third figure.

=> Ans - (C)

Question 25

In the question, a word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as in two matrices given below. The columns and rows of Matrix I are numbered from 0 to 4 and that of Matrix II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, e.g., 'L' can be represented by 12, 24 etc., and 'R' can be represented by 55, 67 etc. Similarly you have to identify the set for the word 'SENT'

MATRIX I

	0	1	2	3	4
0	L	E	O	S	C
1	S	C	L	E	O
2	E	O	S	C	L
3	C	L	E	O	S
4	O	S	C	L	E

MATRIX II

	5	6	7	8	9
5	R	K	U	N	T
6	N	T	R	K	U
7	K	U	N	T	R
8	T	R	K	U	N
9	U	N	T	R	K

- A 10, 20, 58, 77
- B 22, 32, 65, 78
- C 34, 44, 67, 87
- D 41, 13, 87, 68

Answer: B

Explanation:

(A) : 10, 20, 58, 77 = SENN

(B) : 22, 32, 65, 78 = **SENT**

(C) : 34, 44, 67, 87 = SERK

(D) : 41, 13, 87, 68 = REKK

=> Ans - (B)

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General Awareness

Instructions

For the following questions answer them individually

Question 26

Swarna Jayanti Gram Swarajgar Yojna has now been restructured as

- A Prime Minister's Rojgar Yojna
- B National Rural Livelihoods Mission
- C Jawahar Gram Samriddhi Yojana
- D Sampoorna Gramin Rojgar Yojana

Answer: B

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Question 27

Neeraj Chopra is associated with which sports?

- A** Kabaddi
- B** Cricket
- C** Javelin Throw
- D** Wrestling

Answer: C

Question 28

Which of the following is not a commercial source of energy?

- A** Coal
- B** Petroleum
- C** Natural Gas
- D** Firewood

Answer: D

Question 29

Who is the runners-up in the recently held UEFA Euro-16?

- A** Germany
- B** Portugal
- C** France
- D** U.K

Answer: C

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Question 30

Taoism, is an ancient tradition of Philosophy and religious belief deeply rooted i

- A** Taiwanese custom and world view
- B** Chinese custom and world view
- C** Japanese custom and world view
- D** Vietnamese custom and world view

Answer: B

Question 31

Which of the following is an emergency hormone in humans?

- A Thyroxine
- B Insulin
- C Adrenalin
- D Progesterone

Answer: C

Question 32

Which term is not associated with sound wave?

- A Hertz
- B Decibel
- C Candela
- D Mach

Answer: C

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Question 33

In computer science, data hazard occurs when

- A pipeline changes the order of read/write access to operands
- B performance loss
- C machine size is limited
- D some functional unit is not fully pipelined

Answer: A

Question 34

During the period of which Governor General / Viceroy was the Indian Civil Service introduced?

- A Dalhousie
- B Curzon
- C Bentick
- D Cornwallis

Answer: D

Question 35

Which of the following is the uppermost layer of the atmosphere?

- A Stratosphere
- B Mesosphere

- C Ionosphere
- D Exosphere

Answer: D

SSC CPO Previous Question papers (download pdf)

Question 36

The first Commercial Civilian Aircraft developed by India is :

- A Pawan Hans
- B Tejas
- C Gajraj
- D Saras

Answer: D

Question 37

Webbed neck is a characteristic of

- A Down's syndrome
- B Turner's syndrome
- C Klinefelter's syndrome
- D Cri-du-chat syndrome

Answer: B

Question 38

The World Trade Organisation, which replaced GATT, has its Head Quarters in

- A Vienna
- B Brussels
- C New York
- D Geneva

Answer: D

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Question 39

The minimum age limit for the membership of the Vidhan Parishad is ____ .

- A 21 years
- B 25 years
- C 30 years

D 35 years

Answer: C

Question 40

National Anthem of Bangladesh 'Amar Sonar Bangla' was written by

A Rabindranath Tagore

B Sarojini Naidu

C Kazi Nazrul Islam

D Taslima Nasrin

Answer: A

Question 41

The largest producer of Lac in India is

A Chattisgarh

B Jharkhand

C West Bengal

D Gujarat

Answer: B

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Question 42

The founder of Bachpan Bachao Andolan (Save Child Movement) is

A Malala Yousafzai

B Sane Guruji

C Salman Khan

D Kailash Satyarthi

Answer: D

Question 43

If an electron and a photon have the same wavelength, then they will have the same

A velocity

B linear momentum

C angular momentum

D energy

Answer: B

Question 44

Pandit Lachhu Maharaj, who passed away recently, was associated with

- A** Flute
- B** Tabla
- C** Kathak
- D** Bharatnatyam

Answer: B

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Question 45

A tropical deciduous plant special to the Deccan plateau is

- A** Teak
- B** Shisam
- C** Sandalwood
- D** Sal

Answer: C

Question 46

Kalarippayatt is the martial art of which State of

- A** Madhya Pradesh
- B** Mizoram
- C** Nagaland
- D** Kerala

Answer: D

Question 47

Leptospirosis is a disease caused by

- A** Virus
- B** Fungus
- C** Protozoa
- D** Bacteria

Answer: D

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Question 48

The most abundant metal in the Earth's crust is

- A zinc
- B copper
- C aluminium
- D iron

Answer: C

Question 49

Hepatitis affects which organ of the human body?

- A Liver
- B Pancreas
- C Spleen
- D Small intestine

Answer: A

Question 50

Mohammed Shahid, who recently passed away, was associated with which sport?

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

Answer: B

SSC MTS Free Mock Test

Mathematics

Instructions

For the following questions answer them individually

Question 51

A & B together finish a job in 24 days, while A, B & C together can finish the same job in 8 days. C alone will finish the job in

- A 12 days
- B 14 days
- C 16 days
- D 24 days

Answer: A

Explanation:

Let total work to be done = 24 units

$$(A+B)\text{'s 1 day's work} = \frac{24}{24} = 1 \text{ unit}$$

$$(A+B+C)\text{'s 1 day's work} = \frac{24}{8} = 3 \text{ units}$$

$$\Rightarrow C\text{'s 1 day's work alone} = 3 - 1 = 2 \text{ units}$$

$$\therefore \text{Time taken by C alone to complete the work} = \frac{24}{2} = 12 \text{ days}$$

\Rightarrow Ans - (A)

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Question 52

Area of the circle inscribed in a square of diagonal $6\sqrt{2}$ cm (in sq cm) is

A 9π

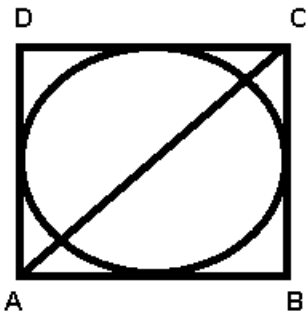
B 6π

C 3π

D $9\sqrt{2}\pi$

Answer: A

Explanation:



Length of AC = $6\sqrt{2}$ cm

Let side of square = x cm = Diameter of circle

$$\text{In } \triangle ABC, \Rightarrow (AB)^2 + (BC)^2 = (AC)^2$$

$$\Rightarrow (x)^2 + (x)^2 = (6\sqrt{2})^2$$

$$\Rightarrow 2x^2 = 72$$

$$\Rightarrow x^2 = \frac{72}{2} = 36$$

$$\Rightarrow x = \sqrt{36} = 6 \text{ cm}$$

Thus radius of circle = $\frac{6}{2} = 3$ cm

$$\therefore \text{Area of circle} = \pi r^2$$

$$= \pi \times (3)^2 = 9\pi \text{ cm}^2$$

\Rightarrow Ans - (A)

Question 53

The original price of a TV set is Rs. 6,000. If the price is discounted by 20% and then raised by 10% for service contract, the price charged by the shopkeeper is

- A Rs. 5400
- B Rs. 5280
- C Rs. 5100
- D Rs. 4200

Answer: B

Explanation:

Original price of TV set = Rs. 6000

The price is discounted by 20% and then raised by 10% for service contract

=> Price charged by shopkeeper

$$= 6000 \times \frac{80}{100} \times \frac{110}{100}$$

$$= 6 \times 80 \times 11 = \text{Rs. } 5280$$

=> Ans - (B)

Question 54

A certain sum of money was divided between A, B and C in the ratio 5:6:9. If A received Rs. 450 the sum divided was

- A 2000
- B 1800
- C 2250
- D 1000

Answer: B

Explanation:

Let the amount received by A, B and C respectively be Rs. $5x$, $6x$ and $9x$

Amount received by A = $5x = 450$

$$\Rightarrow x = \frac{450}{5} = 90$$

Total amount distributed = $5x + 6x + 9x = 20x$

$$= 20 \times 90 = \text{Rs. } 1800$$

=> Ans - (B)

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Question 55

By selling a bag at Rs. 230, profit of 15% is made. The selling price of the bag, when it is sold at 20% profit would be

- A Rs. 250
- B Rs. 205

C Rs.240

D Rs.200

Answer: C

Explanation:

Let cost price of the bag = Rs. $100x$

Selling price = Rs. 230

$$\Rightarrow \text{Profit \%} = \frac{230 - 100x}{100x} \times 100 = 15$$

$$\Rightarrow 230 - 100x = 15x$$

$$\Rightarrow 100x + 15x = 230$$

$$\Rightarrow x = \frac{230}{115} = 2$$

$$\therefore \text{Cost price} = 100 \times 2 = \text{Rs. } 200$$

When profit % = 20%

$$\Rightarrow \text{Selling price} = 200 \times \frac{120}{100} = \text{Rs. } 240$$

\Rightarrow Ans - (C)

Question 56

The weights of two iron balls are 3.5 kg and 7.5 kg. What is the percentage weight of the 1st ball with respect to 2nd ball.

A $46\frac{2}{3}\%$

B 35%

C $46\frac{1}{3}\%$

D 45%

Answer: A

Explanation:

Weight of 1st ball = 3.5 kg and weight of second ball = 7.5 kg

\Rightarrow Percentage weight of the 1st ball with respect to 2nd ball

$$= \frac{3.5}{7.5} \times 100$$

$$= \frac{35}{3} \times 4 = \frac{140}{3}$$

$$= 46\frac{2}{3}\%$$

\Rightarrow Ans - (A)

Question 57

A Bus travels at the speed of 36 km/hr, then the distance covered by it in one second is

A 10 m

B 15 m

C 12.5 m

D 13.5 m

Answer: A

Explanation:

Speed of bus = 36 km/hr

$$\Rightarrow \text{Speed in m/s} = 36 \times \frac{5}{18}$$

$$= 5 \times 2 = 10 \text{ m/s}$$

\therefore In 1 second, it travels 10 metres

\Rightarrow Ans - (A)

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Question 58

The value of $a^{-b} + b^{-a}$ is

A $(a+b)/(a-b)$

B -1

C 2ab

D 1

Answer: D

Explanation:

Expression : $a^{-b} + b^{-a}$

Taking (-) common from second term

$$= a^{-b} - a^{-b}$$

$$= a^{-b} = 1$$

\Rightarrow Ans - (D)

Question 59

The value of $(1 - \sqrt{2}) + (\sqrt{2} - \sqrt{3}) + (\sqrt{3} - \sqrt{4}) + \dots + (\sqrt{15} - \sqrt{16})$ is

A 0

B 1

C -3

D 4

Answer: C

Explanation:

Expression : $(1 - \sqrt{2}) + (\sqrt{2} - \sqrt{3}) + (\sqrt{3} - \sqrt{4}) + \dots + (\sqrt{15} - \sqrt{16})$

$$= 1 + (-\sqrt{2} + \sqrt{2}) + (-\sqrt{3} + \sqrt{3}) + \dots + (-\sqrt{14} + \sqrt{14}) + (-\sqrt{15} + \sqrt{15}) - \sqrt{16}$$

$$= 1 - \sqrt{16} = 1 - 4 = -3$$

\Rightarrow Ans - (C)

Question 60

ΔABC and ΔDEF are two similar triangles and the perimeter of ΔABC and ΔDEF are 30 cm and 18 cm respectively. If length of DE = 36 cm, then length of AB is

- A 60 cm
- B 40 cm
- C 45 cm
- D 50 cm

Answer: A

Explanation:

It is given that $\Delta ABC \sim \Delta DEF$

Also, perimeter of ΔABC and ΔDEF are 30 cm and 18 cm

\Rightarrow Ratio of Perimeter of ΔABC : Perimeter of ΔDEF = Ratio of corresponding sides = $AB : DE$

$$= \frac{30}{18} = \frac{AB}{36}$$

$$\Rightarrow AB = \frac{5}{3} \times 36 = 60 \text{ cm}$$

\Rightarrow Ans - (A)

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Question 61

If the length of a chord of a circle is equal to that of the radius of the circle, then the angle subtended, in radians, at the centre of the circle by chord is

- A π
- B $\pi/2$
- C $\pi/3$
- D $\pi/4$

Answer: C

Explanation:

As the length of a chord of a circle is equal to that of the radius of the circle, thus triangle formed will be equilateral triangle.

Thus, the three angles will be equal to 60°

$$= \frac{\pi}{3}$$

\Rightarrow Ans - (C)

Question 62

The value of $(\sec^2 45^\circ - \cot^2 45^\circ) - (\sin^2 30^\circ + \sin^2 60^\circ)$ is

- A 1
- B $2\sqrt{3}$
- C 0
- D $1/\sqrt{2}$

Answer: C

Explanation:

$$\text{Expression : } (\sec^2 45^\circ - \cot^2 45^\circ) - (\sin^2 30^\circ + \sin^2 60^\circ)$$

$$= [(\sqrt{2})^2 - (1)^2] - \left[\left(\frac{1}{2}\right)^2 + \left(\frac{\sqrt{3}}{2}\right)^2\right]$$

$$= (2 - 1) - \left(\frac{1}{4} + \frac{3}{4}\right)$$

$$= 1 - 1 = 0$$

=> Ans - (C)

Question 63

The average salary of male employees in a firm was Rs. 5200 and that of females was Rs. 4200. The mean salary of all the employees was Rs. 5000. What is the % of female employees?

A 80%

B 20%

C 40%

D 30%

Answer: B

Explanation:

Let there be x males and y females in the firm

$$\Rightarrow \text{Total male salary} = \text{Rs. } 5200x$$

$$\text{Similarly, total females salary} = \text{Rs. } 4200y$$

$$\text{Thus, total salary} = 5200x + 4200y = 5000(x + y)$$

$$\Rightarrow 5200x + 4200y = 5000x + 5000y$$

$$\Rightarrow 5200x - 5000x = 5000y - 4200y$$

$$\Rightarrow 200x = 800y$$

$$\Rightarrow \frac{y}{x} = \frac{200}{800} = \frac{1}{4}$$

$$\therefore \% \text{ of female employees} = \frac{y}{x+y} \times 100$$

$$= \frac{1}{5} \times 100 = 20\%$$

=> Ans - (B)

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Question 64

If $4x = \sqrt{5} + 2$, then $x - \frac{1}{16x}$?

A 1

B -1

C 4

D $2\sqrt{5}$

Answer: A

Explanation:

$$\text{Given : } 4x = \sqrt{5} + 2$$

$$\Rightarrow x = \frac{\sqrt{5}+2}{4}$$

To find : $x - \frac{1}{16x}$

$$= \frac{\sqrt{5}+2}{4} - \frac{4}{16(\sqrt{5}+2)}$$

$$= \frac{\sqrt{5}+2}{4} - \frac{1}{4(\sqrt{5}+2)}$$

$$= \frac{(\sqrt{5}+2)^2 - 1}{4(\sqrt{5}+2)}$$

$$= \frac{5+4+4\sqrt{5}-1}{4(\sqrt{5}+2)}$$

$$= \frac{8+4\sqrt{5}}{8+4\sqrt{5}} = 1$$

\Rightarrow Ans - (A)

Question 65

The cube of 105 is

A 1157625

B 1175625

C 1185625

D 1158625

Answer: A

Explanation:

Expression : $(105)^3 = (100 + 5)^3$

Using, $(a + b)^3 = a^3 + b^3 + 3ab(a + b)$

$$= (100)^3 + (5)^3 + (3 \cdot 100 \cdot 5)(100 + 5)$$

$$= 1000000 + 125 + (1500 \times 105)$$

$$= 1000000 + 125 + 157500 = 1157625$$

\Rightarrow Ans - (A)

Question 66

In $\triangle ABC$, $\angle B$ is right angle, D is the mid point of the side AC. If AB = 6 cm, BC = 8cm, then the length of BD is

A 4 cm

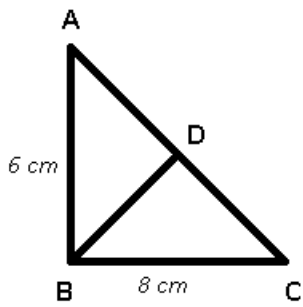
B 5 cm

C 8 cm

D 12 cm

Answer: B

Explanation:



In $\triangle ABC$, $(AC)^2 = (AB)^2 + (BC)^2$

$\Rightarrow (AC)^2 = (6)^2 + (8)^2$

$\Rightarrow (AC)^2 = 36 + 64 = 100$

$\Rightarrow AC = \sqrt{100} = 10 \text{ cm}$

\therefore D is the mid point of AC, thus $AD = DC = 5 \text{ cm}$

Also, $(BD)^2 = (AD) \times (DC)$

$\Rightarrow (BD)^2 = 5 \times 5 = 25$

$\Rightarrow BD = \sqrt{25} = 5 \text{ cm}$

\Rightarrow Ans - (B)

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Question 67

The diagonals of two squares are in the ratio 5:2. The ratio of their area is

- A 5:6
- B 25:4
- C 5:4
- D 125:8

Answer: B

Explanation:

Ratio of diagonals of the two squares = 5 : 2

Ratio of areas of square is the ratio of square of diagonals

$$= \left(\frac{5}{2}\right)^2 = \frac{25}{4}$$

\therefore Ratio of their area is 25 : 4

\Rightarrow Ans - (B)

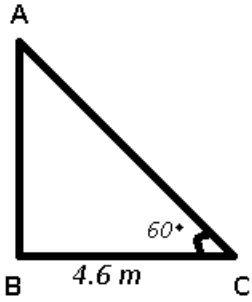
Question 68

The angle of elevation of a ladder leaning against a wall is 60° and the foot of the ladder is 4.6 m away from the wall. The length of the ladder is

- A 2.3 m
- B 4.6 m
- C 9.2 m
- D 7.8 m

Answer: C

Explanation:



Let length of ladder, $AC = l\text{ m}$

In $\triangle ABC$, $\cos(60) = \frac{BC}{AC}$

$$\Rightarrow \frac{1}{2} = \frac{4.6}{l}$$

$$\Rightarrow l = 4.6 \times 2 = 9.2\text{ m}$$

\Rightarrow Ans - (C)

Question 69

The product of two 2-digit numbers is 2160 and their H.C.F. is 12. The numbers are

A (12, 60)

B (72, 30)

C (36, 60)

D (60, 72)

Answer: C

Explanation:

Let the two numbers be $12x$ and $12y$ respectively where x and y are co-primes

Product of numbers = $(12x) \times (12y) = 2160$

$$\Rightarrow xy = \frac{2160}{144} = 15$$

Possible pairs of x and y whose H.C.F. is 1 = (3, 5)

\therefore Required numbers = $(12 \times 3), (12 \times 5)$

= 36, 60

\Rightarrow Ans - (C)

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Question 70

The difference between simple and compound interests compounded annually on a certain sum of money for 2 years at 4% per annum is Rs. 1. The sum (in Rs.) is:

A 620

B 630

C 640

D 625

Answer: D

Explanation:

Rate of interest (r) = 4 % and time (t) = 2 years

Difference between simple and compound interests (d) = Rs. 1

$$\text{Then, the sum} = \frac{d \times (100)^t}{(r)^t}$$

$$= \frac{1 \times (100)^2}{(4)^2} = \frac{10000}{16}$$

= Rs. 625

=> Ans - (D)

Question 71

In a mixture of 25 litres, the ratio of milk to water is 4:1. Another 3 litres of water is added to the mixture. The ratio of milk to water in the new mixture is

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

Answer: B

Explanation:

Quantity of milk in a mixture of 25 litres = $\frac{4}{5} \times 25 = 20$ litres

Quantity of water in a mixture of 25 litres = $25 - 20 = 5$ litres

After adding 3 litres of water, quantity of water = $5 + 3 = 8$ litres

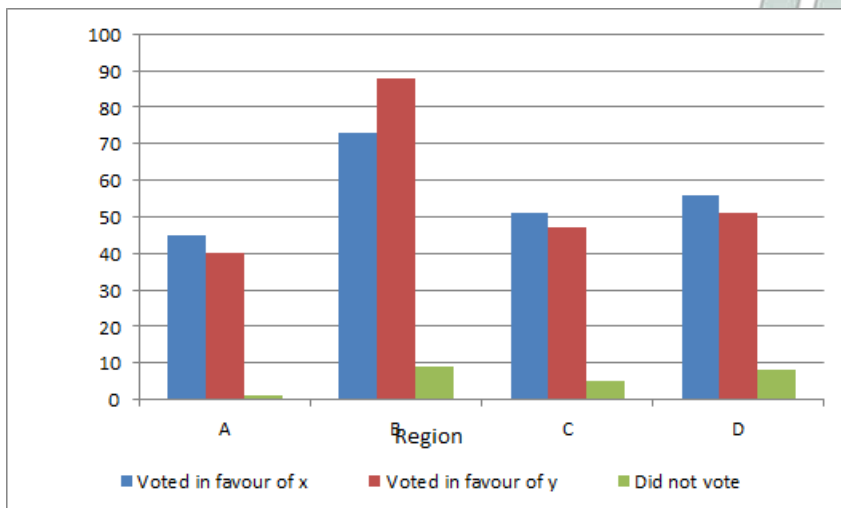
∴ Required ratio of milk and water = $\frac{20}{8}$

= 5 : 2

=> Ans - (B)

Instructions

A constituency is divided in four regions A, B, C and D. Two candidates X & Y contested the last election from that constituency. The adjoining graph gives the break up of voting in the four regions. Study the graph and answer the following questions.



Question 72

Approximately how much percent of voters voted in favour of X?

- A** 45.4
- B** 47.5
- C** 50
- D** 225

Answer: B

Explanation:

Number of voters voted in favour of X = $45 + 73 + 51 + 56 = 225$

Number of voters voted in favour of Y = $40 + 88 + 47 + 51 = 226$

Number of voters who did not vote = $1 + 9 + 5 + 8 = 23$

=> Total number of voters = $225 + 226 + 23 = 474$

∴ Percent of voters in favor of X = $\frac{225}{474} \times 100$

= 47.5%

=> Ans - (B)

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Question 73

Approximately how much percent of voters did not cast their votes?

- A** 4.9
- B** 4.5
- C** 0.23
- D** 23

Answer: A

Explanation:

Number of voters did not cast their votes = $1 + 9 + 5 + 8 = 23$

Total number of voters

= $(45 + 40 + 1) + (73 + 88 + 9) + (51 + 47 + 5) + (56 + 51 + 8) = 474$

=> Required % = $\frac{23}{474} \times 100$

= 4.9%

=> Ans - (A)

Question 74

In region B, Y gets A% more votes than X. Find the value of A?

- A** 24%
- B** 21%
- C** 19%

D 15%

Answer: B

Explanation:

Votes received by X in region B = 73 %

Votes received by Y in region B = 88 %

Y gets A% more votes than X,

$$\Rightarrow A = \frac{88-73}{73} \times 100$$

$$= \frac{1500}{73} = 20.54 \approx 21\%$$

\Rightarrow Ans - (B)

Question 75

Nearly what percentage of his total votes did X receive from region B?

A 30

B 31

C 32

D 35

Answer: C

Explanation:

Votes received by X from region B = 73

Total votes received by X = 45 + 73 + 51 + 56 = 225

$$\Rightarrow \text{Required \%} = \frac{73}{225} \times 100$$

$$\approx \frac{72}{9} \times 4 = 32\%$$

\Rightarrow Ans - (C)

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English

Instructions

For the following questions answer them individually

Question 76

In the following question, out of the four alternatives, choose the word which best expresses the meaning of the given word and click the button corresponding to it.

INSOLENT

A DISTASTEFUL

B IMPATIENT

C DIABOLIC

D RUDE

Answer: D

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Question 77

In the following question, out of the four alternatives, choose the word which is opposite in meaning to the given word and click the button corresponding to it.

VIRTUE

- A WILES
- B CURSE
- C VICE
- D CUNNING

Answer: C

Question 78

Four words are given, out of which only one word is spelt correctly. Choose the correctly spelt word and click the button corresponding to it.

- A Tranquility
- B Tranquillity
- C Trankquility
- D Trankwility

Answer: B

Question 79

In the following questions, one part of the sentence may have an error. Find out which part of the sentence has an error and click the button corresponding to it. If the sentence is free from error, click the "No error" option.

Could she cite (A)/ any precedent in support (B)/ for her case? (C)/ No Error(D)

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

Answer: C

Explanation:

'for her case' is wrong. It is preposition related error.

Hence the correct answer is C

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Question 80

In the following questions, one part of the sentence may have an error. Find out which part of the sentence has an error and click the button corresponding to it. If the sentence is free from error, click the "No error" option.

The General Manager of the industry has felt (A)/ that there is no use of (B)/ discussing about the problems with the labourers. (C)/No Error (D)

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

Answer: C

Explanation:

"Discussing about" is wrong. Omit "about" to make it true.

Hence C

Question 81

In the following questions, one part of the sentence may have an error. Find out which part of the sentence has an error and click the button corresponding to it. If the sentence is free from error, click the "No error" option.

- A (a) She enquired from the stranger
- B (b) who was he and
- C (c) what he wanted from her.
- D (d) No Error

Answer: B

Explanation:

"Who was he" is incorrect because of structural deficiency in making proper grammatical sense. Hence B

"Who he was " is the correct version

Question 82

The sentences given with blanks are to be filled with an appropriate word(s). Four alternatives are suggested for each question. For each question, choose the correct alternative and click the button corresponding to it.

We acted on a _____ impulse.

- A momentary
- B momentous
- C memorable
- D meritorious

Answer: A

Question 83

The sentences given with blanks are to be filled with an appropriate word(s). Four alternatives are suggested for each question. For each question, choose the correct alternative and click the button corresponding to it.

Do your best and we'll back you _____.

- A on
- B in
- C out
- D up

Answer: D

Question 84

The sentences given with blanks are to be filled with an appropriate word(s). Four alternatives are suggested for each question. For each question, choose the correct alternative and click the button corresponding to it.

Sanjay _____ his mother in the morning everyday.

- A calls in
- B calls up
- C calls off
- D calls down

Answer: B

Question 85

In each of the questions, four alternatives are given for the Idiom/Phrase. Choose the alternative which best expresses the meaning of the Idiom/Phrase and click the button corresponding to it.

Put two and two together

- A Bad at mathematics
- B Poor financial condition
- C Reason logically
- D Forget something

Answer: C

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Question 86

In each of the questions, four alternatives are given for the Idiom/Phrase. Choose the alternative which best expresses the meaning of the Idiom/Phrase and click the button corresponding to it.

An axe to grind

- A Attack aggressively
- B Suffer a lot

- C Betray somebody
- D Have a selfish interest

Answer: D

Question 87

In each of the questions, four alternatives are given for the Idiom/Phrase. Choose the alternative which best expresses the meaning of the Idiom/Phrase and click the button corresponding to it.
Pick to pieces

- A Study something superficially
- B Complete a work entirely
- C Analyse critically
- D Select only what you need.

Answer: C

Question 88

Out of the four alternatives, choose the one which can be substituted for the given words/sentences and click the button corresponding to it.

A person who lays too much stress on bookish-learning

- A Pervert
- B Pedant
- C Philosopher
- D Scholar

Answer: B

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Question 89

Out of the four alternatives, choose the one which can be substituted for the given words/sentences and click the button corresponding to it.

Postponement or delay permitted in the suffering of a penalty or the discharge of an obligation.

- A Respite
- B Spire
- C Splurge
- D Scourge

Answer: A

Question 90

Out of the four alternatives, choose the one which can be substituted for the given words/sentences and click the button corresponding to it.

Deviation from the right course

- A Imagination
- B Amalgamation
- C Illumination
- D Aberration

Answer: D

Question 91

A sentence/a part of the sentence is underlined. Four alternatives are given to the underlined part which will improve the sentence. Choose the correct alternative and click the button corresponding to it. In case no improvement is needed, click the button corresponding to "No improvement".

He likes to drive his car at a speed of eighty kilometres each hour.

- A every hour
- B an hour
- C hourly
- D No improvement

Answer: B

Explanation:

"Each hour" is technically wrong.

"An hour" is correct version and correct article usage.

Hence B is wrong

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Question 92

A sentence/a part of the sentence is underlined. Four alternatives are given to the underlined part which will improve the sentence. Choose the correct alternative and click the button corresponding to it. In case no improvement is needed, click the button corresponding to "No improvement".

His argument against his opponent duly brought jeers from the crowd.

- A invective
- B praise
- C controversy
- D No improvement

Answer: A

Explanation:

Only word closes in meaning to argument is "invective"

Rest all words dont come close

Invective generally means insulting, abusive, or highly critical language.

Example

"he let out a stream of invective"

Hence option A

Question 93

A sentence/a part of the sentence is underlined. Four alternatives are given to the underlined part which will improve the sentence. Choose the correct alternative and click the button corresponding to it. In case no improvement is needed, click the button corresponding to "No improvement".

Do you know the time when the train departs?

- A which
- B by
- C that
- D No improvement

Answer: D

Explanation:

No improvement required as sentence is perfectly correct. No need for alteration.

Hence D

Question 94

A sentence/a part of the sentence is underlined. Four alternatives are given to the underlined part which will improve the sentence. Choose the correct alternative and click the button corresponding to it. In case no improvement is needed, click the button corresponding to "No improvement".

I'm staying with some friends who are owning a farm.

- A will be owning
- B own
- C have been owning
- D No improvement

Answer: B

Explanation:

"are owning" a farm is grammatically incorrect. Present Continuous is not required here. "Own a farm" is enough and makes perfect sense.

Hence answer is B

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Question 95

A sentence/a part of the sentence is underlined. Four alternatives are given to the underlined part which will improve the sentence. Choose the correct alternative and click the button corresponding to it. In case no improvement is needed, click the button corresponding to "No improvement".

An old friend, may I give you an advice?

- A give you some advice
- B give you an advise
- C offer you an advice
- D No improvement

Answer: A

Explanation:

Advice is not countable. Not "an advice" but "advice" or "some advice".

The word **advice** is an uncountable noun. Uncountable nouns do not have plural forms. They cannot be used with the articles **a/an**.

He gave me **some advice**. (NOT He gave me an advice.) (NOT He gave me advices.) Incorrect: Let me give you **an advice**. Correct: Let me give you **some advice**. Incorrect: She was always there to give great advices. Correct: She was always there to give **great advice**.

Hence option A

Instructions

A passage is given with 5 questions following it. Read the passage carefully and choose the best answer to each question out of the four alternatives and click the button corresponding to it.

The Alaska pipeline starts at the frozen edge of the Arctic Ocean. It stretches southward across the largest and northernmost state in the United States, ending at a remote ice-free seaport village nearly 800 miles from where it begins. It is massive in size and extremely complicated to operate. The steel pipe crosses windswept plains and endless miles of delicate tundra that tops the frozen ground. It weaves through crooked canyons, climbs sheer mountains, plunges over rocky crags, makes its way through thick forests, and passes over or under hundreds of rivers and streams. The pipe is 4 feet in diameter, and up to 2 million barrels (or 84 million gallons) of crude oil can be pumped through it daily. Resting on H-shaped steel racks called "bents", long sections of the pipeline follow a zigzag course high above the frozen earth. Other long sections drop out of sight beneath spongy or rocky ground and return to the surface later on. The pattern of the pipeline's up-and-down route is determined by the often harsh demands of the arctic and subarctic climate, the tortuous lay of the land, and the varied compositions of soil, rock, or permafrost (permanently frozen ground). A little more than half of the pipeline is elevated above the ground. The remainder is buried anywhere from 3 to 12 feet, depending largely upon the type of terrain and the properties of the soil. One of the largest in the world, the pipeline cost approximately \$8 billion and is by far the biggest and most expensive construction project ever undertaken by private industry. In fact, no single business could raise that much money, so 8 major oil companies formed a consortium in order to share the costs. Each company controlled oil rights to particular shares of land in the oil fields and paid into the pipeline-construction fund according to the size of its holdings. Today, despite enormous problems of climate, supply shortage, equipment breakdowns, labour disagreements, treacherous terrain, a certain amount of mismanagement, and even theft, the Alaska pipeline has been completed and is operating.

Question 96

The Alaskan pipeline ends

- A** north of Alaska
- B** at a seaport village
- C** after passing through canyons and rivers
- D** at a tundra covered village

Answer: B

Question 97

What is the capacity of the Alaskan pipeline?

- A** 2 million gallons of crude oil
- B** 4 million barrels of crude oil
- C** 84 million gallons of crude oil
- D** 84 billion barrels of crude oil

Answer: C

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Question 98

What are "bents"

- A Zigzag shape of pipeline
- B Pipeline's up and down route
- C The section of the pipeline that drops out of sight
- D The H-shaped steel racks

Answer: D

Question 99

How was the fund for pipeline - construction generated?

- A 8 major oil companies joined hands to share the cost
- B 8 major oil companies borrowed \$8 billion.
- C A single private company raised \$8 billion
- D Oil rights were sold to 8 major oil companies

Answer: A

Question 100

Which of the following were not problems faced while constructing the pipeline?

- A Supply shortages
- B Treacherous terrain
- C Lack of funds
- D Equipment breakdown

Answer: C

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