



2016 SSC CGL 27 Aug Morning Shift

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Reasoning

Instructions

For the following questions answer them individually

Question 1

Select the related word/letters/number from the given alternatives.

Donkey : Brays :: Monkey : ?

- A Chatters
- B Trumpets
- C Bellows
- D Grunts

Answer: A

Explanation:

The sound that a donkey makes is called bray, similarly a monkey's sound is known as chatters.

=> Ans - (A)

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Question 2

Select the related word/letters/number from the given alternatives.

ABDE : FGJH :: IJLM : ?

- A NOQR
- B NOPQ
- C NMOP
- D NPQR

Answer: A

Explanation:

Expression = ABDE : FGJH

The pattern followed is =

A	B	D	E
(+5)	(+5)	(+5)	(+5)
F	G	I	J

Similarly, for IJLM :

I	J	L	M
(+5)	(+5)	(+5)	(+5)
N	O	Q	R

=> Ans - (A)

Question 3

Select the related word/letters/number from the given alternatives.

1 : 8 :: ? : 64

- A 25
- B 36
- C 30
- D 27

Answer: D

Explanation:

Expression : $1 : 8 :: ? : 64$

The pattern followed is $= (n - 1)^3 : (n)^3$

$$\therefore 64 = 4^3$$

$$\text{Thus, } (4 - 1)^3 = 3^3 = 27$$

=> Ans - (D)

Question 4

For the following questions

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

- A Swimming
- B Sailing
- C Diving
- D Driving

Answer: D

Explanation:

Swimming, Sailing and Diving are all done on or under water, hence driving which is done on road is the odd one out.

=> Ans - (D)

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Question 5

For the following questions

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

- A RGTF
- B MLOK
- C CTES
- D VDZC

Answer: D

Explanation:

The first and third letters when taken together form alternate alphabets in that order, while last and second letters form consecutive alphabets according to the English alphabetical order.

(A) : R (+2 letters) = T ; FG

(B) : M (+2 letters) = O ; KL

(C) : C (+2 letters) = E ; ST

(D) : V (+4 letters) = Z ; CD

=> Ans - (D)

Question 6

For the following questions

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

A 443

B 633

C 821

D 241

Answer: B

Explanation:

Among the given numbers, 633 is a composite number, rest all are prime.

=> Ans - (B)

Question 7

Arrange the following words as per order in the dictionary

1. Dyke

2. Dwindle

3. Dwell

4. Dye

A 3,2,4,1

B 1,3,4,2

C 2,1,3,4

D 3,4,2,1

Answer: A

Explanation:

As per order in the dictionary,

Dwell -> Dwindle -> Dye -> Dyke

≡ 3,2,4,1

=> Ans - (A)

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Question 8

Choose the correct alternative that will replace the question mark in the given series:

DHL, PTX, BFJ, ?

A KOS

B NRV

C NPS

D NRU

Answer: B

Explanation:

Expression : DHL, PTX, BFJ, ?

The pattern followed is that there are 11 missing terms between each letter of the terms.

1st letter : D (+12 letters) = P (+12 letters) = B (+12 letters) = N

2nd letter : H (+12 letters) = T (+12 letters) = F (+12 letters) = R

3rd letter : L (+12 letters) = X (+12 letters) = J (+12 letters) = V

Thus, missing term = **NRV**

=> Ans - (B)

Question 9

Find the wrong number in the series:

28, 33, 31, 36, 34, 29

A 33

B 36

C 34

D 29

Answer: D

Explanation:

The pattern followed is :

$$28 + 5 = 33$$

$$33 - 2 = 31$$

$$31 + 5 = 36$$

$$36 - 2 = 34$$

$$34 + 5 = \mathbf{39}$$

=> Ans - (D)

Question 10

The age of Rakhi is twelve times that of her daughter Anubha. If age of Anubha is 3 years now, then what was the age of Rakhi, 2 years earlier?

A 20 years

B 34 years

C 30 years

D 36 years

Answer: B

Explanation:

Anubha's present age = 3 years

=> Rakhi's present age = $12 \times 3 = 36$ years

∴ Rakhi's age 2 years ago = $36 - 2 = 34$ years

⇒ Ans - (B)

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Question 11

Satya's birthday falls on 15th August and Meena's birthday falls on 25th June. If Meena's birthday was on Wednesday, what was the day on Sathya's birthday in the same year?

- A Friday
- B Monday
- C Tuesday
- D Saturday

Answer: A

Explanation:

According to the question, 25th June is Wednesday

Number of days left in June = $30 - 25 = 5$

Similarly, odd days from 25th June till 15th August = $(5 + 31 + 15) \% 7$

= $5 + 3 + 1 = 9$

Now, dividing 9 by 7, remainder = 2

Thus, day on 15th August = Wednesday (+2) = Friday

⇒ Ans - (A)

Question 12

From the given words, select the word which can be formed using the letters of the given word.

AMPLIFICATION

- A ACTOR
- B MANOR
- C CHAMP
- D MANIA

Answer: D

Explanation:

The word AMPLIFICATION does not contain 'H' or 'R', thus the first three words are not possible.

Only MANIA can be formed using the letters of the given word.

⇒ Ans - (D)

Question 13

If BLACKSMITH is coded as CNBELUNKUJ, then CHILDREN will be coded as ?

- A DIJMESFO
- B DJJNETFP

C DJINETEP

D DJJNETEP

Answer: B

Explanation:

BLACKSMITH is coded as CNBELUNKUJ

The pattern followed is :

B	L	A	C	K	S	M	I	T	H
(+1)	(+2)	(+1)	(+2)	(+1)	(+2)	(+1)	(+2)	(+1)	(+2)
C	N	B	E	L	U	N	K	U	J

Similarly, for CHILDREN :

C	H	I	L	D	R	E	N
(+1)	(+2)	(+1)	(+2)	(+1)	(+2)	(+1)	(+2)
D	J	J	N	E	T	F	P

=> Ans - (B)

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Question 14

If $17 + 17 = 2895$

$18 + 18 = 3245$

$19 + 19 = 3615$

then $23 + 23 = ?$

A 5765

B 2565

C 4005

D 5295

Answer: D

Explanation:

The pattern followed is that the square of the number is taken and 5 is added at the end.

Eg : $17^2 = 289 \equiv 2895$

Also, $18^2 = 324 \equiv 3245$ and $19^2 = 361 \equiv 3615$

Similarly, $23^2 = 529 \equiv 5295$

=> Ans - (D)

Question 15

In the following problem, '=' stands for '+', '+' stands for '-', 'x' stands for '=', '-' stands for '+' and '÷' stands for 'x'. Find the correct equation.

A $8 \div 4 + 1 - 5 = 6 \times 4$

B $4 \times 6 \div 4 + 4 = 7$

C $5 \div 3 - 25 + 20 = 20 \times 39$

D $96 \div 2 \times 6 \div 105 + 1$

Answer: C

Explanation:

'=' stands for '÷', '+' stands for '-', 'x' stands for '=', '-' stands for '+' and '÷' stands for 'x'

$$(A) : 8 \div 4 + 1 - 5 = 6 \times 4$$

$$\equiv 8 \times 4 - 1 + 5 \div 6 = 4$$

$$\text{L.H.S.} = 32 - 1 + 0.83 = 31.83 \neq \text{R.H.S.}$$

$$(B) : 4 \times 6 \div 4 + 4 = 7$$

$$\equiv 4 = 6 \times 4 - 4 \div 7$$

$$\text{R.H.S.} = 24 - 0.57 = 23.43 \neq \text{L.H.S.}$$

$$(C) : 5 \div 3 - 25 + 20 = 20 \times 39$$

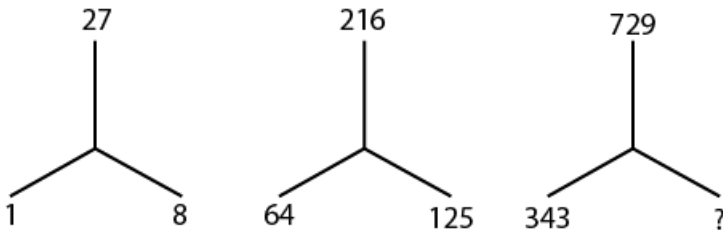
$$\equiv 5 \times 3 + 25 - 20 \div 20 = 39$$

$$\text{L.H.S.} = 15 + 25 - 1 = 39 = \text{R.H.S.}$$

=> Ans - (C)

Question 16

Select the missing number from the given responses.



A 432

B 334

C 512

D 501

Answer: C

Explanation:

The pattern followed is that the given numbers are cubes of natural numbers in increasing order.

Thus, missing number = $8^3 = 512$

=> Ans - (C)

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Question 17

A man walked 9 km towards East and then 12 km towards South. How far is he from the starting point?

A 8 km

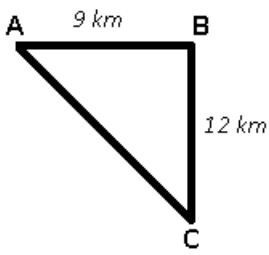
B 6 km

C 15 km

D 7.5 km

Answer: C

Explanation:



Let the man started from point A and finally reached point C.

Thus, in right angled $\triangle ABC$, $\Rightarrow (AC)^2 = (AB)^2 + (BC)^2$

$$\Rightarrow (AC)^2 = (9)^2 + (12)^2$$

$$\Rightarrow (AC)^2 = 81 + 144 = 225$$

$$\Rightarrow AC = \sqrt{225} = 15 \text{ km}$$

\Rightarrow Ans - (C)

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.

Statement: Poverty is a symptom as well as a consequence of social disorder.

Assumptions:

- I. Poverty is a type of social order
- II. Poverty is related to social order

- A only I assumption is correct
- B only assumption II is correct
- C Both assumptions I and II are correct
- D Neither assumption I nor II is correct

Answer: B

Explanation:

The statement clearly indicates that poverty is a symptom and consequence of social disorder, but it does not mean that poverty is a type of social order, thus first conclusion does not follow.

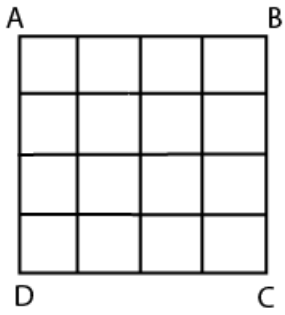
However, it does mean that poverty is related to social order.

Thus, only assumption II is correct

\Rightarrow Ans - (B)

Question 19

How many squares are there in the square figure ABCD?



- A 16
- B 17
- C 26
- D 30

Answer: D

Explanation:

$$\text{Number of squares in a } 4 \times 4 \text{ grid} = 4^2 + 3^2 + 2^2 + 1^2$$

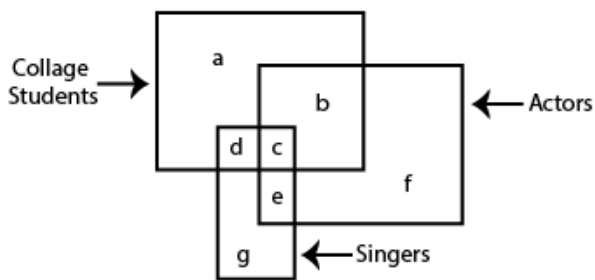
$$= 16 + 9 + 4 + 1 = 30$$

=> Ans - (D)

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Question 20

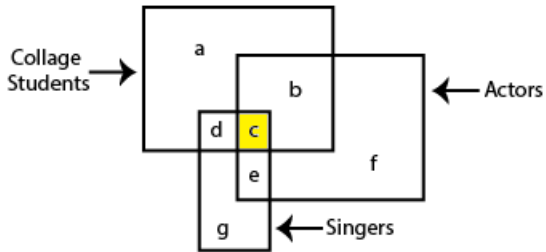
Find the part which represents those actors who are also singers and college students



- A a
- B b
- C c
- D f

Answer: C

Explanation:

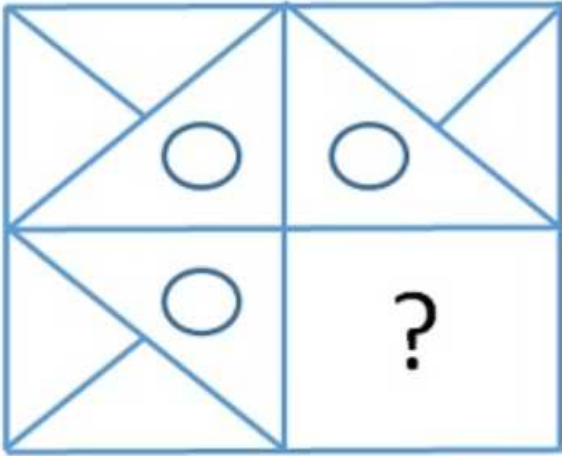


Actors who are also singers and college students = c

=> Ans - (C)

Question 21

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



A



B



C



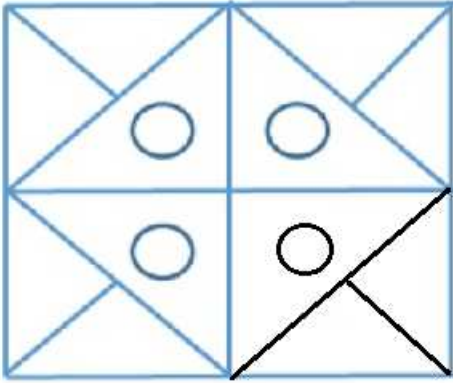
D



Answer: D

Explanation:

When we complete the above figure, we get :



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

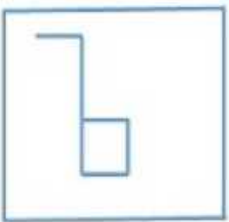
=> Ans - (D)

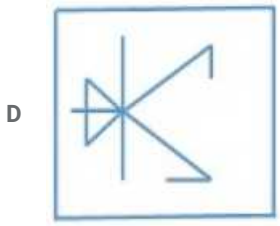
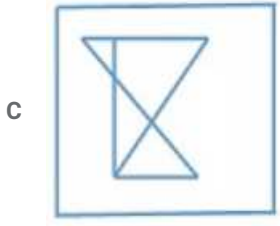
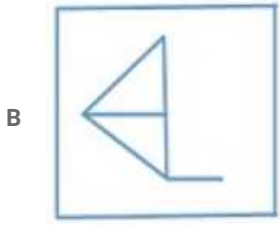
Question 22

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



A

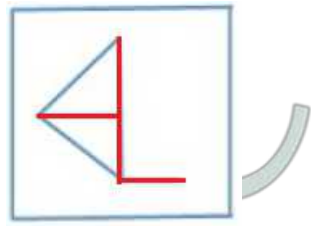




Answer: B

Explanation:

The question figure is embedded in the following figure :

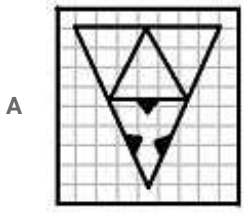
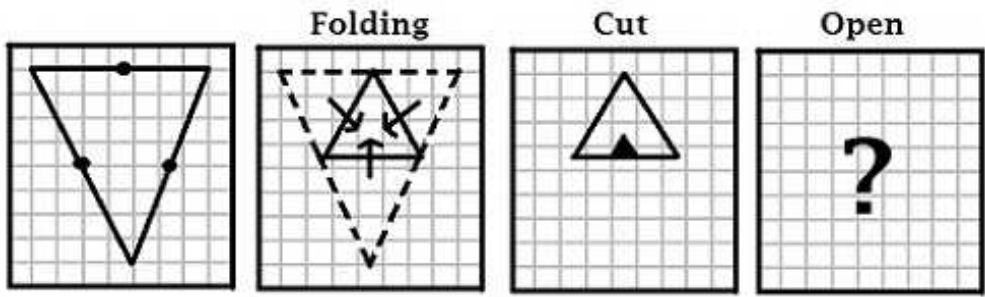


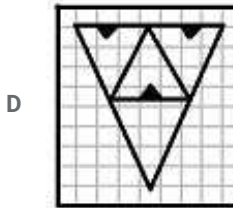
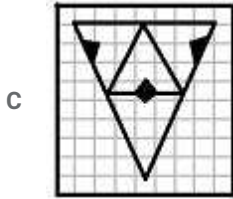
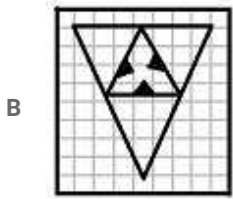
=> Ans - (B)

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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.

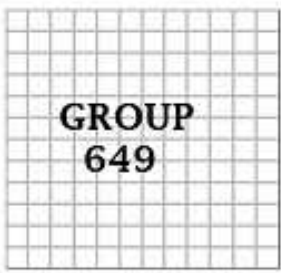


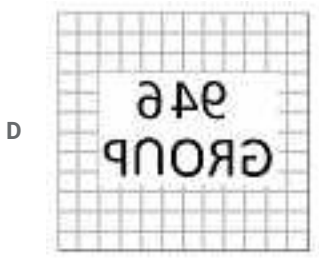


Answer: C

Question 24

Which of the answer figure is exactly the water image of the given figure?





Answer: C

Explanation:

In the water image, the objects will turn upside down (e.g - an object at top right will appear at bottom right).

This implies that 649 will be above 'GROUP', and thus first two options are eliminated.

Also, both the number and the word will be reversed upside down, but will start from left, i.e. G will be at the leftmost position, then R and so on but in upside form.

=> 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., G can be represented by 04, 40, etc., and 'K' can be represented by 56, 75, etc.

Similarly you have to identify the set for the word 'NILE'

Matrix - I

	0	1	2	3	4
0	C	D	E	F	G
1	F	G	C	D	E
2	D	E	F	G	C
3	E	F	G	C	D
4	G	C	D	E	F

Matrix - II

	5	6	7	8	9
5	H	K	L	I	N
6	I	N	H	K	L
7	K	L	I	N	H
8	L	I	N	H	K
9	N	H	K	L	I

A 56, 58, 03, 02

B 59, 77, 85, 43

C 56, 65, 03, 02

D 57, 65, 10, 02

Answer: B

Explanation:

(A) : 56, 58, 03, 02 = KIFE

(B) : 59, 77, 85, 43 = NILE

(C) : 56, 65, 03, 02 = KIFE

(D) : 57, 65, 10, 02 = LIFE

=> Ans - (B)

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General Awareness

Instructions

For the following questions answer them individually

Question 26

Trickle down theory ignores the impact of economic growth on

- A Investment
- B Savings
- C Income distribution
- D Consumption

Answer: C

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Question 27

The Comptroller and Auditor General of India does not audit the receipts and expenditure of

- A Central Government
- B Local Bodies
- C State Government
- D Government Companies

Answer: B

Question 28

In which year did the Kakori conspiracy case take place?

- A 1925
- B 1924
- C 1926
- D 1927

Answer: A

Question 29

The Taj Mahal is called 'a dream in marble'. Which monument is called as 'a dream in stone'?

- A The Rang Mahal
- B The Panch Mahal
- C The Red Fort

D The Bahai temple

Answer: B

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Question 30

Sex-ratio in India is measured as

- A Number of males per thousand females
- B Number of females per thousand males
- C Number of males per hundred females
- D Number of females per hundred males

Answer: B

Question 31

Companion cells are unique to

- A Bryophytes
- B Pteridophytes
- C Angiosperms
- D Gymnosperms

Answer: C

Question 32

Which one of the following is an insulator?

- A Copper
- B Wood
- C Mercury
- D Aluminium

Answer: B

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Question 33

Bubbles of air rise up through liquids due to:

- A Surface tension and adherence
- B viscosity and buoyancy.
- C air current over the liquid and buoyancy
- D Up thrust and surface tension.

Answer: B

Question 34

Zeolite is

- A hydrated ferric oxide
- B hydrated sodium aluminium silicate
- C sodium hexameta phosphate
- D sodium tetra borate

Answer: B

Question 35

The boiling point of liquids vary as

- A pressure varies
- B temperature varies
- C volume varies
- D density varies

Answer: A

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Question 36

The largest source of pollution in the world is

- A herbicides and insecticides
- B Automobile exhausts
- C Sewage and garbage
- D Industrial effluents

Answer: C

Question 37

Among the following states, the literacy rate is highest in

- A Orissa
- B Punjab
- C Maharashtra
- D Mizoram

Answer: D

Question 38

The minimum number of members that must be present to hold the meeting of the Lok Sabha is

- A One-fourth of the total membership
- B One-tenth of the total membership
- C Fifty percent strength of the Lok Sabha
- D At least hundred members

Answer: B

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Question 39

India's population growth is characterized by

- A An increase in rate of death
- B An increase in the ratio of females
- C An increase in the birth rate and declining death rate
- D Increasing number of old people

Answer: C

Question 40

What will you call a system of taxation under which the poorer sections are taxed at higher rates than the richer sections?

- A Progressive tax
- B Proportional tax
- C Regressive tax
- D Degressive tax

Answer: C

Question 41

The most important function of an interest group is to

- A form the government
- B alter government policies to its liking
- C build up public opinion
- D Contest elections

Answer: B

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Question 42

Which among the following is not correctly paired?

- A Shivaji-Afzal Khan
- B Nurjahan-Mahabat Khan
- C Akbar-Rana Pratap
- D Babar-Bairam Khan

Answer: D

Question 43

Which of the following deserts is rich in gold reserves?

- A Arabian
- B Thar
- C Mongolian
- D Atacama

Answer: D

Question 44

Lacrymal glands are situated in the

- A Palms
- B Buccal cavity
- C Eye orbit
- D Stomach

Answer: C

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Question 45

The most extensive use of molasses after fermentation is for producing

- A Methanol
- B Sugar
- C Ethanol
- D Sugarcane

Answer: C

Explanation:

The most extensive use of molasses after fermentation is for producing Ethanol.

Question 46

Acid rain is caused due to pollution of atmosphere by

- A oxides of nitrogen and sulphur
- B oxides of nitrogen and phosphorous
- C oxides of carbon and nitrogen
- D oxides of nitrogen and methane

Answer: A

Question 47

The dispute over Siachin Glacier is between

- A India and China
- B India and Afghanistan
- C India and Pakistan
- D India and Nepal

Answer: C

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Question 48

Who wrote the famous line: 'A thing of beauty is a joy forever'

- A John Keats
- B V.S. Naipaul
- C Sir Richard Burton
- D Larry Collins

Answer: A

Question 49

Who was the first lady Governor of an Indian State?

- A Mrs. Sucheta Kripalani
- B Miss Padmaja Naidu
- C Mrs Tarkeswari Sinha
- D Mrs. Sarojini Naidu

Answer: D

Explanation:

Sarojini Naidu was the first female governor for the state Uttar Pradesh. She is the governor of the state from 15 August 1947 to 2 March 1949.

Question 50

Which of the following is an application protocol?

- A HTTP
- B TCP
- C IP
- D UDP

Answer: A

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Mathematics

Instructions

For the following questions answer them individually

Question 51

A clock gains 15 minutes per day. If it is set right at 12 noon, the time it shows at 4 AM is

- A 4.20 AM
- B 4.30 AM
- C 4.02 AM
- D 4.10 AM

Answer: D

Explanation:

A clock gains 15 minutes per day.

From 12 noon to 4 a.m., time difference = 16 hours

$\therefore 24 \text{ hours} \equiv 15 \text{ minutes}$

$\Rightarrow 16 \text{ hours} \equiv \frac{15}{24} \times 16 = 10 \text{ minutes}$

\therefore Time shown in watch = 4:10 a.m.

\Rightarrow Ans - (D)

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Question 52

A home theatre set is Rs. 4950. If two successive discounts of 20% and 15% are given, then its selling price is

- A Rs.3366
- B Rs.6633
- C Rs.3636
- D Rs.6363

Answer: A

Explanation:

Marked price = Rs. 4950

After first discount of 20%, price = $4950 - (4950 \times \frac{20}{100})$

= $4950 - 990 = \text{Rs. } 3960$

After second discount of 15%, price = $3960 - (3960 \times \frac{15}{100})$

= $3960 - 594 = \text{Rs. } 3366$

=> Ans - (A)

Question 53

If 15% of x is three times of 10% of y, then x:y =

A 1:2

B 2:1

C 3:2

D 2:3

Answer: B

Explanation:

Expression : 15% of x is three times of 10% of y

$$\Rightarrow \frac{15}{100} \times x = 3 \times \frac{10}{100} \times y$$

$$\Rightarrow 15x = 30y$$

$$\Rightarrow \frac{x}{y} = \frac{30}{15} = \frac{2}{1}$$

∴ Required ratio = 2 : 1

=> Ans - (B)

Question 54

A bookseller bought 500 text books for ₹ 20,000. He wanted to sell them at a profit so that he get 50 books free. At what profit percent should he sell them?

A 10

B 20

C 15

D 10.5

Answer: A

Explanation:

Cost price of 500 text books = Rs. 20,000

$$\Rightarrow \text{Cost price of 50 books} = \frac{20,000}{500} \times 50 = \text{Rs. } 2,000$$

To get 50 books free,

$$\Rightarrow \text{Selling price of 500 books} = \text{Rs. } (20,000 + 2,000) = \text{Rs. } 22,000$$

$$\therefore \text{Profit \%} = \frac{22,000 - 20,000}{20,000} \times 100$$

$$= \frac{2000}{20000} = 10\%$$

=> Ans - (A)

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Question 55

20% of a man's salary is paid as rent, 60% are his living expenses and 10% are his savings. If he spends remaining ₹ 30 on the education of his children, find his salary

- A 300
- B 900
- C 3000
- D 9000

Answer: A

Explanation:

Let total salary of the man = Rs. $100x$

% salary paid in rent, expenses and savings = $20+60+10 = 90\%$

% salary spent on education = $100-90 = 10\%$

Thus, amount spent on education = $\frac{10}{100} \times 100x = 30$

$\Rightarrow 10x = 30$

$\Rightarrow x = \frac{30}{10} = 3$

\therefore Man's salary = $100 \times 3 = \text{Rs. } 300$

\Rightarrow Ans - (A)

Question 56

A gun is fired at a distance of 6.64 km away from Ram. He hears the sound 20 seconds later. Then the speed of sound is

- A 664 m/s
- B 664 km/s
- C 332 m/s
- D 332 km/s

Answer: C

Explanation:

Distance of gun from Ram = 6.64 km = 6640 m

Time = 20 seconds

\Rightarrow Speed of sound = distance/time

$= \frac{6640}{20} = 332 \text{ m/s}$

\Rightarrow Ans - (C)

Question 57

The simple interest on Rs. 2000 for 2 years at 7.5% per annum will be

- A Rs.150
- B Rs.300

C Rs.600

D Rs.400

Answer: B

Explanation:

Principal sum = P = Rs. 2000

Rate of interest = 7.5% and time period = 2 years

$$\text{Simple interest} = \frac{P \times r \times t}{100}$$

$$= \frac{2000 \times 7.5 \times 2}{100}$$

$$= 20 \times 15 = \text{Rs. } 300$$

=> Ans - (B)

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Question 58

If $x = 1 + \sqrt{2} + \sqrt{3}$, then the value of $x^2 - 2x - 4$ is

A $\sqrt{6}$

B $2\sqrt{3}$

C $3\sqrt{2}$

D $2\sqrt{6}$

Answer: D

Explanation:

$$\text{Given : } x = 1 + \sqrt{2} + \sqrt{3}$$

$$\Rightarrow x - 1 = \sqrt{2} + \sqrt{3}$$

Squaring both sides,

$$\Rightarrow (x - 1)^2 = (\sqrt{2} + \sqrt{3})^2$$

$$\Rightarrow x^2 + 1 - 2x = 2 + 3 + 2\sqrt{6}$$

$$\Rightarrow x^2 - 2x + 1 - 5 = 2\sqrt{6}$$

$$\Rightarrow x^2 - 2x - 4 = 2\sqrt{6}$$

=> Ans - (D)

Question 59

If, $\frac{(a+b)^2}{\sqrt{ab}} = 1$, then the value of (a-b) is

A 1

B 0

C -1

D 2

Answer: B

Explanation:

$$\text{Given : } \sqrt{ab} = 1$$

$$\Rightarrow a + b = 2\sqrt{ab}$$

$$\Rightarrow a + b - 2\sqrt{ab} = 0$$

$$\Rightarrow (\sqrt{a})^2 + (\sqrt{b})^2 - 2(\sqrt{a})(\sqrt{b}) = 0$$

$$\Rightarrow (\sqrt{a} - \sqrt{b})^2 = 0$$

$$\Rightarrow \sqrt{a} - \sqrt{b} = 0$$

$$\Rightarrow \sqrt{a} = \sqrt{b}$$

Squaring both sides, we get :

$$\Rightarrow a = b$$

$$\Rightarrow (a - b) = 0$$

\Rightarrow Ans - (B)

Question 60

If ΔABC is an equilateral triangle of side 16 cm, then the length of altitude is

A $2\sqrt{3}$ cm

B $4\sqrt{3}$ cm

C $8\sqrt{3}$ cm

D $5\sqrt{3}$ cm

Answer: C

Explanation:

Side of equilateral triangle = $a = 16$ cm

In an equilateral triangle, median and altitude coincide each other.

$$\text{Thus, median} = \text{altitude} = \frac{\sqrt{3}}{2} a$$

$$= \frac{\sqrt{3}}{2} \times 16 = 8\sqrt{3} \text{ cm}$$

\Rightarrow Ans - (C)

General Science Notes for SSC CGL

Question 61

O is the circumcentre of ΔABC . If $AO = 8$ cm, then the length of BO is

A 12 cm

B 3 cm

C 6 cm

D 8 cm

Answer: D

Explanation:

The circumcentre of a triangle is equidistant from all sides.

Thus, in a $\triangle ABC$ with circumcentre O, $AO = BO = CO$

$\Rightarrow BO = 8 \text{ cm}$

\Rightarrow Ans - (D)

Question 62

Given that $\tan(\theta + 15^\circ) = \sqrt{3}$. Then the value of θ is?

A 15°

B 75°

C 45°

D 65°

Answer: C

Explanation:

Given : $\tan(\theta + 15^\circ) = \sqrt{3}$

$\Rightarrow \tan(\theta + 15^\circ) = \tan(60^\circ)$

$\Rightarrow \theta + 15^\circ = 60^\circ$

$\Rightarrow \theta = 60 - 15 = 45^\circ$

\Rightarrow Ans - (C)

Question 63

The least number of square tiles of side 41 cms required to pave the ceiling of a room of size 15m 17cm long and 9m 2 cm broad is:

A 902

B 656

C 738

D 814

Answer: D

Explanation:

Length of ceiling = 15m 17 cm = 1517 cm and breadth = 902 cm

Side of square tile = 41 cm

Thus, required number of tiles = $\frac{1517 \times 902}{41^2}$

= $37 \times 22 = 814$

\Rightarrow Ans - (D)

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Question 64

The average of fruits offered in a temple in a week was 75. The average of fruits offered in six days excluding Tuesday was 72. How many fruits were offered on Tuesday?

A 90

B 93

C 72

D 92

Answer: B

Explanation:

Average of fruits offered in a temple in a week = 75

$$\Rightarrow \text{Total fruits offered} = 75 \times 7 = 525$$

$$\text{Similarly, total fruits offered in six days excluding Tuesday} = 72 \times 6 = 432$$

$$\therefore \text{Number of fruits offered on Tuesday} = 525 - 432 = 93$$

\Rightarrow Ans - (B)

Question 65

If $a = x^{\frac{1}{3}}y^{\frac{1}{3}} + x^{-\frac{1}{3}}y^{-\frac{1}{3}}$, then $a^3 - 3ay - x$ is

A $\frac{y^2}{x}$

B $\frac{x^2}{y}$

C $\frac{a^2}{x}$

D $\frac{a^2}{y}$

Answer: A

Question 66

If $x + \frac{1}{x} = 5$, then the value of $\frac{6x}{x^2+x+1}$ is

A 1

B 2

C 3

D 4

Answer: A

Explanation:

$$\text{Given : } x + \frac{1}{x} = 5$$

$$\Rightarrow \frac{x^2+1}{x} = 5$$

$$\Rightarrow x^2 + 1 = 5x \text{ -----(i)}$$

To find : $\frac{6x}{x^2+x+1}$

$$= \frac{6x}{5x+x} \quad [\text{Using (i)}]$$

$$= \frac{6x}{6x} = 1$$

\Rightarrow Ans - (A)

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Question 67

If $a > b > 0$, $AB = a - b$ cm, $BC = 2\sqrt{ab}$ cm, then $\angle ABC$ is

- A 45°
- B 60°
- C 90°
- D 120°

Answer: C

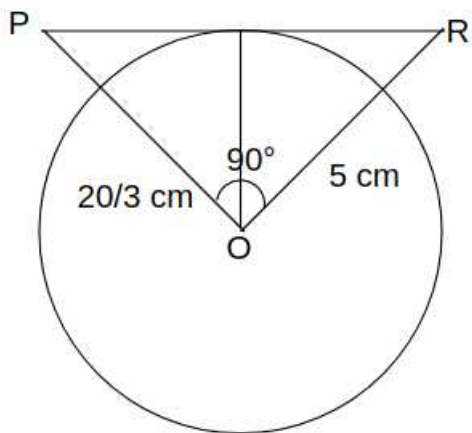
Question 68

PR is a tangent to a circle with centre O and radius 4 cm at point Q. If $\angle POR = 90^\circ$, $OR = 5$ cm and $OP = \frac{20}{3}$ cm, then the length of PR is:

- A 3 cm
- B $\frac{16}{3}$ cm
- C $\frac{23}{3}$ cm
- D $\frac{25}{3}$ cm

Answer: D

Explanation:



Given : $\angle POR = 90^\circ$, $OR = 5$ cm and $OP = \frac{20}{3}$ cm

To find : $PR = ?$

In $\triangle POR$, PR is the tangent,

$$\Rightarrow (PR)^2 = (OR)^2 + (OP)^2$$

$$\Rightarrow (PR)^2 = (5)^2 + \left(\frac{20}{3}\right)^2$$

$$\Rightarrow (PR)^2 = 25 + \frac{400}{9}$$

$$\Rightarrow (PR)^2 = \frac{225+400}{9} = \frac{625}{9}$$

$$\Rightarrow PR = \sqrt{\frac{625}{9}} = \frac{25}{3} \text{ cm}$$

\Rightarrow Ans - (D)

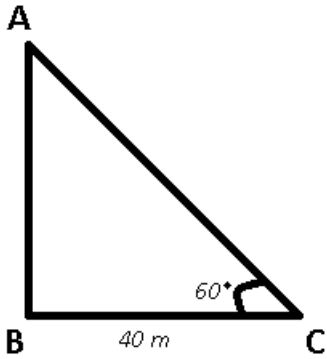
Question 69

From a point, 40 m apart from the foot of a tower, the angle of elevation of its top is 60° . The height of the tower is

- A $40/\sqrt{3}$ m
- B $40/\sqrt{2}$ m
- C $40\sqrt{3}$ m
- D $40\sqrt{2}$ m

Answer: C

Explanation:



AB is the tower = $h = ?$

In $\triangle ABC$,

$$\Rightarrow \tan(60^\circ) = \frac{AB}{BC}$$

$$\Rightarrow \sqrt{3} = \frac{h}{40}$$

$$\Rightarrow h = 40\sqrt{3} \text{ m}$$

\Rightarrow Ans - (C)

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Question 70

The radius of a sphere and hemisphere are same. The ratio of their total surface area is

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

Answer: D

Explanation:

Let the radius of sphere and hemisphere be r cm

Thus, ratio of their total surface area is

$$= \frac{4\pi r^2}{3\pi r^2}$$

$$= \frac{4}{3}$$

∴ The ratio of their total surface area = 4 : 3

⇒ Ans - (D)

Question 71

Two equal arcs of two circles subtend angle of 60° and 75° at the centre. The ratio of the radii of the two circles is

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

Answer: A

Explanation:

Let the radii of the two circles be r_1 and r_2 cm

Length of arcs of both circles are equal = $\frac{\theta}{360} \times 2\pi r$

$$\Rightarrow \frac{60}{360} \times 2\pi r_1 = \frac{75}{360} \times 2\pi r_2$$

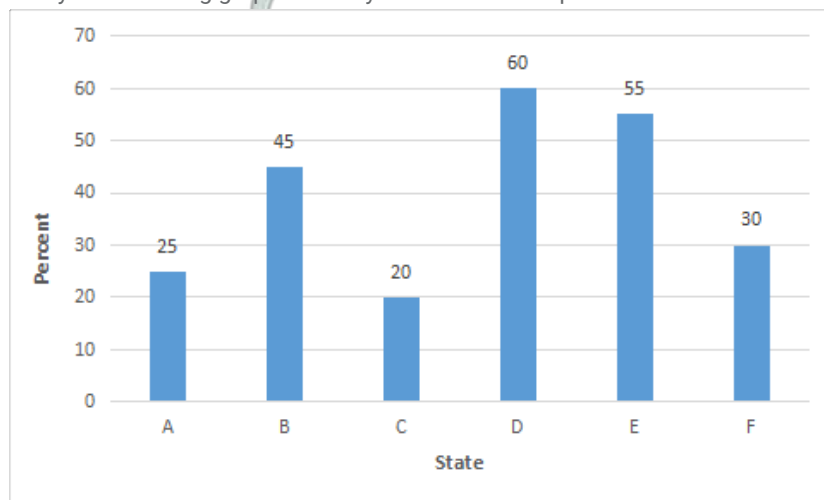
$$\Rightarrow 60r_1 = 75r_2$$

$$\Rightarrow \frac{r_1}{r_2} = \frac{75}{60} = \frac{5}{4}$$

⇒ Ans - (A)

Instructions

Study the following graph carefully and answer the questions:



Question 72

Which state has the maximum percentage of electrified villages? (The graph shows the percent of villages which are not electrified).

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

Answer: B

Explanation:

From the graph,

We can clearly observe that State C has least percentage of villages which are not electrified.

Hence, State C has the maximum percentage of electrified villages.

=> Ans - (B)

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Question 73

If the Central Government desires to give aid for speedy electrification starting from states with least electrification, which state will get fourth rank in order of priority? (The graph shows the percent of villages which are not electrified).

A F

B C

C E

D B

Answer: A

Explanation:

From the graph,

State	Percentage of not electrified villages (X)	Percentage of electrified villages (100 - X)
A	25	100 - 25 = 75
B	45	100 - 45 = 55
C	20	100 - 20 = 80
D	60	100 - 60 = 40
E	55	100 - 55 = 45
F	30	100 - 30 = 70

State with least electrification = Maximum percentage villages which are not electrified.

We can clearly determine the states in order of priority of least electrification = D, E, B, F, A, C.

∴ The state F will get fourth rank in order of priority.

=> Ans - (A)

Question 74

How many States have at least 60% or more electrified villages? (The graph shows the percent of villages which are not electrified).

A Five

B Three

C Four

D Two

Answer: B

Explanation:

From the graph,

State	Percentage of not electrified villages (X)	Percentage of electrified villages (100 - X)
A	25	100 - 25 = 75
B	45	100 - 45 = 55
C	20	100 - 20 = 80
D	60	100 - 60 = 40
E	55	100 - 55 = 45
F	30	100 - 30 = 70

∴ We can clearly observe that three states (A,C and F) have at least 60% or more electrified villages.

=> Ans - (B)

Question 75

Which state has twice the percentage of villages electrified in comparison to state D? (The graph shows the percent of villages which are not electrified).

A A

B E

C F

D C

Answer: D

Explanation:

From the graph,

State	Percentage of not electrified villages (X)	Percentage of electrified villages (100 - X)
A	25	100 - 25 = 75
B	45	100 - 45 = 55
C	20	100 - 20 = 80
D	60	100 - 60 = 40
E	55	100 - 55 = 45
F	30	100 - 30 = 70

∴ We can clearly observe that state C has twice the percentage of villages electrified in comparison to state D.

=> Ans - (D)

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English

Instructions

For the following questions answer them individually

Question 76

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 Conniosseur
- B Connoisseur
- C Connossieur
- D Connosseieur

Answer: B

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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.

SOOTHE

- A QUENCH
- B MITIGATE
- C HEAL
- D AGITATE

Answer: D

Question 78

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.

DEVASTATION

- A DESTRUCTION
- B CONSTRUCTION
- C SEPARATION
- D FRUSTRATION

Answer: A

Question 79

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

An exact copy

- A Facsimile
- B Twin
- C Mirror
- D Clone

Answer: A

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Question 80

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

To give money to agents for sales.

- A Salary
- B Commission
- C Fee
- D Incentive

Answer: B

Question 81

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 is working in the same institution.

- A Guide
- B Collector
- C Captain
- D Colleague

Answer: D

Question 82

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.

Cat-nap

- A Rest
- B Fitful sleep
- C Long sleep
- D Short sleep

Answer: D

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Question 83

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.

To pull a long face

- A Looked happily
- B Looked surprised
- C Looked sad
- D Looked calm

Answer: C

Question 84

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.

Fit her like a glove.

- A Too large
- B Too shabby
- C Too tight
- D Perfectly

Answer: D

Question 85

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.

Health is too important to be _____.

- A discarded
- B disposed
- C neglected
- D detested

Answer: C

Explanation:

Health is too important to be neglected means Health is so important that it cannot be neglected.

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Question 86

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.

I am this crime.

- A ignorant on
- B innocent of
- C indebted to
- D ignoring

Answer: B

Explanation:

'Innocent of' best fits the given sentence. 'I am **innocent of** this crime' means 'I am not guilty of this crime'.

Question 87

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.

I was _____ paying the toll tax.

- A free from
- B exonerated from
- C exempted from
- D exposed to

Answer: C

Instructions

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.

Question 88

I used (a)/ a pair of black trousers (b) / for a week (c)/ No error (d)

- A I used
- B a pair of black trousers
- C for a week
- D No error

Answer: A

Explanation:

I have used or I have been using is appropriate for the given sentence.

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Question 89

He has made a mistake (a)/ of which (b) / I am certain (c) / No error (d)

- A He has made a mistake
- B of which
- C I am certain
- D No error

Answer: D

Question 90

He was not allowed (a) / for the teacher (b) / to read in a low voice (c) / no error (d)

- A He was not allowed
- B for the teacher
- C to read in a low voice
- D no error

Answer: B

Explanation:

'for' is inappropriate in the given sentence grammatically. The most appropriate word is 'by'
He was not allowed **by** the teacher to read in a low voice.

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.

My mom grew up in a traditional Chinese family in which open expressions of love were never encouraged. When she had me and my three siblings, she treated us with the same hard hand. It was not that she was a slave driver or anything, but she never openly showed affection. Instead, she demonstrated that she cared in more practical ways.

My parents couldn't have been more different emotionally. My dad is a really open-hearted person who constantly showers us with hugs and kisses no matter the occasion. After much persuasion from him, my mother did try to change, but it was clear that she never felt quite right expressing her emotions. Eventually, she reverted to her old self.

The difference between my parents was never starker than whenever I brought home good test results from school. My dad would practically jump with joy, offering warm and affectionate words of congratulations, and my mother? "Ah, good, good" she would typically say with a tense smile etched on her face. "Do better next time, OK?"

I tried not to hold a grudge against her for being so reserved. That was just her way. I reasoned.

Question 91

Why did the narrator not bear a grudge against her mother?

- A She felt that her mother had that kind of nature
- B She was satisfied with her father's love
- C Her mother was incapable of loving
- D Her mother was angry with everyone

Answer: A

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Question 92

The narrator's mother reverted to her old self because

- A she fought with her husband
- B she did not feel comfortable in revealing her emotions
- C she was angry with the children
- D her husband wanted her to be her old self

Answer: B

Question 93

The narrator's mother didn't appreciate the narrator's results because

- A the marks were not good
- B the marks could be better
- C she wasn't very expressive
- D she was tense

Answer: C

Question 94

How is the narrator's dad different from her mother?

- A He is dark
- B He expresses his feelings openly
- C He dislikes children
- D He is persuasive in nature

Answer: B

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Question 95

Why was the narrator's mother not expressive of her love?

- A She was of Chinese origin
- B It was not her nature
- C She was a harsh person
- D The tradition at her home didn't allow her.

Answer: D

Instructions

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".

Question 96

Both of us had a different opinion about it.

- A Both of us has
- B Each of us had
- C Each of us have
- D No improvement

Answer: B

Question 97

The trade union is hell bent at getting its demands fulfilled

- A hell bent in
- B hell bent about
- C hell bent on
- D No improvement

Answer: C

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Question 98

The police had to break the door to get in

- A to break up
- B to break in
- C to break down
- D No improvement

Answer: C

Question 99

The plane landed and shot towards the airport

- A taxied
- B drove
- C wheeled
- D No improvement

Answer: A

Question 100

After a hard days work, I just want to go home.

- A hard day's work
- B hard days' work
- C hard day work
- D No improvement

Answer: A

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