



SSC CGL 9th March 2020 Shift-3

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General Intelligence and Reasoning

Instructions

For the following questions answer them individually

Question 1

Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the odd letter-cluster.

- A DPG
- B CIF
- C BFF
- D EYH

Answer: C

Explanation:

The first and the third letter in each cluster is First letter +3 in english alphabetical series, like

Option a = D +3 = G, i.e, DPG

Option b = C +3 = F, i.e CIF

Option c = B +3 = E, i.e BFE but instead of this we have BFF hence option c is the answer

Option d = E +3 =H, i.e EYH

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Question 2

Select the letter that can replace the question mark (?) in the following series.

C, E, H, J, M, O, R, ?

- A D
- B T
- C S
- D W

Answer: B

Explanation:

The series follows pattern as,

$C + 2 = E$

$E + 3 = H$

$H + 2 = J$

$J + 3 = M$

$M + 2 = O$

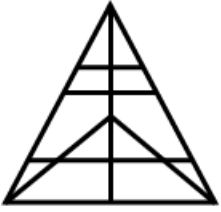
$O + 3 = R$

$R + 2 = T$

∴ The correct answer is option B.

Question 3

How many triangles are there in the given figure?



- A 22
- B 24
- C 20
- D 23

Answer: A

Question 4

If 'A' stands for 'subtraction', 'B' stands for 'multiplication', 'C' stands for 'addition', and D stands for 'division', then what is the value of the following expression?

43 C 29 B 3 A 14 B (5C4) C 11 C (14A3) A 64 D 8 B 2

- A 83
- B 27
- C 110
- D 10

Answer: D

Explanation:

43 C 29 B 3 A 14 B (5C4) C 11 C (14A3) A 64 D 8 B 2

On apply instructions,

$$43 + 29 \times 3 - 14 \times (5 + 4) + 11 + (14 - 3) - 64 \div 8 \times 2$$

On apply BODMAS,

$$= 43 + 87 - 14 \times 9 + 11 + 11 - 16$$

$$= 43 + 87 - 126 + 11 + 11 - 16$$

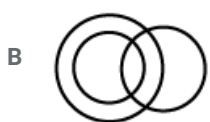
$$= 10$$

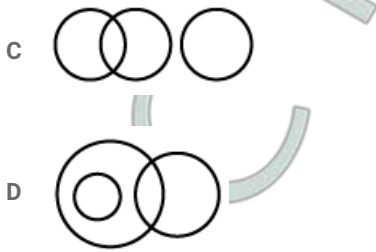
∴ The correct answer is option D.

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Question 5

Which of the following Venn diagrams best represents the relationship between the following classes?
Utensils, Spoons, Steel items





Answer: B

Question 6

Study the given pattern carefully and select the number that can replace the question mark (?) in it.

11 13 17
 33 35 39
 189 191 ?

- A 217
- B 203
- C 199
- D 195

Answer: D

Question 7

Arrange the following words in a logical and meaningful order.

1. Nose
2. Forehead
3. Chin
4. Waist
5. Chest

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

Answer: A

Explanation:

The given order can be arranged in the same way as they are placed in the human body like forehead, Nose, chin, chest and waist, so the sequence is 2, 1, 3, 5, 4

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Question 8

Select the letter-cluster that can replace the question mark (?) in the following series.

PROGRESS, QTOGRESS, QTRKRESS, ? , QTRKWKZA

- A QTRKWKTY
- B PRRKWKSS

C QTRKWKSS

D QTRKVMSS

Answer: C

Explanation:

Here in every step of the series two consecutive letter of the first word is changed, like in first part, "PR" in PROGRESS is changed in a certain way like the alphabets are changed in a sequence of +1, +2, +3, +4, +5, +6, etc.

So, after, "QTRKRESS", R and E is replaced by $R+5 = W$ and $E+6 = K$ respectively to the missing word in the series is 'QTRKWKSS'.

Question 9

Select the option in which the words share the same relationship as that shared by the given pair of words.

Arteries : Circulatory System

A Nerves : Nervous System

B Lungs: Olfactory system

C Eyes : Endocrine System

D Kidney : Respiratory System

Answer: A

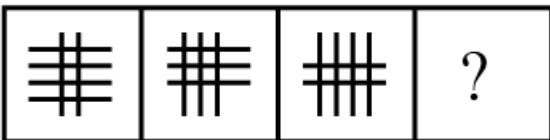
Explanation:

As arteries present in the circulatory system similarly, nerves present in the nervous system.

∴ The correct answer is option A.

Question 10

Select the figure that can replace the question mark (?) in the following series.



A



B



C



D



Answer: D

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Question 11

What day of the week was 5 February 2008?

- A Thursday
- B Monday
- C Tuesday
- D Wednesday

Answer: C

Explanation:

Odd days in year 2007 = $6 + 2 = 8$

(∵ 2004 is the leap year and odd days till 2000 is 0.)

Odd days in 5 February = odd days in January + 5 = $3 + 5 = 8$

Total odd days = $8 + 8 = 16$

Odd days = $16 = 2 \text{ weeks} + 2 \text{ odd days}$

So day of the week was Tuesday.

∴ The correct answer is option C.

Question 12

In certain code language, 'FOX' is coded as '108' and 'SOUP' is coded as '148'. How will 'UPSIDE' be coded as in that language?

- A 528
- B 590
- C 385
- D 494

Answer: A

Explanation:

For the 'FOX',

$[(27 - 6) + (27 - 15) + (27 - 24)] \times \text{number of letter}$

$= (21 + 12 + 3) \times 3$

$= 36 \times 3 = 108$

For the 'Soup',

$[(27 - 19) + (27 - 15) + (27 - 21) + (27 - 16)] \times \text{number of letter}$

$= (8 + 12 + 6 + 11) \times 4$

$= 37 \times 4 = 148$

Similarly,

For the 'UPSIDE',

$[(27 - 21) + (27 - 16) + (27 - 19) + (27 - 9) + (27 - 4) + (27 - 5)] \times \text{number of letter}$

$= (6 + 11 + 8 + 18 + 23 + 22) \times 6$

$= 88 \times 6 = 528$

∴ The correct answer is option A.

Question 13

Select the option in which the numbers are related in the same way as are the numbers in the given set.
(14, 17, 961)

- A (11, 12, 729)
- B (12, 18, 851)
- C (13, 19, 1024)
- D (15, 14, 743)

Answer: C

Explanation:

Given,

(14, 17, 961), follows the logic given below,

$$(14 + 17)^2 = 961, \text{ i.e. } 31^2 = 961,$$

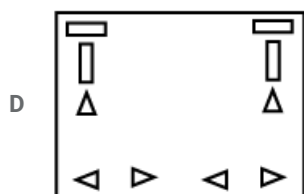
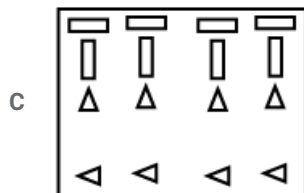
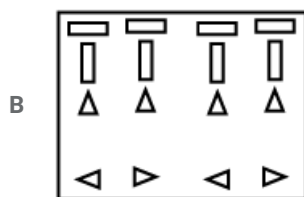
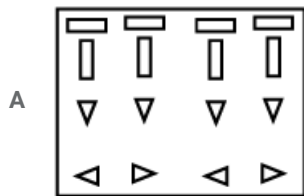
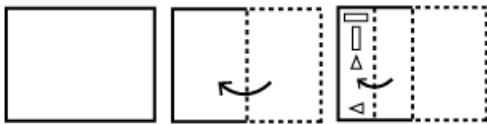
similarly this logic is only followed by option C (13, 19, 1024) i.e.,

$$(13 + 19)^2 = 1024 \text{ or } 32^2 = 1024$$

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Question 14

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



Answer: B

Question 15

'Family' is related to 'Upbringing' in the same way as 'School' is related to '_____'.


- A Children
- B Education
- C Parents
- D Curriculum

Answer: B

Explanation:

'Family' is related to 'Upbringing' in the same way as 'School' is related to 'education'.
∴ The correct answer is option B.

Question 16

Select the option that is related to the third number in the same way as the second number is related to the first number.
23 : 527 :: 19 : ?

- A 363
- B 402
- C 359
- D 325

Answer: C

Explanation:

$$23 \times (23 - 1) + (23 - 2) = 506 + 21 = 527$$

Similarly,

$$19 \times (19 - 1) + (19 - 2) = 342 + 17 = 359$$

∴ The correct answer is option C.

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Question 17

Four number-pairs have been given, out of which three are alike in some manner and one is different. Select the number-pair that is different from the rest.

- A 76 : 42
- B 44 : 16
- C 55 : 25
- D 28 : 56

Answer: D

Explanation:

Except Option D, remaining all are in decreasing order.

∴ The correct answer is option D.

Question 18

Four words have been given, out of which three are alike in some manner and one is different. Select the odd word.

- A Russia
- B Africa
- C Asia
- D Europe

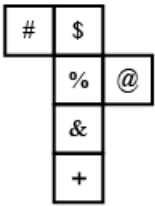
Answer: A

Explanation:

Except option A, remaining all are Continent.
 ∴ The correct answer is option A.

Question 19

A cube is made by folding the given sheet. In the cube so formed, which of the following pairs of symbols will be on opposite sides?



- A @ and %
- B \$ and +
- C & and %
- D # and @

Answer: D

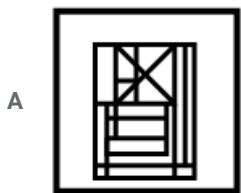
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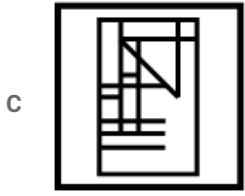
Question 20

Select the option in which the given figure X is embedded (rotation is not allowed).



Figure X





Answer: A

Question 21

Select the correct mirror image of the given alphanumeric-cluster when a mirror is placed on the right side of the cluster.

5G7NPQ4

A 4QNPB75

B 4QNPB75

C 4QNPB75

D 4QNPB75

Answer: D

Question 22

Pointing to the photograph of a girl Akanksha, Rajeev said, "Her daughter's father's wife's mother is my wife's daughter's mother's mother-in-law". How is Rajeev related to Akanksha?

A Paternal uncle

B Brother

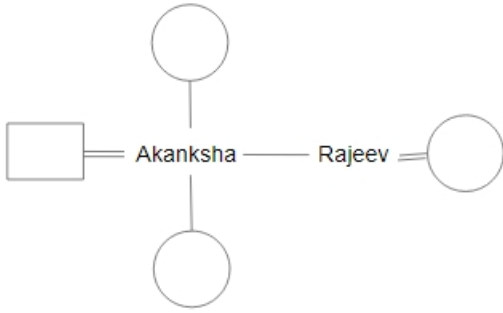
C Father

D Maternal uncle

Answer: B

Explanation:

In the diagram, square shows the males, circle shows the females, vertical lines shows generation, single horizontal lines shows brother/sister and double lines shows couple.



From the diagram,
Rajeev is the brother of Akanksha.
∴ The correct answer is option B.

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Question 23

Select the number that can replace the question mark (?) in the following series
45, 63, 101, 160, 241, ?

- A 368
- B 345
- C 305
- D 319

Answer: B

Explanation:

We can write series as,

4, 6, 10, 16, 24, ?

$4 + 2 = 6$

$6 + 4 = 10$

$10 + 6 = 16$

$16 + 8 = 24$

$24 + 10 = 34$

So Next number is 345.

∴ The correct answer is option B.

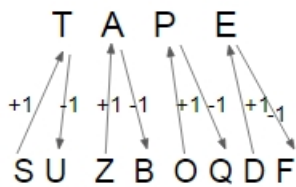
Question 24

In a certain code language, 'TAPE' is written as 'SUZBOQDF'. How will 'MOCK' be written as in that language?

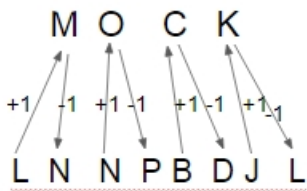
- A MOPQDELM
- B LNNPBDJL
- C LOPQBCKL
- D KNNPBEBL

Answer: B

Explanation:



Similarly,



∴ The correct answer is option B.

Question 25

Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically(s) follow from the statements.

Statements:

1. Some bottles are glasses.
2. Some glasses are bowls.

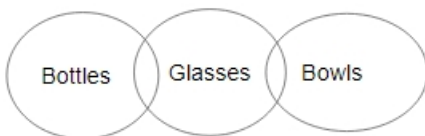
Conclusions:

- I. Some bowls are bottles.
- II. Some glasses are bottles.
- III. No bowl is a bottle.

- A All conclusions I, II and III follow.
- B Either conclusion II or III follows.
- C Only conclusions II and III follow.
- D Only conclusion II and either conclusion I or III follow.

Answer: D

Explanation:



From the Venn diagram,
Only conclusion II and either Conclusion I or III follows.

∴ The correct answer is option D.

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General Awareness

Instructions

For the following questions answer them individually

Question 26

The Kyaik Htee Yoe pagoda is located in:

- A Nepal
- B Myanmar
- C Bhutan
- D Sri Lanka

Answer: B

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Question 27

Which of the following is the only correct pair as described by Chola inscriptions?

- A Pallichchandam - land donated to Jaina institutions
- B Shalabhoga - land gifted to Brahmanas
- C Vellanvagai - land of Brahmana peasant proprietors
- D Brahmadeya - land gifted to temples

Answer: A

Question 28

Which of the following was NOT a type of sacrifice performed by kings in ancient India to establish their position?

- A Vajapeya
- B Rajasuya
- C Ashvamedha
- D Muvendavelan

Answer: D

Question 29

Which of the following monuments bears a similarity to the French war memorial, the Arc-de-Triomphe?

- A India Gate
- B Gateway of India
- C Victoria Memorial
- D Charminar

Answer: A

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Question 30

_____ was the first host country of the FIFA (Federation Internationale de Football Association) World Cup.

- A Italy
- B Uruguay
- C Brazil
- D France

Answer: B

Question 31

Which of the following is an inert gas most commonly found in light bulbs?

- A Argon
- B Hydrogen
- C Oxygen
- D Radon

Answer: A

Question 32

_____ was executed at Lahore in November 1915 for his role in the Ghadar Conspiracy in February 1915

- A Kartar Singh Sarabha
- B Tantia Mama
- C Maganbhai Patel
- D Vijay Singh Pathik

Answer: A

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Question 33

The amalgamation of Vijaya Bank and Dena Bank with Bank of Baroda (BoB) came into effect from:

- A 1 June 2019
- B 1 January 2019
- C 1 April 2019
- D 1 April 2018

Answer: C

Question 34

Which of the following books is NOT authored by RK Narayan?

- A Malgudi Days
- B The Guide

C Swami and Friends

D The Jungle Book

Answer: D

Question 35

As of January 2020, _____ has the maximum number of seats in the Rajya Sabha.

A Tamil Nadu

B Karnataka

C Uttar Pradesh

D Maharashtra

Answer: C

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Question 36

Christiaan Barnard is famous for:

A first publishing tables of logarithms

B performing the world's first human heart transplant

C delivering the world's first test-tube baby

D cloning the first mammal ever

Answer: B

Question 37

Name the state capital located 530 metres above sea level between 93 East longitude and 27 North latitude

A Dispur

B Itanagar

C Patna

D Hyderabad

Answer: B

Question 38

The first Wimbledon Championship was held in:

A 1896

B 1877

C 1884

D 1863

Answer: B

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Question 39

Kandhamal Haldi, a variety of turmeric indigenous to _____, earned the Geographical Indication (GI) tag from Intellectual Property (India) in April, 2019.

- A Odisha
- B Meghalaya
- C Assam
- D Nagaland

Answer: A

Question 40

In January 2020, China tested the world's first high-speed driverless bullet train between Beijing and:

- A Lhasa
- B Shanghai
- C Zhangjiakou
- D Haikou

Answer: C

Question 41

The Government of India launched the _____ Initiative on 16 January 2016, with the objective of supporting entrepreneurs, building a robust start-up ecosystem and transforming India into a country of job creators instead of job seekers.

- A Skill India
- B Empower India
- C Start-up India
- D Digital India

Answer: C

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Question 42

Snails belong to Phylum:

- A Echinodermata
- B Mollusca
- C Arthropoda

D Chordata

Answer: B

Question 43

Which of the following is a beach in Goa?

A Marina

B Palolem

C Varkala

D Kudle

Answer: B

Question 44

Haemophobia is the fear of:

A darkness

B heights

C Water

D Blood

Answer: D

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Question 45

The Mission Indradhanush, an initiative of Govt. of India, is associated with:

A immunisation

B highway development

C digitalisation

D cleanliness

Answer: A

Question 46

Crocodiles have a ____ chambered heart.

A two

B four

C three

D single

Answer: B

Question 47

The spice, cinnamon, is native to:

- A Bhutan
- B Afghanistan
- C Sri Lanka
- D Malaysia

Answer: C

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Question 48

_____ was appointed Chief Justice of India with effect from 18 November 2019.

- A Ranjan Gogoi
- B Dipak Misra
- C Sharad Arvind Bobde
- D Ashok Bhushan

Answer: C

Question 49

_____ was awarded the Nobel Prize in 1913 and a knighthood in 1915.

- A Sarojini Naidu
- B Mahatma Gandhi
- C Rabindranath Tagore
- D Mother Teresa

Answer: C

Question 50

Article _____ of the Constitution of India deals with provisions related to the administration and control of Scheduled Areas and Scheduled Tribes.

- A 222(1)
- B 244(1)
- C 222(2)
- D 244(2)

Answer: B

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Quantitative Aptitude

Instructions

For the following questions answer them individually

Question 51

The value of $\frac{3(1-2\sin^2 x)}{\cos^2 x - \sin^2 x}$ is:

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

Answer: B

Explanation:

$$\frac{3(1-2\sin^2 x)}{\cos^2 x - \sin^2 x}$$

$$= \frac{3(1-2\sin^2 x)}{1 - \sin^2 x - \sin^2 x}$$

$$(\because \sin^2 x + \cos^2 x = 1)$$

$$= \frac{3(1-2\sin^2 x)}{1-2\sin^2 x} = 3$$

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Question 52

The perimeter of a square plot is the same as that of a rectangular plot with sides 35 m and 15 m. The side of the square plot is:

- A 25 m
- B 20 m
- C 100 m
- D 50 m

Answer: A

Explanation:

The perimeter of a rectangular plot = $2(\text{length} + \text{breadth}) = 2(35 + 15) = 100$ m

The perimeter of a square plot = perimeter of a rectangular plot

The perimeter of a square plot = 100 m

$$100 = 4 \times \text{side}$$

$$\text{side} = 100/4 = 25 \text{ m}$$

Question 53

The value of 515×485 is:

- A 249775
- B 250225
- C 20825

D 200825

Answer: A

Explanation:

$$515 \times 485$$

$$= (500 + 15) \times (500 - 15)$$

$$= (500)^2 - (15)^2$$

$$(\because (a - b)(a + b) = a^2 - b^2)$$

$$= 250000 - 225 = 249775$$

Question 54

The following table shows the number of students enrolled in different streams in a particular college.

Science		Arts		Commerce		Vocational	
Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
32	18	28	45	42	42	13	30

The ratio of the number of girls studying Arts to the number of girls studying in all other streams is:

A 1 : 3

B 2 : 1

C 1 : 2

D 3 : 1

Answer: C

Explanation:

Number of girls studying Arts = 45

Number of girls studying in all other streams = 18 + 42 + 30 = 90

The ratio of the number of girls studying Arts to the number of girls studying in all other streams = 45 : 90 = 1 : 2

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Question 55

The compound interest on a certain sum at the end of two years is Rs.408. The simple interest on the same sum for the same time is Rs.400. The rate of interest per annum is:

A 2%

B 80%

C 40%

D 8%

Answer: A

Explanation:

Difference of interest = 408 - 400 = 8

In the 2nd year, extra interest counts on the interest of the 1st year so.

Interest = $\frac{prt}{100}$

$$8 = \frac{400 \times r \times 1}{100}$$

$r = 2\%$

Question 56

A car dealer purchased an old car for Rs.1,08,500 and spent some amount on its maintenance. He sold it for Rs.1,56,250, there by earning a profit of 25%. How much money did he spend on the maintenance of the car?

- A Rs. 16,500
- B Rs. 20,625
- C Rs. 8,687.5
- D Rs. 47,750

Answer: A

Explanation:

Total cost price of old car = 1,08,500 + maintenance money

Selling price = 1,56,250

Profit = 25%

Total cost price = $\frac{156250}{125} \times 100 = 125000$

1,08,500 + maintenance money = 125000

Maintenance money = 125000 - 108500 = Rs. 16,500

Question 57

The following table gives the frequency of vowels used in the page of a book.

Vowels	a	e	i	o	u
Frequency	75	125	80	70	75

As per the given data, which vowels occur less than 80 times?

- A a, e, i
- B a, i, o, u
- C a, o, u
- D a, e

Answer: C

Explanation:

Vowels occur less than 80 times = a, o, u

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Question 58

Eight persons can finish a work in 20 days. After 5 days they were requested to complete the work in the next 8 days. How many more persons should join the group to fulfil the requirement?

- A 23
- B 15
- C 7
- D 12

Answer: C

Explanation:

Total work = number of persons \times time = $8 \times 20 = 160$

Work done in 5 days = $8 \text{ times} \times 5 = 40$

Remaining Work = $160 - 40 = 120$

According to question,

Number of man \times time = 120

Number of man $\times 8 = 120$

Number of man = $120/8 = 15$

Number of persons should join the group = $15 - 8 = 7$

Question 59

The following table shows the income(in rupees) for a particular month, together with their source, in respect of 5 employees (A, B, C, D and E).

	A	B	C	D	E
Salary	52,000	48,500	42,000	31,000	25,000
Overtime	0	0	1,500	2,500	3,200
Arrears	5,500	4,500	4,000	3,000	1,500
Bonus	3,500	3,000	2,500	2,000	2,000
Miscellaneous income	5,000	3,000	2,000	1,500	0
Total	66,000	59,000	52,000	40,000	31,700

For employee D, the income from overtime is what percentage of his total income?

- A 5%
- B 7.5%
- C 6.25%
- D 22.5%

Answer: C

Explanation:

Total income of employee D = 40000

Income from overtime of employee D = 2500

Required percentage = $\frac{2500}{40000} \times 100 = 6.25\%$

Question 60

In a class, the average score of thirty students on a test is 69. Later on it was found that the score of one student was wrongly read as 88 instead of 58. The actual average score is:

- A 58
- B 88
- C 69
- D 68

Answer: D

Explanation:

When data read wrongly then total score of thirty students on a test = $69 \times 30 = 2070$

(Average = sum of all terms/number of terms)

Difference in data = $88 - 58 = 30$

Actual score = $2070 - 30 = 2040$

Actual average score = $2040/30 = 68$

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Question 61

PAQ is a tangent to circle with centre O, at a point A on it. AB is a chord such that $\angle BAQ = x^\circ (x < 90)$. C is a point on the major arc AB such that $\angle ACB = y^\circ$. If $\angle ABO = 32^\circ$, then the value of $x + y$ is:

- A 98
- B 112
- C 110
- D 116

Answer: D

Question 62

The smallest number which may replace * in the number 1190*6 to make the number divisible by 9 is:

- A 1
- B 9
- C 3
- D 0

Answer: A

Explanation:

By the divisibility rule, if sum of all digits of a number is divisible by 9 the number will be divisible by 9.

Number = 1190*6

Sum of the digits = $1 + 1 + 9 + 0 + * + 6 = 17 + *$

For the smallest number, we took the minimum value of the '*'.

so, value of * = 1

Sum of all digit = $17 + 1 = 18$

\therefore the value of * will be 1.

Question 63

The value of $(26 - 13 \times 2) \div 2 + 1$ is:

- A 0
- B 1
- C $\frac{26}{3}$
- D 14

Answer: B

Explanation:

$$(26 - 13 \times 2) \div 2 + 1$$

$$= (26 - 26) \div 2 + 1 = 0 + 1 = 1$$

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Question 64

The value of $\cos 10^\circ \cos 30^\circ \cos 50^\circ \cos 70^\circ \cos 90^\circ$ is:

A 3

B 0

C 5

D 1

Answer: B

Explanation:

$$\cos 10^\circ \cos 30^\circ \cos 50^\circ \cos 70^\circ \cos 90^\circ$$

$$= \cos 10^\circ \cos 30^\circ \cos 50^\circ \cos 70^\circ \times 0$$

$$(\because \cos 90^\circ = 0)$$

$$= 0$$

Question 65

A cell phone was marked at 20% above the cost price and a discount of 10% was given on its marked price. What is the profit percentage?

A 10%

B 8%

C 11%

D 9%

Answer: B

Explanation:

Let the cost price be 100.

$$\text{Marked price} = 100 \times 120/100 = 120$$

$$\text{Discount} = 10\%$$

$$\text{Selling price} = 120 \times 90/100 = 108$$

$$\text{Profit} = 108 - 100 = 8$$

$$\text{Profit percentage} = \frac{8}{100} \times 100 = 8\%$$

Question 66

The value of $(\operatorname{cosec} 30^\circ - \tan 45^\circ) \cot 60^\circ \tan 30^\circ$ is:

A $\frac{1}{3}$

B 1

C 3

D $\frac{1}{\sqrt{3}}$

Answer: A

Explanation:

$$(\operatorname{cosec} 30^\circ - \tan 45^\circ) \cot 60^\circ \tan 30^\circ$$

On put the value,

$$= (2 - 1) \frac{1}{\sqrt{3}} \times \frac{1}{\sqrt{3}}$$

$$= 1/3$$

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Question 67

If $x + 3y + 2 = 0$ then value of $x^3 + 27y^3 + 8 - 18xy$ is:

A -2

B 2

C 1

D 0

Answer: D

Explanation:

$$x + 3y + 2 = 0$$

$$x + 3y = -2$$

Taking cube both sides,

$$(x + 3y)^3 = -8$$

$$x^3 + 27y^3 + 3x \cdot 3y(x + 3y) = -8$$

$$x^3 + 27y^3 + 9xy(-2) = -8$$

$$x^3 + 27y^3 - 18xy = -8$$

$$x^3 + 27y^3 + 8 - 18xy = 0$$

Question 68

As per data shown in the following table, what is the percentage of students who got less than 50 marks?

Marks obtained	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80
No of students	5	11	18	38	39	24	15

A 74%

B 48%

C 72%

D 38%

Answer: B

Explanation:

Number of students who got less than 50 marks = $5 + 11 + 18 + 38 = 72$

Total number of students = $5 + 11 + 18 + 38 + 39 + 24 + 15 = 150$

Percentage of students who got less than 50 marks = $\frac{72}{150} \times 100 = 48\%$

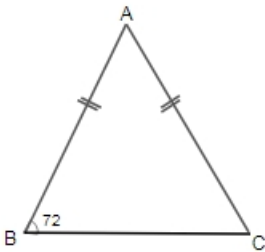
Question 69

In the triangle, if $AB = AC$ and $\angle ABC = 72^\circ$, then $\angle BAC$ is:

- A 36°
- B 30°
- C 54°
- D 18°

Answer: A

Explanation:



By triangle properties,

When $AB = AC$ then $\angle ABC = \angle ACB$ so,

In $\triangle ABC$,

$$\rightarrow \angle ABC + \angle ACB + \angle BAC = 180^\circ$$

$$\rightarrow \angle ABC + \angle ABC + \angle BAC = 180^\circ$$

$$\rightarrow 72^\circ + 72^\circ + \angle BAC = 180^\circ$$

$$\rightarrow \angle BAC = 180^\circ - 144^\circ = 36^\circ$$

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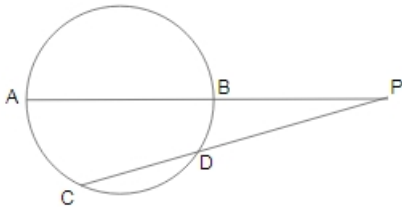
Question 70

In a circle, AB is a the diameter and CD is a chord. AB and CD produced meet at a point P , outside the circle. If $PD = 15.3$ cm, $CD = 11.9$ cm and $AP = 30.6$ cm, then the radius of the circle is is:

- A 8 cm
- B 8.5 cm
- C 9cm
- D 7.5 cm

Answer: B

Explanation:



From the property,

$$PA \times PB = PC \times PD$$

$$30.6 \times PB = (PD + CD) \times 15.3$$

$$30.6 \times PB = (15.3 + 11.9) \times 15.3$$

$$30.6 \times PB = 27.2 \times 15.3$$

$$PB = 416.16/30.6 = 13.6 \text{ cm}$$

$$\text{Diameter (AB)} = PA - PB = 30.6 - 13.6 = 17 \text{ cm}$$

$$\text{Radius} = AB/2 = 17/2 = 8.5 \text{ cm}$$

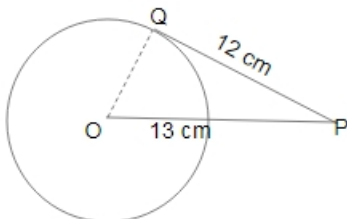
Question 71

From an external point P, a tangent PQ is drawn to a circle, with the centre O, touching the circle at Q. If the distance of P from the centre is 13 cm and length of the tangent PQ is 12 cm, then the radius of the circle is:

- A 3cm
- B 5 cm
- C 10 cm
- D 12.5 cm

Answer: B

Explanation:



$\triangle OPQ$ is a right angle triangle because $\angle Q = 90^\circ$,

By Pythagoras,

$$(OQ)^2 + (PQ)^2 = (OP)^2$$

$$(OQ)^2 = (13)^2 - (12)^2$$

$$(OQ)^2 = 169 - 144$$

$$(OQ)^2 = 25$$

$$OQ = 5$$

\therefore The radius of the circle is 5 cm.

Question 72

If $p+q=7$ and $pq=5$, then the value of p^3+q^3 is:

- A 34
- B 238

C 448

D 64

Answer: B

Explanation:

$$p^3 + q^3 = (p + q)^3 - 3pq(p + q)$$

$$= 7^3 - 3 \times 5(7)$$

$$= 343 - 105 = 238$$

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Question 73

If an amount of Rs.990 is divided among A, B and C in the ratio of 3 : 4 : 2, then B will get:

A Rs. 247.5

B Rs. 440

C Rs. 110

D Rs. 350

Answer: B

Explanation:

Ratio of the A, B and C = 3 : 4 : 2

Amount = 990

$$\text{Share of B} = \frac{4}{3 + 4 + 2} \times 990 = \frac{4}{9} \times 990 = \text{Rs.440}$$

Question 74

The price of cooking oil increased by 25%. Find by how much percentage a family must reduce its consumption in order to maintain the same budget?

A 70%

B 80%

C 30%

D 20%

Answer: D

Explanation:

By the formula,

$$\text{Decrements in the consumption in order to maintain the same budget} = \frac{\text{increment in the rate}}{100 + \text{increment in the rate}} \times 100\%$$

$$= \frac{25}{100 + 25} \times 100 = \frac{25}{125} \times 100 = 20\%$$

Question 75

The distance between two stations A and B is 575 km. A train starts from station 'A' at 3:00 p.m. and moves towards station 'B' at an average speed of 50 km/h. Another train starts from station 'B' at 3:30 p.m. and moves towards station 'A' at an average speed of 60 km/h. How far from station 'A' will the trains meet ?

A 275 km

- B 325 km
- C 300 km
- D 225 km

Answer: A

Explanation:

Distance between stations = 575 km

Speed of train A = 50 km/hr

Distance covered by train A in (30 min = 1/2 hr) = time \times speed = $50 \times 1/2 = 25$ km

Trains are running in opposite direction so,

Relative speed = $50 + 60 = 110$ km/hr

Distance covered by both train = $575 - 25 = 550$ km

Time taken by both trains to meet = $550/110 = 5$ hr

Distance covered by train A in 5 hr = $5 \times 50 = 250$ km

Distance covered by train A from station A = distance covered by train A in 30 min + distance covered by train A in 5 = $250 + 25 = 275$ km

\therefore 275 km far from station 'A' will the trains meet.

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English Comprehension

Instructions

For the following questions answer them individually

Question 76

Select the most appropriate option to fill in the blank.

The popular leader is remarkable for the way in which he _____ the qualities of a good politician and a world class thinker.

- A shows
- B portrait
- C controls
- D conditions

Answer: A

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Question 77

Select the most appropriate ANTONYM of the given word.

Humane

- A Sympathetic
- B Kind
- C Living
- D Cruel

Answer: D

Question 78

Select the word which means the same as the group of words given.

A building where grain is kept or stored

- A Greenery
- B Granary
- C Grandstand
- D Grate

Answer: B

Question 79

Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select No improvement.

Long after those five horses finish drinking water from the trough, an old horse appeared over the brow of the hill.

- A had finished
- B have finished
- C No Improvement
- D had been finishing

Answer: A

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Question 80

Select the most appropriate synonym of the given word.

Relief

- A Anger
- B Aid
- C Emotion
- D Stress

Answer: B

Question 81

Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.

- A. So, in the agrarian era, you destroy your enemy's productive capacity by burning his crops or fields.
- B. Now, in the information era, destroying the enemy's productive capacity means destroying their information infrastructure.
- C. You battle with your enemy by destroying the enemy's productive capacity, which will be different depending upon the foundation of economy.
- D. But in the industrial era, ending productive capacity meant bombing of the factories that are located in cities and main industrial areas.

- A ACBD
- B ACDB
- C BDAC
- D CADB

Answer: D

Instructions

In the following passage, some words have been deleted. Select the most appropriate option to fill each blank.

When you enter a restaurant, you take your (1)_____ and you are served a glass of water. You take your (2)_____ to decide what you should order. When a (3)_____ appears, you ask him the routine question, "(4)_____ do you have?" The waiter will begin to recite (5)_____ day's menus, generally with nothing new in it, but you like to hear it all over again.

Question 82

Select the most appropriate option for the blank numbered 1.

- A seat
- B stage
- C counter
- D plate

Answer: A

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Question 83

Select the most appropriate option for the blank numbered 2.

- A place
- B wallet
- C pen
- D time

Answer: D

Question 84

Select the most appropriate option for the blank numbered 3.

- A cleaner
- B waiter
- C manager
- D friend

Answer: B

Question 85

Select the most appropriate option for the blank numbered 4.

- A When
- B What
- C How
- D Why

Answer: B

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Question 86

Select the most appropriate option for the blank numbered 5.

- A a
- B the
- C an
- D this

Answer: B

Instructions

For the following questions answer them individually

Question 87

Select the most appropriate meaning of the following idiom.

To take a back seat

- A To become less important or to give up control over things
- B To lecture or criticise the person who is actually in control of something
- C To be less successful in one's efforts
- D To go through a short but unpleasant period of time

Answer: A

Question 88

Select the most appropriate ANTONYM of the given word.

Extol

- A Realistic
- B Censure
- C Exposure
- D Boorish

Answer: B

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Question 89

Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.

- A. They were all very bright and eager to learn, and the sage was proud of them.
- B. One day he realized that he had imparted sufficient knowledge to his disciples.
- C. Once upon a time, a great sage had a group of obedient disciples.
- D. There was only one thing that he had not taught them - a special mantra that could bring the dead back to life.

- A DBAC
- B ADBC
- C CABD
- D ACBD

Answer: C

Question 90

Select the most appropriate meaning of the following idiom.
To bark up the wrong tree

- A To do something that will not get the result you want
- B To sound or appear ferocious but not actually so
- C To cover oneself with the outer covering of a wrong tree
- D To make a sound like that of a dog

Answer: A

Question 91

Select the correct passive form of the given sentence.
Conduct all the exams in a fair and proper manner.

- A Let all the exams be conducted in a fair and proper manner.
- B Let all exams should be conducted in fair and proper manner.
- C All the exams are conducted in a fair and proper manner.
- D The exams were all conducted in a fair and proper manner.

Answer: A

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Question 92

In the sentence identify the segment which contains the grammatical error.
The big ship sank and everyone abroad drowned.

- A sank

- B and everyone
- C The big ship
- D abroad drowned

Answer: D

Question 93

Select the most appropriate synonym of the given word.

Inclement

- A Pleasant
- B Dignified
- C Wonderful
- D Stormy

Answer: D

Explanation:

The word inclement means '(of the weather) unpleasantly cold or wet' so the synonym is stormy.

Question 94

Select the word which means the same as the group of words given.

Working very hard and very carefully

- A Dilatory
- B Indulgent
- C Diligent
- D Indigent

Answer: C

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Question 95

Select the correct indirect form of the given sentence.

Johnny's mother said, "Johnny, run down to the grocer's and get a loaf of French bread and a pound of cheddar cheese."

- A Johnny's mother asked him to run down to the grocer's and get a loaf of French bread and a pound of cheddar cheese
- B Johnny's mother pleaded with John to run down to the grocer's and get her a loaf of French bread and a pound of cheddar cheese
- C Johnny commanded his mother to go down to the grocer and buy a loaf of French bread and a pound of cheddar cheese
- D Johnny asked his mother to run down to the grocer's and get a loaf of French bread and a pound of cheddar cheese.

Answer: A

Question 96

Select the most appropriate option to fill in the blank.

Today's graduates should _____ their skills constantly to be able to excel in their career and life.

- A encourage
- B upgrade
- C dilute
- D active

Answer: B

Explanation:

The most appropriate word that fits grammatically and contextually is 'upgrade'.

Question 97

Select the most appropriate option to substitute the underlined segment in the given sentence.

You must go to the book fair if you are liking it or not.

- A if you like it
- B although you are liking it
- C whether you have liked
- D whether you like it

Answer: D

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Question 98

In the sentence identify the segment which contains the grammatical error.

It's raining heavily, so you should take an umbrella, but you will get wet.

- A It's raining heavily
- B should take an umbrella
- C but you will get wet
- D so you

Answer: C

Question 99

Select the INCORRECTLY spelt word.

- A Fasineting
- B Professional
- C Grammatical
- D Occurrence

Answer: A

Question 100

Select the INCORRECTLY spelt word.

- A Presence
- B Absence
- C Definite
- D Labarotary

Answer: D

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