Exampapers247

SSC CHSL 15 Jan 2017 Morning Shift

General Awareness

Instructions
For the following questions answer them individually

Question 1

What is the mascot of Linux Operating System?

A Bear

B Penguin

C Lion

D Whale

Answer: B

Question 2

Dynamite was invented by?

A Jean-Antoine Nollet

B Alfred Nobel

C Joseph Nicephore Niepce

D Ted Nelson

Answer: B

Question 3

The instrument used to measure Blood Pressure is

A Sphygmomano-meter

B Thermometer

C ECG

D Stethoscope

Answer: A

Question 4

Which of the following induces nitrogen fixation in soil?

A Protozoa

B Bacteria

C Fungi

D Algae

Answer: B

Question 5

Which of the following is the largest known cell?

A Eukaryotic Cell

B Prokaryotic Cell

C Mycoplasma

D Ostrich Eggs

Answer: D

Question 6

The lowest layer of atmosphere is called .....

A Stratosphere

B Troposphere

C Genosphere

D Exosphere

Answer: B

Question 7

Which among the following is used to generate light, to weld metals?

A Ethylene

B Acetylene

C Glycol

D Oxalic acid

Answer: B

Question 8

Who built Hawa Mahal?

A Guru Ramdas

B Maharaja Pratap Singh

C Rabindra Nath Tagore

D British Govt

Answer: B

Question 9

Dandiya is a popular dance form of.....

A Punjab

B Gujarat

C Maharashtra

D Madhya Pradesh

Answer: B

Question 10

If quantity of good X demanded increases from 2300 to 2700 when price of good Y increases from Rs. 45 to Rs. 55, find Arc Cross elasticity of demand?

A 4

B 1.25

C 0.25

D 0.8

Answer: D

Question 11

Which of the following is not an assumption of perfect competition?

A There are many buyers and sellers

B Average total costs continually decrease.

C The good sold by all sellers in the market is assumed to be homogeneous.

D Buyers and sellers in the market are assumed to have perfect information.

Answer: B

Question 12

The association of animals in which both the partners are benefitted is known as

A Ammansalism

B Commensalism

C Colony

D Mutualism

Answer: D

Question 13

Keoladeo Ghana National Park in Rajasthan was formerly called as

A Salim Ali Bird Sanctuary

B Khijadia Bird Sanctuary

C Bharatpur Bird Sanctuary

D Mayani Bird Sanctuary

Answer: C

Question 14

Mona Lisa is painted on

A Stone

B Wood

C Paper

D Metal sheet

Answer: B

Question 15

What is the study of Moon called?

A Selenology

B Cosmology

C Iridology

D Planetology

Answer: A

Question 16

Which is the largest and deepest ocean?

A Arctic

B Pacific

C Atlantic

D Indian

Answer: B

Question 17

Chanakya was known as .....

A Rajasekhara

B Tejasvi

C Kautilya

D Vatsyayana

Answer: C

Question 18

Jawaharlal Nehru was born in the year

A 1789

B 1839

C 1889

D 1939

Answer: C

Question 19

What is the venue of 2020 Summer Olympics?

A Tokyo

B Seoul

C Dubai

D Singapore

Answer: A

Question 20

For what is Radiocarbon dating technique used?

A To estimate soil contamination

B To estimate the amount of water in fossils

C To estimate the age of fossils

D To estimate the quality of soil

Answer: C

Question 21

The strain produced in a body is directly proportional to the stress applied on it, is called .....

A Dollar's law

B Hooke's law

C Miller's law

D Kepler's law

Answer: B

Question 22

Which article specifies Imposition of President's Rule in States?

A Article 356

B Article 343

C Article 51A

D Article 80

Answer: A

Question 23

Who among the following is also the Chairman of the Planning Commission?

A Defence Minister

B Attorney General

C Prime Minister

D Finance Minister

Answer: C

Question 24

The first woman Chess Grandmaster from India is

A S. Vijayalakshmi

B Tania Sachdev

C Harika Dronavalli

D Richa Pujari

Answer: A

Question 25

Who wrote "Romeo & Juliet"?

A Jane Austen

B Mark Twain

C Toni Morrison

D William Shakespeare

Answer: D

Mathematics

Instructions
For the following questions answer them individually

Question 26

Two numbers are 50% and 90% lesser than a third number. By how much percent is the second number to be enhanced to make it equal to the first number?

A 80 percent

B 40 percent

C 44.44 percent

D 400 percent

Answer: D

Explanation:
Let third number = $100x$

First number is 50% less than $100x$ and second number is 90% less than $100x$

=> First number = $50x$ and Second number = $10x$

To make second number equal to first number, it should be enhanced by = $50x - 10x = 40x$

=> Required % = $\frac{40x}{10x} \times 100 = 4 \times 100 = 400\%$

=> Ans - (D)

Question 27

Reduce 2714/5074 to lowest terms.

A 17/23

B 29/43

C 23/43

D 31/37

Answer: C

Explanation:
Expression : $\frac{2714}{5074}$

Dividing both numerator and denominator by 2, we get = $\frac{1357}{2537}$

Similarly, dividing by 59, we get :

= $\frac{23}{43}$

=> Ans - (C)

Question 28

What is the value of cosec 120°

A 2/√3

B 2

C -2/√3

D -2

Answer: A

Explanation:
Expression : cosec 120°

= $cosec(180 - 60)$

= $cosec(60)$

= $\frac{2}{\sqrt{3}}$

=> Ans - (A)

Question 29

Volume of a cylinder is 770 cubic cm. If circumference of its base is 22 cm, what will be the curved surface area of the cylinder? (Take π = 22/7)

A 440 sq cms

B 880 sq cms

C 220 sq cms

D 660 sq cms

Answer: A

Explanation:
Let radius of base of cylinder = r cm and height = h cm

Circumference of base = $2\pi r = 22$

=> $2 \times \frac{22}{7} \times r = 22$

=> $r = \frac{7}{2} = 3.5$ cm

Volume of cylinder = $\pi r^2 h = 770$

=> $\frac{22}{7} \times (3.5)^2 \times h = 770$

=> $38.5 \times h = 770$

=> $h = \frac{770}{38.5} = 20$ cm

Curved surface area of cylinder = $2\pi rh$

=> $22 \times 20 = 440\ cm^2$

=> Ans - (A)

Question 30

What will be the sum of the measures all the interior angles of a polygon having 14 sides?

A 2520°

B 2160°

C 2880°

D 3240°

Answer: B

Explanation:
Sum of all interior angles of a polygon having n sides = $(n-2) \times 180°$

Number of sides of polygon, $n = 14$

=> Sum of interior angles = $(14-2) \times 180°$

= $12 \times 180 = 2160°$

=> Ans - (B)

Question 31

A thief is stopped by a policeman from a distance of 350 metres. When the policeman starts the chase, the thief also starts running. Assuming the speed of the thief as 5 km/h and that of the policeman as 7 km/h, how far the thief would have run, before he is over-taken?

A 875 metres

B 700 metres

C 1050 metres

D 525 metres

Answer: A

Explanation:
Since the thief is escaping from the police man, thus they both are running in same direction.

Speed of thief = 5 km/hr and speed of policeman = 7 km/hr

=> Relative speed = 7 - 5 = 2 km/hr

Distance between them = 350 metres = 0.35 km

=> Time taken = $\frac{distance}{speed}$

= $\frac{0.35}{2} = \frac{7}{40}$ hr

$\therefore$ Distance covered by thief before he was caught = $5 \times \frac{7}{40}$

= 0.875 km = 875 metres

=> Ans - (A)

Question 32

A does 75% of a work in 25 days. He then calls in B and they together finish the remaining work in 5 days. How long B alone would take to do the whole work?

A 50 days

B 80 days

C 24 days

D 37.5 days

Answer: A

Explanation:
Let total work to be done = 100 units

Work done by A in 25 days = $\frac{75}{100} \times 100 = 75$ units

A's efficiency = $\frac{75}{25} = 3$ units/day

Remaining work = 100 - 75 = 25 units

Let B's efficiency = x units/day

Now, A and B complete remaining work in 5 days

=> $(3 + x) \times 5 = 25$

=> $3 + x = \frac{25}{5} = 5$

=> $x = 5 - 3 = 2$

$\therefore$ Time taken by B to complete the whole work alone = $\frac{100}{2} = 50$ days

=> Ans - (A)

Question 33

The average of 29 consecutive even integers is 60. The highest of these integers is

A 88

B 118

C 176

D 120

Answer: A

Explanation:
The 29 consecutive even integers will form an arithmetic progression with common difference, $d = 2$

Let the first term be a

Average of 29 integers = 60, => Sum = $29 \times 60 = 1740$

=> Sum of these integers = $\frac{n}{2}[2a + (n - 1)d] = 1740$

=> $\frac{29}{2}[2a + (28 \times 2)] = 1740$

=> $29(a + 28) = 1740$

=> $(a + 28) = \frac{1740}{29} = 60$

=> $a = 60 - 28 = 32$

$\therefore$ The highest integer or the 29th term, $A_{29} = a + (29 - 1)d$

= $32 + (28 \times 2) = 32 + 56 = 88$

=> Ans - (A)

Question 34

What should be added to 5(2x-y) to obtain 4(2x - 3y) + 5(x + 4y)?

A 3x - 13y

B 3x + 13y

C 13x - 3y

D 13x + 3y

Answer: B

Explanation:
Let m should be added to 5(2x-y) to obtain 4(2x - 3y) + 5(x + 4y)

=> $(m) + [5(2x - y)] = 4(2x - 3y) + 5(x + 4y)$

=> $m + 10x - 5y = 8x - 12y + 5x + 20y$

=> $m + 10x - 5y = 13x + 8y$

=> $m = (13x - 10x) + (8y + 5y)$

=> $m = 3x + 13y$

=> Ans - (B)

Question 35

If 3(2 - 3x) < 2 - 3x ≥ 4x -6; then x can take which of the following values?

A 2

B -1

C -2

D 1

Answer: D

Explanation:
Expression 1 : 3(2 - 3x) < 2 - 3x

=> $6 - 9x < 2 - 3x$

=> $9x - 3x > 6 - 2$

=> $6x > 4$

=> $x > \frac{2}{3}$ ----------(i)

Expression 2 : 2 - 3x ≥ 4x -6

=> $4x + 3x \leq 2 + 6$

=> $7x \leq 8$

=> $x \leq \frac{8}{7}$ ----------(ii)

Combining inequalities (i) and (ii), we get : $\frac{2}{3} < x \leq \frac{8}{7}$

The only value that x can take among the options = 1

=> Ans - (D)

Question 36

If $sec^2 A + cosec^2 A$ = X, then the value of X is

A $tan^2 Acot^2 A$

B $sinAcosA$

C $secAcosecA$

D $sec^2 Acosec^2 A$

Answer: D

Explanation:
Expression : $sec^2 A + cosec^2 A$ = X

= $\frac{1}{cos^2 A} + \frac{1}{sin^2 A}$

= $\frac{sin^2 A + cos^2 A}{sin^2 Acos^2 A} = \frac{1}{sin^2 Acos^2 A}$

= $sec^2 Acosec^2 A$

=> Ans - (D)

Question 37

The effective annual rate of interest corresponding to a nominal rate of 15% per annum payable half-yearly is

A 15.56 percent

B 30 percent

C 31.13 percent

D 15 percent

Answer: A

Explanation:
Let sum be = Rs. $100x$

Rate of interest = 15% under compound interest half yearly

Amount after 1 year = $P(1 + \frac{R}{2\times100})^{2\times T}$

= $100x(1 + \frac{15}{200})^{2\times1}$

= $100x(\frac{43}{40})^2 = \frac{43\times43\times x}{16}$

= Rs. $115.5625x$

=> Compound Interest = Rs. $(115.5625x - 100x)$ = Rs. $15.5625x$

$\therefore$ Effective rate of interest = $\frac{15.5625x}{100x} \times 100$

$\approx 15.56\%$

=> Ans - (A)

Question 38

If (4x - 3) - (2x + 1) = 4, then the value of x is

A 0

B 1

C 4

D 3

Answer: C

Explanation:
Expression : (4x - 3) - (2x + 1) = 4

=> $4x - 3 - 2x - 1 = 4$

=> $2x - 4 = 4$

=> $2x = 4 + 4 = 8$

=> $x = \frac{8}{2} = 4$

=> Ans - (C)

Question 39

25% discount is offered on an item. By applying a promo code a customer wins 10% cash back. What is the effective discount?

A 35.75 percent

B 32.5 percent

C 35 percent

D 12.5 percent

Answer: B

Explanation:
Let the marked price of item = Rs. $100x$

Amount after 25 % discount = $100x - \frac{25}{100} \times 100x$

= $100x - 25x = Rs.75x$

Selling price after 10 % cashback = $75x - \frac{10}{100} \times 75x$

= $75x - 7.5x = Rs.67.5x$

=> Total discounted amount = $100x - 67.5x = Rs.32.5x$

$\therefore$ Effective discount = $\frac{32.5x}{100x} \times 100 = 32.5\%$

=> Ans - (B)

Question 40

Which of the following equations has real and distinct roots?

A $3x^2 - 6x + 2 = 0$

B $3x^2 - 6x + 3 = 0$

C $x^2 - 8x + 16 = 0$

D $4x^2 - 8x + 4 = 0$

Answer: A

Explanation:
A quadratic equation : $ax^2 + bx + c = 0$ has real and distinct roots iff Discriminant, $D = b^2 - 4ac > 0$

(A) : $3x^2 - 6x + 2 = 0$

=> D = $(-6)^2 - 4(3)(2) = 36 - 24 = 12$

(B) : $3x^2 - 6x + 3 = 0$

=> D = $(-6)^2 - 4(3)(3) = 36 - 36 = 0$

(C) : $x^2 - 8x + 16 = 0$

=> D = $(-8)^2 - 4(1)(16) = 64 - 64 = 0$

(D) : $4x^2 - 8x + 4 = 0$

=> D = $(-8)^2 - 4(4)(4) = 64 - 64 = 0$

Thus, the equation : $3x^2 - 6x + 2 = 0$ has real and distinct roots.

Question 41

In a triangle the length of the side opposite the angle which measures 30° is 9 cm, what is the length of the side opposite to the angle which measures 60°?

A 3√3 cm

B 3/2 cm

C 9/2 cm

D 9√3 cm

Answer: D

Explanation:
In the given triangle, two angles are 30° and 60°, => Third angle = 90°

In a 30-60-90 triangle, the hypotenuse is always twice as long as the side opposite the 30° angle and the side opposite the 60° angle is √3 times as long as the side opposite the 30° angle.

The ratio of sides opposite 30°, 60° and 90° angles =1 : $\sqrt{3}$: 2

Length of the side opposite the 30° angle = 9 cm

=> Length of side opposite the 60° angle = $9\sqrt{3}$ cm

=> Ans - (D)

Question 42

For triangle ABC, what would be the equation of median AD if co-ordinates of A, B and C are (-5,4), (-4,0) and (-2,2) respectively?

A 3x - 2y = -11

B 3x + 2y = 7

C 3x + 2y = -7

D 3x - 2y = 11

Answer: C

Explanation:
Co-ordinates of triangle ABC are A(-5,4), B(-4,0) and C(-2,2)

Median AD will bisect BC at D and D will be the mid point of BC.

Thus, coordinates of D are = $(\frac{-4-2}{2}, \frac{0+2}{2})$

= $(\frac{-6}{2}, \frac{2}{2}) = (-3, 1)$

Now, equation of line passing through (x_1, y_1) and (x_2, y_2) is : $(y - y_1) = \frac{y_2 - y_1}{x_2 - x_2}(x - x_1)$

=> Equation of AD where A(-5,4)and D(-3,1) is :

=> $(y - 4) = \frac{(1-4)}{(-3+5)}(x + 5)$

=> $(y - 4) = \frac{-3}{2}(x + 5)$

=> $2y - 8 = -3x - 15$

=> $3x + 2y = -7$

=> Ans - (C)

Question 43

A wholesaler sells a watch to a retailer at a gain of 37% and the retailer sells it to a customer at a loss of 25%. If the customer pays Rs 2,620.125, what had it cost the wholesaler?

A Rs 2550

B Rs 2692

C Rs 3327

D Rs 2408

Answer: A

Explanation:
For the wholesaler,

Let the cost price = Rs. $100x$

With profit of 37%, Selling price = $\frac{137}{100} \times 100x = Rs.137x$

For the retailer,

Cost price = Rs. $137x$

With a loss of 25%, Selling price = $\frac{75}{100} \times 137x = Rs.102.75x$

For the customer,

Cost price = $102.75x = 2620.125$

=> $x = \frac{2620.125}{102.75} = 25.5$

$\therefore$ Cost price for retailer = $100 \times 25.5 = Rs.2550$

Question 44

The ratio of present ages of Rasika and Shami is 7:5. After 17 years the ratio of their ages will be 12:11. What is Rasika's present age?

A 5

B 80

C 16

D 7

Answer: D

Explanation:
Let Rasika's present age = $7x$ years and Shami's present age = $5x$ years

According to ques, => $\frac{7x+17}{5x+17} = \frac{12}{11}$

=> $77x + 187 = 60x + 204$

=> $77x - 60x = 204 - 187$

=> $17x = 17$

=> $x = \frac{17}{17} = 1$

∴ Rasika's age = $7 \times 1 = 7$ years

=> Ans - (D)

Question 45

If tan(A + B) = X, then the value of X is

A (tanA - tanB)/(1 + tanAtanB)

B (tanA + tanB)/(1 - tanAtanB)

C (tanA + tanB)/(1 + tanAtanB)

D (tanA - tanB)/(1 - tanAtanB)

Answer: B

Explanation:
Expression : tan(A + B) = X

= $\frac{sin(A+B)}{cos(A+B)}$

= $\frac{sinAcosB+cosAsinB}{cosAcosB-sinAsinB}$

Dividing both numerator and denominator by $(cosAcosB)$

= $\frac{sinAcosB+cosAsinB}{cosAcosB} \div \frac{cosAcosB-sinAsinB}{cosAcosB}$

= $\frac{tanA+tanB}{1-tanAtanB}$

=> Ans - (B)

Question 46

The distance between the points (7,7) and (k,-5) is 13. Find k?

A -2

B 4

C -4

D 2

Answer: D

Explanation:

Distance between two points (x_1, y_1) and (x_2, y_2) = $\sqrt{(y_2-y_1)^2+(x_2-x_1)^2}$

Now, distance between points (7,7) and (k,-5) = 13

=> $\sqrt{(-5-7)^2+(k-7)^2} = 13$

=> $144 + (k^2 - 14k + 49) = (13)^2 = 169$

=> $k^2 - 14k = 169 - 49 - 144$

=> $k^2 - 14k + 24 = 0$

=> $k^2 - 12k - 2k + 24 = 0$

=> $k(k-12) - 2(k-12) = 0$

=> $(k-12)(k-2) = 0$

=> $k = 12, 2$

=> Ans - (D)

Question 47

Read the data answer the questions

	Boys	Girls
Medical	25	80
Engineering	75	20

What percent students who choose engineering are girls?

A 21.05

B 10

C 20

D 26.67

Answer: A

Explanation:
Number of girls who chose engineering = 20

Total number of engineers = 75 + 20 = 95

=> Percent of the girls who choose engineering = $\frac{20}{95} \times 100$

= $\frac{400}{19} = 21.05\%$

=> Ans - (A)

Question 48

Read the data and answer the given questions

	Cumulative production
January	390
February	1000
March	1540
April	2060
May	2580
June	2870

How many cars were manufactured in the month of April and May?

A 810

B 1040

C 1060

D 4640

Answer: B

Explanation:
Number of cars produced in :

January = 390

February = 1000 - 390 = 610

March = 1540 - 1000 = 540

April = 2060 - 1540 = 520

May = 2580 - 2060 = 520

June = 2870 - 2580 = 290

=> Number of cars that were manufactured in the month of the April and may = 520 + 520 = 1040

=> Ans - (B)

Question 49

Read the data and answer the given questions

Day of the week	Distance jogged (in km)
Monday	4
Tuesday	5
Wednesday	4
Thursday	1.5
Friday	4.5
Saturday	5
Sunday	2.5

If 400 calories are burned by jogging 5 km, how many calories were burnt in the given week?

A 2070 calories

B 2170 calories

C 2120 calories

D 2020 calories

Answer: C

Explanation:
Total distance jogged in entire week

= 4 + 5 + 4 + 1.5 + 4.5 + 5 + 4 = 26.5 km

Calories burned after jogging 5 km = 400 calories

=> Calories burned after jogging 26.5 km = $\frac{400}{5} \times 26.5$

= $80 \times 26.5 = 2120$ calories

=> Ans - (C)

Question 50

Read the data and answer the given questions?

Items	Yearly expence in lakhs
Raw Materilas	11
Labour	3
Rent	4
Interest	6
Taxes	4

Rent and taxes are what percent of the total Expenses?

A 21.32 percent

B 28.57 percent

C 14.07 percent

D 35.82 percent

Answer: B

Explanation:
Yearly expense in rent and taxes (in lakhs) = 4 + 4 = 8

Total expenses (in lakhs) = 11 + 3 + 4 + 6 + 4 = 28

=> Required % = $\frac{8}{28} \times 100$

= $\frac{200}{7} \approx 28.57\%$

=> Ans - (B)

English

Instructions
For the following questions answer them individually

Question 51

In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.
Please put on a note(A)/declaring that (B)/Monday will be a holiday.(C)/No error(D)

A A

B B

C C

D D

Answer: A

Question 52

Select the antonym of
veteran

A youthful

B pliable

C expert

D amateur

Answer: D

Question 53

In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.
To make a long story short

A A very long boring narrative

B One should always communicate with fewer words wherever possible

C Used to end an account of events quickly

D When you want the complete details and not just the summary

Answer: C

Question 54

Select the synonym of
incursion

A hurt

B retreat

C aggression

D cut

Answer: C

Question 55

In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.
To steal someone's thunder

A To share the secret of a person just before that person was supposed to receive praise

B To defuse the ego of an egoistic person

C To plagiarize work done by others

D To do a job before another person can do it and take away the credit

Answer: D

Question 56

In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.
We are pleased that(A)/our daughter is married with(B)/such a nice man.(C)/No error(D)

A A

B B

C C

D D

Answer: B

Question 57

Rearrange the parts of the sentence in correct order:
Thus,
P-a developing economy also needs
Q-to have some notion of external balance
R-at the very least,

A RPQ

B RQP

C PQR

D QPR

Answer: A

Question 58

In the following question, a sentence has been given in Active/Passive voice. Out of four alternatives suggested, select the one which best expresses the same sentence in Passive/Active voice.
When did Rohit return my bike?

A When was my bike returned by Rohit?

B When was it that Rohit returned my bike?

C Rohit returned my bike when?

D When did my bike come back from Rohit?

Answer: A

Question 59

Improve the bracketed part of the sentence.

Both the families were invited but neither (had accepted) our invitation.

A accepted

B did accept

C has accepted

D no improvement

Answer: A

Question 60

Select the word with the correct spelling.

A sentreis

B surgeons

C sibblings

D imolate

Answer: B

Question 61

Select the synonym of rot

A mature

B stagnate

C smell

D decay

Answer: D

Question 62

Choose the antonym of fatigue

A restive

B slouch

C vigour

D tire

Answer: C

Question 63

Improve the bracketed part of the sentence. You are what you (have eaten).

A will eat

B eat

C shall eat

D no improvement

Answer: B

Question 64

In the following question, out of the four alternatives, select the alternative which is the best substitute of the phrase.
To regard with disgust and hatred.

A tease

B abhor

C ridicule

D sneer

Answer: B

Question 65

In the following question, sentence given with blank is to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.
The investigations revealed a .....lack of efficiency in the functioning of the airlines.

A plain

B obscure

C conspicuous

D concealed

Answer: C

Question 66

In the following question, sentence given with blank is to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.
In India, Hindi is the most .....spoken language.

A profusely

B richly

C deeply

D widely

Answer: D

Question 67

Select the word with the correct spelling.

A wrapping

B bargundy

C streses

D stenchhes

Answer: A

Question 68

In the following question, a sentence has been given in Direct/Indirect speech. Out of the four alternatives suggested, select the one which best express the same sentence in Indirect/Direct speech.
The coach said, "Bravo! Puneet, you have done well."

A The coach applauded Puneet saying that he had done well.

B The coach said to Puneet Bravo, he had done well.

C The coach congratulated Puneet, saying he did well.

D The coach said to Puneet, that he did well.

Answer: A

Question 69

Rearrange the parts of the sentence in correct order.
Gone are the days
P-about foreign trade and payments
Q-and not really worried
R-when we could think of ourselves as a closed economy

A QRP

B RQP

C PRQ

D PQR

Answer: B

Question 70

In the following question, out of the four alternatives, select the alternative which is the best substitute of the phrase.
unable to be destroyed or removed.

A ineradicable

B habit

C worn

D fixed

Answer: A

Instructions

In the following passage some of the words have been left out. Read the passage carefully and select the correct answer for the given blank out of the four alternatives.
An ideal policeman is a myth. You come .....(1).....him only in crime fiction. .....(2).....elusive is 'good policing', an idea .....(3).....even the best of criminal justice thinkers have found it difficult to define. This is why, in what is a chaotic world, we have to reluctantly .....(4).....for an imperfect policeman and .....(5)..... inadequate system.

Question 71

(1)

A over

B cross

C across

D to

Answer: C

Question 72

(2)

A Fairly

B Justly

C Equally

D Uniformly

Answer: C

Question 73

(3)

A that

B which

C whom

D who

Answer: A

Question 74

(4)

A decide

B pay

C adjust

D settle

Answer: D

Question 75

(5)

A a

B an

C this

D our

Answer: B

Reasoning

Instructions
For the following questions answer them individually

Question 76

Select the related word/letters/number from the given alternatives. Subhas Chandra Bose:Orissa:: Mahatma Gandhi: ?

A Bihar

B Jammu and Kashmir

C Gujarat

D Delhi

Answer: C

Explanation:
Subhas Chandra Bose was born in Orissa, similarly Mahatma Gandhi was born in *Gujarat*.

=> Ans - (C)

Question 77

Select the related word/letters/number from the given alternatives. VERMIN :? :: ORDERS : ERSORD

A MNIVER

B MINERV

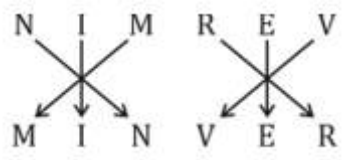
C MINVRE

D MINVER

Answer: D

Explanation:
Expression = VERMIN :? :: ORDERS : ERSORD

The pattern followed is :



Thus, VERMIN : **MINVER**

=> Ans - (D)

Question 78

Select the related word/letters/number from the given alternatives. MANTLE : SFTYRJ :: PARROT : ?

A VFXWUY

B VXFWUY

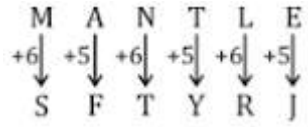
C VFXWYU

D VFXUWY

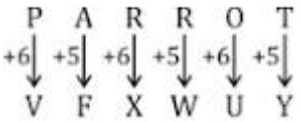
Answer: A

Explanation:
Expression = MANTLE : SFTYRJ :: PARROT : ?

The pattern followed is :



Similarly, for PARROT :



=> Ans - (A)

Question 79

Select the related word/letters/number from the given alternatives.
545 : 196 :: 173 : ?

A 72

B 121

C 84

D 41

Answer: B

Explanation:
Expression = 545 : 196 :: 173 : ?

The second number is the square of the sum of digits of first number.

Eg :- $(5+4+5)^2 = (14)^2 = 196$

Similarly, $(1+7+3)^2 = (11)^2 = 121$

=> Ans - (B)

Question 80

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

A Kuchipudi

B Kathak

C Bhangra

D Pongal

Answer: D

Explanation:
Pongal is a festival, others are dance forms, hence it is the odd one out.

=> Ans - (D)

Question 81

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

A PE

B MV

C GP

D DM

Answer: A

Explanation:
(A) : P (**-11** letters) = E

(B) : M (+9 letters) = V

(C) : G (+9 letters) = P

(D) : D (+9 letters) = M

=> Ans - (A)

Question 82

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

A 512

B 216

C 343

D 719

Answer: D

Explanation:
$512 = 8^3$, $216 = 6^3$ and $343 = 7^3$, but 719 is not a perfect cube, hence it is the odd one out.

=> Ans - (D)

Question 83

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

A 2543

B 2192

C 9362

D 3713

Answer: C

Explanation:
The sum of digits of the numbers is 14, but $9 + 3 + 6 + 2 = 20$, hence 9362 is the odd one out.

=> Ans - (C)

Question 84

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.
? ,Charles Cornwallis, Lord Dalhousie, Lord Canning, Lord Curzon

A Warren Hastings

B Lord Irwin

C Lord Mountbatten

D C. Rajagopalachari

Answer: A

Explanation:
Governor generals of India in chronological order.

= Warren Hastings -> Charles Cornwallis -> Lord Dalhousie -> Lord Canning -> Lord Curzon

=> Ans - (A)

Question 85

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series. CD,HI,NO,UV,?

A LM

B NP

C CD

D NF

Answer: C

Explanation:
Expression : CD,HI,NO,UV,?

The pattern followed in each letter of the terms is :

1st letter : C (+5 letters) = H (+6 letters) = N (+7 letters) = U (+8 letters) = C

2nd letter : D (+5 letters) = I (+6 letters) = O (+7 letters) = V (+8 letters) = D

Thus, missing term = **CD**

=> Ans - (C)

Question 86

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series. IB,QD,XH,DP,?

A KL

B KI

C GH

D IF

Answer: D

Explanation:
Expression : IB,QD,XH,DP,?

The pattern followed in each letter of the terms is :

1st letter : I (+8 letters) = Q (+7 letters) = X (+6 letters) = D (+5 letters) = I

2nd letter : B (+2 letters) = D (+4 letters) = H (+8 letters) = P (+16 letters) = F

Thus, missing term = **IF**

=> Ans - (D)

Question 87

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.
13,25,49,85, ?

A 331

B 132

C 133

D 381

Answer: C

Explanation:
Multiples of 12 are added.

13 + 12 = 25

25 + 24 = 49

49 + 36 = 85

85 + 48 = **133**

=> Ans - (C)

Question 88

In the following question, two statements are given each followed by two conclusions I and II. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.
Statement:
(I) All young scientists are open-minded.
(II) No open-minded men are superstitious.
Conclusions:
(I) No scientist is superstitious.
(II) No young people are superstitious.

A Conclusion I follows

B Conclusion II follows

C Neither I nor II follows

D Both I and II follows

Answer: C

Question 89

Five friends are standing in a line. Nishu is taller than Riya but shorter than Pooja. Amrita is the shortest.Riya is shorter than Nishu but taller than Nikita. Who is the second tallest?

A Amrita

B Pooja

C Riya

D Nishu

Answer: D

Explanation:
Nishu is taller than Riya but shorter than Pooja, => Pooja > Nishu > Riya

Also, Amrita is the shortest.

Riya is shorter than Nishu but taller than Nikita, => Nishu > Riya > Nikita

Combining above statements, we get : **Pooja > Nishu > Riya > Nikita > Amrita**

∴ Nishu is the second tallest.

=> Ans - (D)

Question 90

Arrange the given words in the sequence in which they occur in the dictionary.
i. Apparent
ii. Appointed
iii. Apostate
iv. Apparel

A ii, i, iv, iii

B iii,ii,iv,i

C iii,iv,i,ii

D iii,iv,ii,i

Answer: C

Explanation:
As per the order of dictionary :

= Apostate -> Apparel -> Apparent -> Appointed

$\equiv$ iii,iv,i,ii

=> Ans - (C)

Question 91

In a certain code language, "DELETE" is written as "#@^@%@" and "GRAM" is written as "!?*&". How is"TELEGRAM" written in that code language?

A %@^@^?*&

B %@^@!?^&

C %@*@!?*&

D %@^@!?*&

Answer: D

Explanation:
In the given code language,

D = #, L = ^, T = %, E = @, G = !, R = ?, A = *, M = &.

Therefore, the code for TELEGRAM is coded as %@^@!?*&.

Hence, option d is the correct answer.

Question 92

Find the missing number in the table as per the series

99	31	91
15	17	18
1485	527	?

A 1678

B 2341

C 1137

D 1638

Answer: D

Explanation:
In each column, the number at the end is the product of other two.

Eg :- $99 \times 15 = 1485$ and $31 \times 17 = 527$

Similarly, $91 \times 18 = 1638$

=> Ans - (D)

Question 93

If "#" means "subtraction", "&" means "division", "@" means "addition" and "%" means "multiplication", then 315&3#9@4%6 = ?

A 120

B 190

C 221

D 420

Answer: A

Explanation:
Expression : 315&3#9@4%6 = ?

$\equiv 315 \div 3 - 9 + 4 \times 6$

= $(\frac{315}{3}) + (-9) + (4 \times 6)$

= $105 - 9 + 24 = 120$

=> Ans - (A)

Question 94

Which set of letters when sequentially placed at the gaps in the given letter series shall complete it?
MN_NOM_OPM_OP_

A MNNQ

B MNOQ

C MNPQ

D MNOO

Answer: A

Explanation:
The pattern followed is that English alphabets starting from 'MN' are written with one new (next) letter appended after every term.

= MN **M**NO M**N**OP M**N**OP**Q**

=> Ans - (A)

Question 95

Navjot starts moving towards the west. After covering some distance, he turns left and then takes a right. Which direction is he facing now?

A South

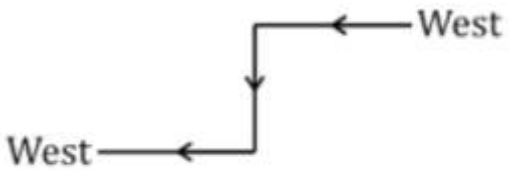
B North

C West

D East

Answer: C

Explanation:



Navjot starts moving towards the west. After covering some distance, he turns left and moved towards south and then takes a right.

Thus, he is facing west at the end.

=> Ans - (C)

Question 96

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 shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from S to 9. A letter from these matrices can be represented first by its row and next by its column, for example, 'N can be represented by 68, 99 etc. and 'V' can be represented by 21, 32 etc. Similarly, you have to Identify the set for the word 'NORM'.

Matrix 1

	0	1	2	3	4
0	A	T	M	D	O
1	S	A	N	F	I
2	N	V	Y	A	F
3	A	N	V	S	E
4	O	L	M	B	N

Matrix 2

	5	6	7	8	9
5	R	N	M	R	Y
6	O	I	V	A	O
7	N	V	S	M	R
8	R	M	W	O	Y
9	V	V	Y	H	A

A 44,04,58,86

B 75,88,22,57

C 12,33,55,78

D 20,40,85,96

Answer: A

Explanation:
(A) : 44,04,58,86 = **NORM**

(B) : 75,88,22,57 = NOYM

(C) : 12,33,55,78 = NSRM

(D) : 20,40,85,96 = NORV

=> Ans - (A)

Question 97

Pointing to a woman, a girl says,"She is mother of the only child of my father-in-law." How is the woman related to the girl?

A Mother-in-law

B Granddaughter

C Mother

D Cousin

Answer: A

Explanation:
Only child of the girl's father-in-law = Girl's husband

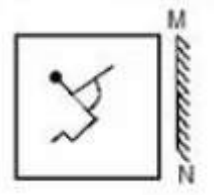
Now, the woman is the mother of girl's husband.

Thus, the woman is girl's mother-in-law.

=> Ans - (A)

Question 98

If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure ?



A 

B 

C 

D 

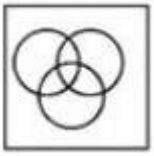
Answer: A

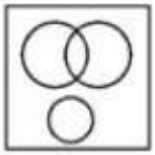
Question 99

Identify the diagram that best represens the relationship among the given classes. Urban people, Educated, Hard-working

A 

B 

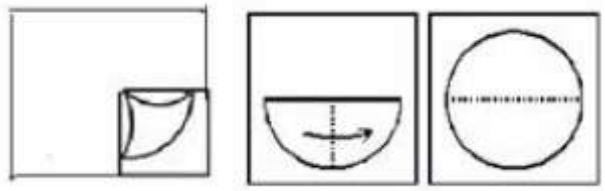
C 

D 

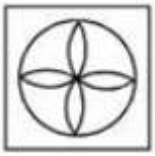
Answer: C

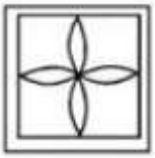
Question 100

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



A 

B 

C 

D 

Answer: B

SSC CHSL 15 Jan 2017 Afternoon Shift

Reasoning

Instructions
For the following questions answer them individually

Question 1

Select the related word/letters/number from the given alternatives. Rajiv Gandhi Airport : Hyderabad : : Indira Gandhi Airport : ?

A Mumbai

B Bangalore

C Delhi

D Kolkata

Answer: C

Explanation:
Rajiv Gandhi Airport is located in Hyderabad, similarly Indira Gandhi Airport is located in Delhi.

=> Ans - (C)

Question 2

Select the related word/letters/number from the given alternatives. TEW : PAS : : IVX : ?

A ETR

B SQR

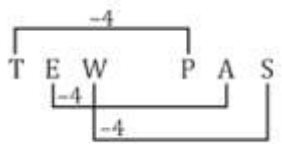
C ERT

D RNP

Answer: C

Explanation:
Expression = TEW : PAS : : IVX : ?

The pattern followed is :



Thus, IVX : **ERT**

=> Ans - (C)

Question 3

Select the related word/letters/number from the given alternatives. PEON : QGRR : : RUDE : ?

A MLNO

B SWGI

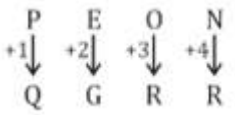
C TVSA

D STRR

Answer: B

Explanation:
Expression = PEON : QGRR : : RUDE : ?

The pattern followed is :



Thus, RUDE : **SWGI**

=> Ans - (B)

Question 4

Select the related word/letters/number from the given alternatives.
167 : 43 : : 245 : ?

A 75

B 22

C 72

D 91

Answer: B

Explanation:
Expression = 167 : 43 : : 245 : ?

The second number is the sum of first digit of first number and product of last two digits of first number.

Eg :- $1 + (6 \times 7) = 1 + 42 = 43$

Similarly, $2 + (4 \times 5) = 2 + 20 = 22$

=> Ans - (B)

Question 5

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

A Hazy

B Cloudy

C Translucent

D Transparent

Answer: D

Explanation:
Except Transparent other three are synonyms meaning vague, hence it is the odd one out.

=> Ans - (D)

Question 6

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

A IDD

B AGG

C UTT

D REE

Answer: D

Explanation:
Except REE other three have only one vowel, hence it is the odd one out.

=> Ans - (D)

Question 7

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

A 286

B 374

C 143

D 279

Answer: D

Explanation:
The positive difference of the first two digits is equal to the last digit, but $7 - 2 \neq 9$, hence 279 is the odd one out.

=> Ans - (D)

Question 8

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

A 358

B 853

C 538

D 240

Answer: D

Explanation:
The first three options contain same numbers (3,5 and 8) with different positions, hence 240 is the odd one out.

=> Ans - (D)

Question 9

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series. Thousand, Ten thousand, Lakh, Ten lakh, ?

A Ones

B Hundred

C Ten crore

D Crore

Answer: D

Explanation:
Indian monetary series in increasing order.

= Thousand -> Ten thousand -> Lakh -> Ten lakh -> Crore

=> Ans - (D)

Question 10

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

A RST

B HPX

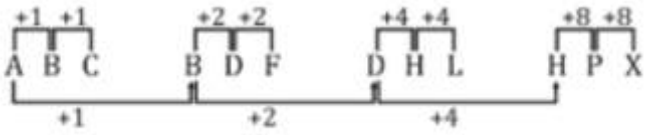
C CDE

D EGF

Answer: B

Explanation:
Expression : ABC, BDF, DHL, ?

The pattern followed is :



Thus, missing term = **HPX**

=> Ans - (B)

Question 11

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

A DE

B OP

C GH

D WV

Answer: C

Explanation:
Expression : IJ, PQ, XY, ?

The pattern followed in each letter of the terms is :

1st letter : I (+7 letters) = P (+8 letters) = X (+9 letters) = G

2nd letter : J (+7 letters) = Q (+8 letters) = Y (+9 letters) = H

Thus, missing term = **GH**

=> Ans - (C)

Question 12

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.
15, 32, 99, 400, ?

A 2001

B 2004

C 2005

D 1994

Answer: C

Explanation:
The pattern followed is :

15 $\times 2 + 2$ = 32

32 $\times 3 + 3$ = 99

99 $\times 4 + 4$ = 400

400 $\times 5 + 5$ = **2005**

=> Ans - (C)

Question 13

In the following question, two statements are given each followed by two conclusions I and II. You have to consider the statement to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.
Statement:
(I) All horses are bullocks.
(II) All bullocks are goats.
Conclusions:
(I) All horses are goats.
(II) All goats are horses.

A Conclusion I follows

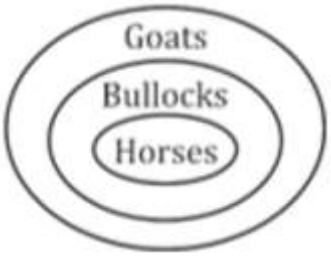
B Conclusion II follows

C Neither I nor II follows

D Both I and II follows

Answer: A

Explanation:
The venn diagram for above statements is :



Conclusions:

(I) All horses are goats = true
(II) All goats are horses = false

Thus, only conclusion I follows

=> Ans - (A)

Question 14

A racing event was organised in a jungle. The dog ran faster than the elephant but slower than the tiger. The deer was the fastest. The lion ran faster than the tiger. Who was the second to finish the race?

A Dog

B Deer

C Elephant

D Lion

Answer: D

Explanation:
The dog ran faster than the elephant but slower than the tiger, => Tiger > Dog > Elephant

Also, the deer was the fastest.

The lion ran faster than the tiger, => Lion > Tiger

Combining above statements, we get : **Deer > Lion > Tiger > Dog > Elephant**

∴ Lion was the second to finish the race.

=> Ans - (D)

Question 15

Arrange the given words in the sequence in which they occur in the dictionary.
i. Cover
ii. Clandestine
iii. Coward
iv. Cajole

A i, iv, iii, ii

B i , ii, iii, iv

C iv, ii, i, iii

D i , iii, iv, ii

Answer: C

Explanation:
As per the order of dictionary :

= Cajole -> Clandestine -> Cover -> Coward

≡ iv, ii, i, iii

=> Ans - (C)

Question 16

In a certain code language, 'NIGERIA' is written as '@#^$?#*'. How is 'GINGER' written in that code language?

A ^#$@^?

B ^#@^$?

C ^#@$^?

D #$@$^?

Answer: B

Explanation:
The codes for each letter is given.

G -> ^
I -> #
N -> @
G -> ^
E -> $
R -> ?

Thus, GINGER : ^#@^$?

=> Ans - (B)

Question 17

In the following question, select the missing number from the given

45	55	26
50	51	65
60	49	?

A 19

B 43

C 64

D 23

Answer: C

Explanation:
The vertical sum is constant:

(45 + 50 + 60) = 155

(55 + 49 + 51) = 155

(26 + 65 + x) = 155

Hence, x = 64.

Question 18

If "-" means "plus", "x" means "divide", "÷" means "multiply" and "+" means "minus", then 26 + 400 x 20 - 21 ÷ 12 = ?

A 258

B 219

C 216

D 230

Answer: A

Explanation:
Expression : 26 + 400 x 20 - 21 ÷ 12 = ?

$\equiv 26 - 400 \div 20 + 21 \times 12$

= $(26) - (\frac{400}{20}) + (21 \times 12)$

= $26 - 20 + 252 = 258$

=> Ans - (A)

Question 19

Which set of letters when sequentially placed at the gaps in the given letter series shall complete it?
_BA_BBA_AB_B

A ABAB

B AAAB

C BBAB

D BBBA

Answer: B

Explanation:
The pattern followed is that the term 'AB' is repeated with increase in both the letters after each term.

= **A**B A**A**BB A**A**AB**B**B

=> Ans - (B)

Question 20

A cat is chasing a mouse. The cat moves towards north for 25m, takes a right turn and move 100m, turns towards the south and moves 25m further. Finally, it turns left and moves 55m. What is the distance between the initial and the final position of the cat?

A 185m

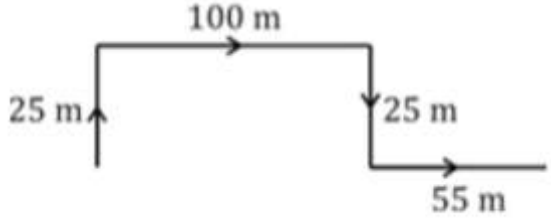
B 155m

C 190m

D 135m

Answer: B

Explanation:



The cat moves towards north for 25 m, after that it takes a right turn and move 100 m towards east, then it again turns right towards the south and moves 25 m further. Finally, it turns left and moves 55 m towards east.

Thus, the distance between the initial and the final position of the cat = $100 + 55 = 155$ m

=> Ans - (B)

Question 21

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 shown In the given two matrices. 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, for example, 'N' can be represented by 23, 77 etc. and 'R' can be represented by 14, 95 etc. Similarly, you have to identify the set for the word 'FIRED'.

Matrix - I

	0	1	2	3	4
0	F	D	P	R	B
1	G	E	R	A	R
2	H	R	O	N	E
3	R	C	T	E	G
4	S	I	E	T	Q

Matrix - II

	5	6	7	8	9
5	S	H	U	H	G
6	D	L	H	F	F
7	E	H	N	I	D
8	Q	S	I	X	A
9	R	I	F	B	S

A 00, 78, 12, 11, 01

B 97, 87, 95, 88, 65

C 68, 66, 14, 24, 01

D 67, 41, 55, 11, 31

Answer: A

Explanation:
(A) : 00, 78, 12, 11, 01 = **FIRED**

(B) : 97, 87, 95, 88, 65 = FIRXD

(C) : 68, 66, 14, 24, 01 = FLRED

(D) : 67, 41, 55, 11, 31 = HISEC

=> Ans - (A)

Question 22

Introducing a girl, Poonam says, "She is the daughter of the only sister of the son of my mother". How is that girl related to Poonam?

A Cousin

B Niece

C Sister-in-law

D Daughter

Answer: D

Explanation:
Son of Poonam's mother = Poonam's brother

Now, only sister of Poonam's brother = Poonam herself

Thus, the girl is the daughter of Poonam

=> Ans - (D)

Question 23

If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure ?

A 

B 

C 

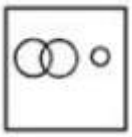
D 

Answer: B

Question 24

Identify the diagram that best represents the relationship among the given classes. Animals, Lion, Tiger

A 

B 

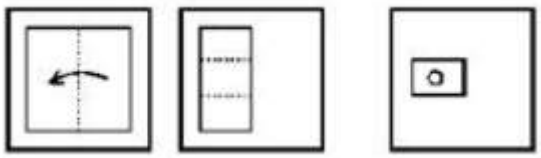
C 

D 

Answer: A

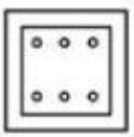
Question 25

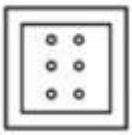
A piece of paper is folded and punched as shown in the below question figures. From the given answer figures, indicates how it will appear when opened ?



A 

B 

C 

D 

Answer: D

General Awareness

Instructions
For the following questions answer them individually

Question 26

The transfer of data from one application to another in a computer system is known as

A Dynamic Data Exchange

B Dodgy Data Exchange

C Dogmatic Data Exchange

D Dynamic Disk Exchange

Answer: A

Question 27

General anaesthetic was invented by?

A Alfred P. Southwick

B Isaac Singer

C Murasaki Shikibu

D Hanaoka Seishū

Answer: D

Question 28

Pneumonia affects which of the following organs of human body?

A Kidneys

B Lungs

C Throat

D Liver

Answer: B

Question 29

Mendel is known as

A Father of Physiology

B Father of Geology

C Father of Genetics

D Father of Biology

Answer: C

Question 30

Which of the following are also known as Suicidal bag of Cells?

A Lysosomes

B Lycosome

C Nucleus

D Chromosome

Answer: A

Question 31

Which atmospheric layer contains ozone layer?

A Genosphere

B Zonosphere

C Stratosphere

D Ionosphere

Answer: C

Question 32

.....fiber is used in making bulletproof vests.

A Nylon-66

B Terylene

C Kevlar

D Lexan

Answer: C

Question 33

India Gate was designed by

A Frank Lloyd Wright

B Sir Edwin Lutyens

C Frank Gehry

D Zaha Hadid

Answer: B

Question 34

What is India's national flower?

A Lily

B Rose

C Lotus

D Sunflower

Answer: C

Question 35

If the average total cost are Rs 54, average variable cost is Rs 36 and quantity produced is 2500 units, find the total fixed costs (in Rs) of the firm?

A 30000

B 15000

C 45000

D 60000

Answer: C

Question 36

Unemployment that arises when there is a general downturn in business activity is known as

A Structural unemployment

B Frictional unemployment

C Cyclical unemployment

D Disguised unemployment

Answer: C

Question 37

Mesothelioma is a type of cancer. The most common area affected in it is the lining of the .....

A heart

B brain

C stomach

D lungs

Answer: D

Question 38

Manganite is an ore/mineral of

A Beryllium

B Chromium

C Manganese

D Copper

Answer: C

Question 39

International yoga day is celebrated on which day?

A 15th June

B 21st June

C 28th June

D 1st June

Answer: B

Question 40

"Sirius", the brightest star outside solar system, is also called .....

A Cat star

B Dog star

C Fox star

D Lion star

Answer: B

Question 41

In terms of size, Jupiter ranks no. in our Solar System.

A 1

B 2

C 3

D 4

Answer: A

Question 42

Who discovered sea route to India?

A Babur

B Vasco-da-Gama

C Galileo

D Ferondoz

Answer: B

Question 43

Subhas Chandra Bose was born in the year .....

A 1797

B 1847

C 1897

D 1947

Answer: C

Question 44

Who among these has not been awarded Bharat Ratna?

A Sachin Tendulkar

B Lata Mangeshkar

C Dhyan Chand

D Satyajit Ray

Answer: C

Question 45

Which among the following is a vector quantity?

A Heat

B Angular momentum

C Work

D Time

Answer: B

Question 46

Density of water is maximum at .....

A 12 degree Celsius

B 8 degree Celsius

C 4 degree Celsius

D 0 degree Celsius

Answer: C

Question 47

Who elects the members of Rajya Sabha?

A Elected members of the Legislative Council

B The People

C Elected members of the Legislative Assembly

D Lok Sabha

Answer: C

Question 48

What is the full form of MLA in the Indian Constitution?

A Member of Legislative Assembly

B Master of Legislative Assembly

C Member of Left Assembly

D Master of Left Assembly

Answer: A

Question 49

What was India's ranking in Rio Olympics 2016 Medal List?

A 11

B 33

C 67

D 96

Answer: C

Question 50

Who is the author of "The Secret of the Nagas"? "

A Jhumpa Lahiri

B Amish Tripathi

C Ravinder Singh

D Salman Rushdie

Answer: B

English

Instructions
For the following questions answer them individually

Question 51

In the following question, a sentence has been given in Direct/Indirect speech. Out of the four alternatives suggested, select the one which best express the same sentence in Indirect/Direct speech.
Pinky said, "What a beautiful vase!"

A Pinky exclaimed that it is a very beautiful vase.

B Pinky said that it is a very beautiful vase indeed.

C Pinky exclaimed that it was a very beautiful vase.

D Pinky reported that it was an indeed a beautiful vase.

Answer: A

Question 52

Select the word with the correct spelling.

A blamefull

B procsimal

C hilocky

D miracles

Answer: D

Question 53

Select the synonym of bristle

A thorn

B tranquil

C friction

D sleek

Answer: A

Question 54

In the following question, out of the four alternatives, select the alternative which is the best substitute of the phrase.
the lower jawbone in mammals and fishes

A trunk

B snout

C beak

D mandible

Answer: D

Question 55

Rearrange the parts of the sentence in correct order.
A saint or a satyagrahi
P-freezing her acts of goodness
Q-is often put on a pedestal
R-in time

A PQR

B PRQ

C QPR

D RQP

Answer: C

Question 56

Select the antonym of castigated

A approve

B rate

C flay

D drub

Answer: A

Question 57

Select the antonym of deliberate

A judge

B imprudent

C cogitate

D argue

Answer: B

Question 58

Improve the bracketed part of the sentence. I couldn't help but (had to cry) at his sad story.

A cry

B cried

C was crying

D no improvement

Answer: A

Question 59

In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.
Rise and shine

A Work hard and succeed in life

B An expression used when waking someone up

C Try harder to overcome life's problems

D Be of spotless character

Answer: B

Question 60

In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.
With his political ....., the Party President deftly handled the rebellion.

A temperament

B sagacity

C attitude

D inexperience

Answer: B

Question 61

In the following question, out of the four alternatives, select the alternative which is the best substitute of the phrase.
urge someone to act in a violent or unlawful way.

A taunt

B solicit

C incite

D psych

Answer: C

Question 62

Rearrange the parts of the sentence in correct order.
Gandhi often
P-was unnecessary violence
Q-withdrew from an act of Satyagraha if he
R-felt there

A PRQ

B PQR

C RQP

D QRP

Answer: D

Question 63

In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.
The High Court judge .....the orders passed by the district court.

A quashed

B squashed

C killed

D rented

Answer: A

Question 64

In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/Phrase.
Raining cats and dogs

A It is raining unusually hard

B To win a big lottery

C To get wealth beyond what one deserves

D To become filthy rich by honest means

Answer: A

Question 65

Select the synonym of confuse

A explicate

B perplex

C mix

D divert

Answer: B

Question 66

Select the word with the correct spelling.

A unweded

B informmer

C mongrels

D powderred

Answer: C

Question 67

Improve the bracketed part of the sentence.
The thief escaped (from burning) as the noble King pardoned him.

A of being burnt

B from being burnt

C from having being burnt

D no improvement

Answer: B

Question 68

In the following question, a sentence has been given in Active/Passive voice. Out of four alternatives suggested, select the one which best expresses the same sentence in Passive/Active voice.
The painting had not been painted by the famous painter.

A The painting had never been painted by the painter who was famous.

B The painter who was famous not had painted the painting.

C The famous painter had not painted the painting.

D The famous painter could not have painted the painting.

Answer: C

Question 69

In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.
Was it him, that the teacher(A)/punished for not submitting(B)/his project on time(C)/No error

A A

B B

C C

D D

Answer: A

Question 70

In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.
Entrance exams for the(A)/posts of associate professors(B)/will begin from Tuesday.(C)/No error

A A

B B

C C

D D

Answer: B

Instructions

In the following passage some of the words have been left out. Read the passage carefully and select the correct answer for the given blank out of the four alternatives.
Targeting inflation comes from a belief that policy should be .....(1).....and transparent, so that the private sector can factor this .....(2).....their decision-making. The question that this .....(3).....is: are there more "complicated" policies which .....(4).....better? I just note that one such policy is called "nominal income targeting".
.....(5).....it is more complicated and the private sector is deemed to be intellectually challenged.

Question 71

(1)

A elaborate

B detailed

C easy

D simple

Answer: D

Question 72

(2)

A into

B in

C within

D onto

Answer: A

Question 73

(3)

A shows

B poses

C brings along

D ask

Answer: B

Question 74

(4)

A have been

B will be

C were

D are

Answer: D

Question 75

(5)

A But

B Hence

C So

D Because

Answer: A

Mathematics

Instructions
For the following questions answer them individually

Question 76

At least one diagonal bisects the other in a .....

A Trapezium

B Isosceles trapezium

C Kite

D Cyclic quadrilateral

Answer: C

Explanation:
In a kite diagonals are perpendicular to each other and only one diagonal is bisected by the other.

=> Ans - (C)

Question 77

25% discount is offered on an item. By applying a promo code the customer wins 4% cash back. What is the effective discount?

A 28 percent

B 29.12 percent

C 29 percent

D 5 percent

Answer: A

Explanation:
Let the marked price of item = Rs. $100x$

Amount after 25 % discount = $100x - \frac{25}{100} \times 100x$

= $100x - 25x = Rs.75x$

Selling price after 4 % cashback = $75x - \frac{4}{100} \times 75x$

= $75x - 3x = Rs.72x$

=> Total discounted amount = $100x - 72x = Rs.28x$

$\therefore$ Effective discount = $\frac{28x}{100x} \times 100 = 28\%$

=> Ans - (A)

Question 78

What is the HCF (highest common factor) of 133 and 112?

A 15

B 7

C 19

D 16

Answer: B

Explanation:
Prime factorization of

133 = 7 $\times$ 19

112 = $2^4 \times 7$

There is only 1 common factor, and thus the HCF (highest common factor) = 7

=> Ans - (B)

Question 79

Value of $(4a^2 + 12ab + 9b^2/(2a + 3b)$ **is**

A 2a - 3b

B 2a + 3b

C 2a

D 3b

Answer: B

Explanation:
Expression : $(4a^2 + 12ab + 9b^2/(2a + 3b)$

= $\frac{(2a)^2+(3b)^2+(2.2a.3b)}{(2a+3b)}$

= $\frac{(2a+3b)^2}{(2a+3b)}$

= $2a + 3b$

=> Ans - (B)

Question 80

What is the equation of line whose slope is -1/2 and passes through the intersection of the lines x - y = -1 and 3x - 2y = 0?

A x + 2y = 8

B 3x + y = 7

C x + 2y = -8

D 3x + y = -7

Answer: A

Explanation:

Intersection point of the lines : $x - y = -1$ -----(i) and $3x - 2y = 0$ -------(ii)

Multiplying equation (i) by 2, => $2x - 2y = -2$ -----(iii)

Subtracting equation (iii) from (ii), => $x = 2$

=> $y = 2 + 1 = 3$

Thus, line passes through (2,3)

Equation of line having slope $m = \frac{-1}{2}$ and passing through point (x_1, y_1) is : $(y - y_1) = m(x - x_1)$

$\therefore$ Equation : $(y - 3) = \frac{-1}{2}(x - 2)$

=> $2y - 6 = -x + 2$

=> $x + 2y = 8$

=> Ans - (A)

Question 81

Curved surface area of a cylinder is 1232 sq cm. If circumference of its base is 154 cm, then what will be the height of the cylinder? (Take π = 22/7)

A 16 cm

B 4 cm

C 8 cm

D 12 cm

Answer: C

Explanation:

Let radius of base of cylinder = r cm and height = h cm

Circumference of base = $2\pi r = 154$

Curved surface area of cylinder = $2\pi rh = 1232$

=> $154 \times h = 1232$

=> $h = \frac{1232}{154} = 8$ cm

=> Ans - (C)

Question 82

A student multiplied a number by 3/10 instead of 10/3. What is the percentage error in the calculation?

A 1011.11 percent

B 45.5 percent

C 91 percent

D 505.56 percent

Answer: C

Explanation:
Let the number be 30

When the student multiplied it by 3/10, => original result = $\frac{3}{10} \times 30 = 9$

When the student multiply it by 10/3, => New result = $\frac{10}{3} \times 30 = 100$

=> Percentage error in calculation = $\frac{(100-9)}{100} \times 100$

= $\frac{9100}{100} = 91\%$

=> Ans - (C)

Question 83

What is the area of the sector whose central angle is 90° and radius of the circle is 14 cm?

A 308 sq cm

B 77 sq cm

C 154 sq cm

D 231 sq cm

Answer: C

Explanation:
Central angle = $\theta = 90°$ and radius = $r = 14$ cm

Area of sector = $\frac{\theta}{360} \times \pi r^2$

= $\frac{90}{360} \times \frac{22}{7} \times (14)^2$

= $\frac{1}{4} \times 44 \times 14$

= $11 \times 14 = 154\, cm^2$

=> Ans - (C)

Question 84

Coefficient of x^2 in (x + 9)(6 - 4x)(4x - 7) is

A 216

B -4

C -92

D 108

Answer: C

Explanation:
A coefficient is a numerical or constant quantity placed before and multiplying the variable in an algebraic expression. Eg : In ax^2, coefficient is a

Expression : $(x + 9)(6 - 4x)(4x - 7)$

= $(6x - 4x^2 + 54 - 36x)(4x - 7)$

= $(-4x^2 - 30x + 54)(4x - 7)$

= $4x(-4x^2 - 30x + 54) - 7(-4x^2 - 30x + 54)$

= $-16x^3 - 120x^2 + 216x + 28x^2 + 210x - 378$

= $-20x^3 - 92x^2 + 426x - 378$

$\therefore$ Coefficient of x^2 = -92

=> Ans - (C)

Question 85

Given: 5x -3(2x-7) > 3x - 1 < 7 + 4x; then x can take which of the following values?

A 6

B 9

C -6

D -9

Answer: C

Explanation:
Expression 1 : 5x -3(2x-7) > 3x - 1

=> $5x - 6x + 21 > 3x - 1$

=> $3x + x < 21 + 1$

=> $4x < 22$

=> $x < \frac{11}{2}$ ----------(i)

Expression 2 : 3x - 1 < 7 + 4x

=> $4x - 3x > -1 - 7$

=> $x > -8$ ----------(ii)

Combining inequalities (i) and (ii), we get : $-8 < x < \frac{11}{2}$

The only value that x can take among the options = -6

=> Ans - (C)

Question 86

A missile travels at 1422 km/h. How many metres does it travel in one second?

A 395 metres

B 400 metres

C 364 metres

D 319 metres

Answer: A

Explanation:
Speed of missile = 1422 km/hr

=> Speed in m/s = $1422 \times \frac{5}{18}$

= $5 \times 79 = 395$ m/s

$\therefore$ In 1 second, it travels 395 metres

=> Ans - (A)

Question 87

The bus fare between two cities is increased in the ratio 17:20. Find the increase in the fare, if the original fare is Rs. 425

A Rs 500

B Rs 100

C Rs 200

D Rs 75

Answer: D

Explanation:
Let original fare = Rs. $17x$

=> New fare = Rs. $20x$

Also, original fare = $425 = 17x$

=> $x = \frac{425}{17} = 25$

$\therefore$ Increase in fare = $20x - 17x = 3x$

= $3 \times 25 = Rs.75$

=> Ans - (D)

Question 88

(secA - 1)/(secA + 1) is equal to?

A (1 - sinA)/(1 + sinA)

B (1 + cosA)/(1 - cosA)

C (1 + sinA)/(1 - sinA)

D (1 - cosA)/(1 + cosA)

Answer: D

Explanation:
Expression : (secA - 1)/(secA + 1)

= $\left(\frac{1}{cosA} - 1\right) \div \left(\frac{1}{cosA} + 1\right)$

= $\left(\frac{1-cosA}{cosA}\right) \div \left(\frac{1+cosA}{cosA}\right)$

= $\left(\frac{1-cosA}{cosA}\right) \times \left(\frac{cosA}{1+cosA}\right)$

= $\frac{1-cosA}{1+cosA}$

=> Ans - (D)

Question 89

If cos3A = X, then value of X?

A $4cos^3 A - 3cosA$

B $4cos^3 A + 3cosA$

C $3cosA - 4cos^3 A$

D $cosA + 4cos^3 A$

Answer: A

Explanation:
Expression : cos3A = X

= $cos(2A + A)$

= $cos(2A)cosA - sin(2A)sinA$

= $(2cos^2 A - 1)cosA - (2sinAcosA)sinA$

= $2cos^3 A - cosA - (sin^2 A)2cosA$

= $2cos^3 A - cosA - 2cosA(1 - cos^2 A)$

= $2cos^3 A - cosA - 2cosA + 2cos^3 A$

= $4cos^3 A - 3cosA$

=> Ans - (A)

Question 90

In a class of 66 students there are 33 girls. The average weight of these girls is 61 Kg and average weight of the full class is 66 kgs. What is the average weight of the boys of the class?

A 72

B 73

C 69

D 71

Answer: D

Explanation:
Total number of students = 66 and number of girls = 33

=> Number of boys in class = 66 - 33 = 33

Average weight of girls = 61 kg

=> Total weight of girls = $61 \times 33 = 2013$ kg

Similarly, total weight of full class = $66 \times 66 = 4356$ kg

=> Total weight of boys = 4356 - 2013 = 2343 kg

$\therefore$ Average weight of boys = $\frac{2343}{33} = 71$ kg

=> Ans - (D)

Question 91

A can do a work in 20 days and B in 10 days. If they work on it together for 5 days, then what fraction of work is left.

A 4/9

B 1/4

C 1/5

D 2/9

Answer: B

Explanation:
Let total work to be done = 20 units

A's efficiency = $\frac{20}{20} = 1$ unit/day

B's efficiency = $\frac{20}{10} = 2$ units/day

(A + B)'s 1 day's work together = 1 + 2 = 3 units/day

Now, work done by them together in 5 days = $5 \times 3 = 15$ units

=> Work left = 20 - 15 = 5 units

$\therefore$ Fraction of work that is left = $\frac{5}{20} = \frac{1}{4}$

=> Ans - (B)

Question 92

Product of digits of a 2-digit number is 15. If we add 18 to the number, the new number obtained is a number formed by interchange of the digits. Find the number.

A 35

B 15

C 51

D 21

Answer: A

Explanation:
Let the unit's digit of the number be y and ten's digit be x

=> Number = $10x + y$

Product of digits = $x \times y = 15$ ----------(i)

According to question, => $10x + y + 18 = 10y + x$

=> $9y - 9x = 18$

=> $y - x = \frac{18}{9} = 2$ ----------(ii)

Solving equation (i) and (ii), we get : $x = 3$ and $y = 5$

$\therefore$ Number = 35

=> Ans - (A)

Question 93

What is the value of tan 7π/6?

A 1/√3

B -1/√3

C √3

D -√3

Answer: A

Explanation:
Expression : tan 7π/6

= $tan(\pi + \frac{\pi}{6})$

= $tan(\frac{\pi}{6}) = \frac{1}{\sqrt{3}}$

=> Ans - (A)

Question 94

When a discount of 20% is given on a jacket, the profit is 28%. If the discount is 13%, then the profit is

A 39.2 percent

B 41 percent

C 42.8 percent

D 37.4 percent

Answer: A

Explanation:
Let marked price of jacket = Rs. 100

When discount of 20% is given, => Selling price of jacket = $\frac{(100-20)}{100} \times 100 = Rs.80$

Let cost price = $Rs.x$

=> Profit % = $\frac{80-x}{x} \times 100 = 28$

=> $\frac{80-x}{x} = \frac{28}{100} = \frac{7}{25}$

=> $2000 - 25x = 7x$

=> $7x + 25x = 32x = 2000$

=> $x = \frac{2000}{32} =$ Rs. 62.5

If discount is 13%, => Selling price = $\frac{(100-13)}{100} \times 100 = Rs.87$

=> Profit % = $\frac{87-62.5}{62.5} \times 100$

= $\frac{2450}{62.5} \approx 39.2\%$

=> Ans - (A)

Question 95

The point R(a,b) is first reflected in origin to R1 and R1 is reflected in X-axis to (-5,1). The co-ordinates of point R are?

A (5,-1)

B (-1,5)

C (1,-5)

D (5,1)

Answer: D

Explanation:
R(a,b) after reflection at the origin = (-a,-b)

Reflection of point (-a,-b) in the x-axis is (-a,b)

According to ques,

=> $(-a, b) = (-5, 1)$

=> $-a = -5$ and $b = 1$

∴ Coordinates of Point R = (5,1)

=> Ans - (D)

Question 96

Deepinder lent Rs 8200 to Jairaj for 16 years and Rs 4900 to Karna for 15 years on simple interest at the same rate of interest and received Rs 19446.5 in all from both of them as interest. The rate of interest per annum is:

A 10 percent

B 10.5 percent

C 9.5 percent

D 11 percent

Answer: C

Explanation:
Let rate of interest per annum = $r\%$

Sum lent to Jairaj = Rs. 8200 for 16 years and Rs. 4900 to Karna for 15 years

Simple interest = $\frac{P\times R\times T}{100}$

=> Total interest = $(\frac{8200\times r\times 16}{100}) + (\frac{4900\times r\times 15}{100}) = 19446.5$

=> $1312r + 735r = 19446.5$

=> $2047r = 19446.5$

=> $r = \frac{19446.5}{2047} = 9.5\%$

=> Ans - (C)

Question 97

Refer the below data table and answer the following question.

Division / Standard	Boys	Girls
Division A / Standard 5	30	40
Division B / Standard 5	10	20
Division C / Standard 5	40	10
Division A / Standard 6	13	10
Division B / Standard 6	15	15
Division C / Standard 6	20	20

What is the ratio of boys to girls ?

A 23 : 29

B 31 : 25

C 25 : 31

D 128 : 115

Answer: D

Explanation:
Total number of boys = 30 + 10 + 40 + 13 + 15 + 20 = 128

Total number of girls = 40 + 20 + 10 + 10 + 15 + 20 = 115

=> Required ratio = $\frac{128}{115}$

= 128 : 115

=> Ans - (D)

Question 98

Refer the below data table and answer the following question.

Marks	Number of Students
40 and above	11
30 and above	32
30 and above	48
10 and above	69
0 and above	87

How many students have scored marks 20 or more but less than 40 ?

A 48

B 37

C 32

D 80

Answer: B

Explanation:
Number of students who scored :

40 and above = 11

30 and above = 32 - 11 = 21

20 and above = 48 - 32 = 16

10 and above = 69 - 48 = 21

0 and above = 87 - 69 = 18

=> Students who have scored marks 20 or more but less than 40 = 16 + 21 = 37

=> Ans - (B)

Question 99

Refer the below data table and answer the following question.

Year	GDP growth rate for the year (in %)
2011	-7
2012	7
2013	-6
2014	5
2015	-4

If the GDP of the country was $1 trillion at the end of 2011, what was it at the beginning of 2013?

A $1.07 trillion

B $0.94 trillion

C $0.93 trillion

D $1.01 trillion

Answer: A

Explanation:

GDP at the beginning of 2013 is equal to the GDP at the end of 2012

=> GDP growth rate in 2012 = 7%

GDP at the end of 2011 = GDP at the beginning of 2012 = $1 trillion

$\therefore$ GDP at the beginning of 2013 = $\frac{100+7}{100} \times 1$ trillion

= $\frac{107}{100}$ = $1.07 trillion

=> Ans - (A)

Question 100

Refer the below data table and answer the following question.

Subjects	Marks Scored
English	70
HIndi	55
Math	30
Science	35
Arts	60

Five points are to be deducted from this students average of marks scored because of poor attendance. What will be this student's net average marks scored?

A 35

B 40

C 45

D 50

Answer: C

Explanation:
Total marks scored by the student = 70 + 55 + 30 + 35 + 60 = 250

=> Average marks = $\frac{250}{5} = 50$

But due to poor attendance, 5 marks are deducted

$\therefore$ Net average = 50 - 5 = 45

=> Ans - (C)

SSC CHSL 15 Jan 2017 Evening Shift

Reasoning

Instructions
For the following questions answer them individually

Question 1

Select the related word/letters/number from the given alternatives.
Iron Man Of India : Sardar Vallabhbhai Patel : : Father of the Nation : ?

A Lokmanya Tilak

B Rajeev Gandhi

C Jawahar Lal Nehru

D Mahatma Gandhi

Answer: D

Explanation:
Sardar Vallabhbhai Patel is known as Iron Man Of India, similarly Mahatma Gandhi is known as the Father of the Nation.

=> Ans - (D)

Question 2

Select the related word/letters/number from the given alternatives.
GLIDERS : ERSDGLI : : TOASTER : ?

A TERSTAO

B TESRTOA

C TERSTOA

D TERRTOA

Answer: C

Explanation:
Expression = GLIDERS : ERSDGLI : : TOASTER : ?

The pattern followed is :

Similarly, TOASTER : **TERSTOA**

=> Ans - (C)

Question 3

Select the related word/letters/number from the given alternatives.
THUNDER : UHTNRED : : THIEVES : ?

A ITHESEV

B IHTEESV

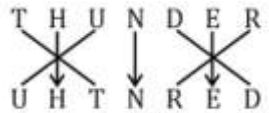
C IHTESEV

D IHTSEVE

Answer: C

Explanation:
Expression = THUNDER : UHTNRED : : THIEVES : ?

The pattern followed is :



Similarly, THIEVES : **IHTESEV**

=> Ans - (C)

Question 4

Select the related word/letters/number from the given alternatives.
534 : 645 : : 381 : ?

A 446

B 486

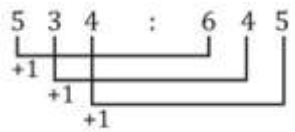
C 492

D 412

Answer: C

Explanation:
Expression = 534 : 645 : : 381 : ?

The pattern followed is :



Similarly, 381 : **492**

=> Ans - (C)

Question 5

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

A Mustard gas

B Gasoline

C Diesel

D Natural gas

Answer: A

Explanation:
Except mustard gas others are petroleum products, hence it is the odd one out.

=> Ans - (A)

Question 6

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

A PD

B LE

C IC

D DB

Answer: B

Explanation:
According to value of position first digit is divisible by second digit, i.e. :

P = 16 and D = 4, => $\frac{16}{4} = 4$

L = 12 and E = 5, => $\frac{12}{5} = 2.4$

I = 9 and C = 3, => $\frac{9}{3} = 3$

D = 4 and B = 2, => $\frac{4}{2} = 2$

=> Ans - (B)

Question 7

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

A 125

B 512

C 1321

D 1728

Answer: C

Explanation:
$125 = 5^3, 512 = 8^3$ and $1728 = 12^3$, but 1321 is not a perfect cube, hence it is the odd one out.

=> Ans - (C)

Question 8

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

A 125

B 512

C 1331

D 1728

Answer: D

Explanation:
The sum of digits of the numbers is 8, but $1 + 7 + 2 + 8 = 18$, hence 1728 is the odd one out.

=> Ans - (D)

Question 9

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.
Dadabhai Naoroji, Bal Gangadhar Tilak, Lala Lajpat Rai, ?

A Mahatma Gandhi

B Jawaharlal Nehru

C Subhash Chandra Bose

D Bhagat Singh

Answer: A

Explanation:
The leaders are given in decreasing order of their ages.

= Dadabhai Naoroji -> Bal Gangadhar Tilak -> Lala Lajpat Rai -> Mahatma Gandhi

=> Ans - (A)

Question 10

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.
HK, ? , PQ, TT, XW

A LN

B NO

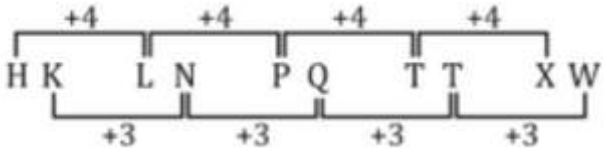
C LK

D NM

Answer: A

Explanation:
Expression : HK, ? , PQ, TT, XW

The pattern followed is :



Thus, missing term = **LN**

=> Ans - (A)

Question 11

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.
JN, OR, UW, BC, ?

A KM

B JJ

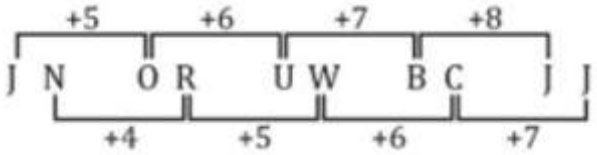
C JK

D KJ

Answer: B

Explanation:
Expression : JN, OR, UW, BC, ?

The pattern followed is :



Thus, missing term = **JJ**

=> Ans - (B)

Question 12

A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.
30, 62, 189, 760, ?

A 3306

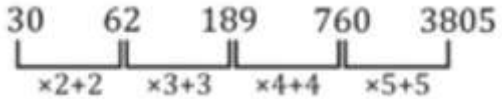
B 1157

C 2185

D 3805

Answer: D

Explanation:
The pattern followed is :



Thus, missing number = **3805**

=> Ans - (D)

Question 13

In the following question, two statements are given each followed by two conclusions I and II. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.
Statement:
(I) Only first division holders are admitted.
(II) Ram is a first division holder.
Conclusions:
(I) Ram is admitted.
(II) Only Ram is admitted.

A Conclusion I follows

B Conclusion II follows

C Neither I nor II follows

D Both I and II follows

Answer: A

Question 14

Five friends are sitting on a bench facing the north. Ankit is sitting to the immediate right of Anjum. Amit is sitting to the left of Priya and to the immediate right of Ram. Ram is sitting to the right of Ankit. Who is sitting at the extreme right end?

A Amit

B Ankit

C Priya

D Anjum

Answer: C

Explanation:
Ankit is sitting to the immediate right of Anjum. Ram is sitting to the right of Ankit.

=> Order of these three is : Anjum Ankit Ram

Amit is sitting to the left of Priya and to the immediate right of Ram.

=> Priya is sitting second to the right of Ram.

Thus, arrangement :

Anjum	Ankit	Ram	Amit	Priya

∴ **Priya** is sitting at the extreme right end.

=> Ans - (C)

Question 15

Arrange the given words in the sequence in which they occur in the dictionary.
i. Claim
ii. Clearly
iii. Clerk
iv. Clerical

A ii, i, iv, iii

B i, iii, ii, iv

C i, ii, iii, iv

D i, ii, iv, iii

Answer: D

Explanation:
As per the order of dictionary :

= Claim -> Clearly -> Clerical -> Clerk

≡ i, ii, iv, iii

=> Ans - (D)

Question 16

In a certain code language, "PEPPER" is written as "@#@@#!" and "AIM" is written as "^?*". How is "PAMPER" written in that code language?

A @^*@#!

B @*^@#!

C @^*#@!

D @^*@!#

Answer: A

Explanation:
The codes for each letter is given :

P -> @
A -> ^
M -> *
P -> @
E -> #
R -> !

Thus, PAMPER : @^*@#!

=> Ans - (A)

Question 17

Find the missing number in the given table

24	30	19
5	7	18
9	1	?

A 4

B 1

C 5

D 6

Answer: B

Question 18

If "#" means "subtraction", "&" means "division", "@" means "addition" and "%" means "multiplication", then 217 & 7 # 3 @ 2 % 7 = ?

A 21

B 19

C 22

D 42

Answer: D

Explanation:
Expression : 217 & 7 # 3 @ 2 % 7 = ?

$\equiv 217 \div 7 - 3 + 2 \times 7$

= $(\frac{217}{7}) + (-3) + (2 \times 7)$

= $31 - 3 + 14 = 42$

=> Ans - (D)

Question 19

In the following question, which one set of letters when sequentially placed at the gaps in the given letter series shall complete it? JK_MJ_LM_KL_

A JKLL

B LKKM

C LKJM

D KJLM

Answer: C

Explanation:
The pattern followed is that in groups of 4, the term 'JKLM' is repeated.

= JK**L**M J**K**LM **J**KL**M**

=> Ans - (C)

Question 20

Ravi's house is to the west of Ankit's house. Lavi's house is to the north of Ankit's house. In which direction is Lavi's house with respect to Ravi's house?

A SouthWest

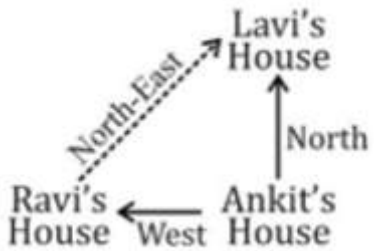
B NorthEast

C NorthWest

D SouthEast

Answer: B

Explanation:



Ravi's house is to the west of Ankit's house and Lavi's house is to the north of Ankit's house.

Thus, Lavi's house is north-east of Ravi's house.

=> Ans - (B)

Question 21

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 shown In the given two matrices. The columns and rows of Matrix.] are numbered from 0 to 4 and that of Matrix•I] are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example. '0' can be represented by 65, 88 etc. and 'F' can be represented by 13, 42 etc. Similarly, you have to identify the set for the word 'NAVY'.

MATRIX 1

	0	1	2	3	4
0	A	T	G	D	O
1	I	A	N	F	I
2	N	V	Y	A	F
3	A	N	V	S	E
4	O	L	F	B	N

MATRIX 2

	5	6	7	8	9
5	Y	N	L	R	Y
6	O	I	V	A	O
7	N	V	S	L	F
8	Y	L	W	O	F
9	V	V	Y	H	A

A 20, 34, 76, 68

B 12, 79, 95, 55

C 44, 23, 67, 69

D 75, 00, 96, 59

Answer: D

Explanation:
(A) : 20, 34, 76, 68 = NEVA

(B) : 12, 79, 95, 55 = NFVY

(C) : 44, 23, 67, 69 = NAVO

(D) : 75, 00, 96, 59 = **NAVY**

=> Ans - (D)

Question 22

Pointing to a woman, a girl says, "Her daughter-in-law is married to the only son of my husband's mother--in-law." How is the girl related to the woman?

A Niece

B Granddaughter

C Daughter

D Cousin

Answer: C

Explanation:
Only son of the girl's husband's mother-in-law = girl's brother

Now, the woman's daughter-in-law is married to girl's brother.

Thus, the girl is the woman's daughter.

=> Ans - (C)

Question 23

If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure ?

A 

B 

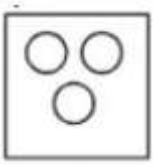
C 

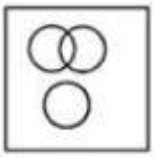
D 

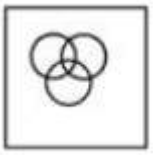
Answer: C

Question 24

Identify the diagram that best represents the relationship among the given classes. Sister, Mother, Brother

A 

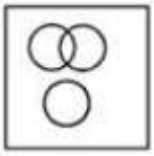
B 

C 

D 

Answer: B

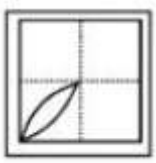
Explanation:
Some mothers can be sisters and vice-versa, but a brother, being a boy can never be a sister or mother. Thus, the second diagram best describes above relationship.

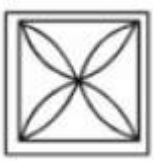


=> Ans - (B)

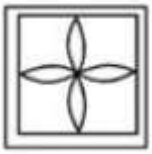
Question 25

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



A 

B 

C 

D 

Answer: A

General Awareness

Instructions
For the following questions answer them individually

Question 26

The unit of measurement of a word length is

A Meter

B Byte

C Bit

D Millimetre

Answer: B

Question 27

Who invented EMail?

A Tim BernersLee

B James Gosling

C Vinton Cerf

D VA Shiva Ayyadurai

Answer: D

Question 28

Which of the following is also used as a Bio fertilizer?

A Urea

B Ammonia

C Uric Acid

D Nitrates

Answer: B

Question 29

Which one of the following is an insectivorous plant?

A Utricularia

B Sequoia Gigantia

C Nostoc

D Bryophyta

Answer: A

Question 30

.....is a multibranched polysaccharide of glucose that serves as a form of energy storage in animals and fungi.

A Cellulose

B Glycogen

C Pectin

D Chitin

Answer: B

Question 31

Which of the following gas leaked in the Bhopal Gas tragedy in December 1984?

A Methyl isocyanate

B Methyl isochlorate

C Methyl Phosphate

D Methyl Isopropate

Answer: A

Question 32

.....is used for making vinegar.

A Tartaric acid

B Malic acid

C Oxalic acid

D Acetic acid

Answer: D

Question 33

Who built Shantiniketan?

A Guru Ramdas

B Maharaja Pratap Singh

C Rabindra Nath Tagore

D British Govt

Answer: C

Question 34

The language in which Buddha preached?

A Hindi

B Urdu

C Pali

D Hebrew

Answer: C

Question 35

If the average total cost are Rs 54, total fixed cost is Rs 45000 and quantity produced is 2500 units, find the average variable costs (in Rs) of the firm?

A 24

B 18

C 36

D 60

Answer: C

Question 36

The law of demand states that

A if the price of a good increases, the demand for that good decreases.

B if the price of a good increases, the the demand for that good increases.

C if the price of a good increases, the quantity demanded of that good decreases.

D if the price of a good increases, the quantity demanded of that good increases.

Answer: C

Question 37

Major portion of the earth's crust is mainly constituted by

A Oxygen and Iron

B Oxygen and Silicon

C Silicon and Iron

D Silicon and Aluminium

Answer: B

Question 38

Cinnabar is an ore/mineral of

A Lead

B Manganese

C Molybdenum

D Mercury

Answer: D

Question 39

Who played the lead character in the movie "Bandit Queen"?

A Rupa Ganguly

B Sangeeta Mahapatra

C Seema Biswas

D Sonali Saha

Answer: C

Question 40

If a star is bigger than Sun, but not more than twice as big, it will turn into a.....

A Pulsar

B Maxima

C Avenger

D Discover

Answer: A

Question 41

Name the largest desert of Asia

A Thar

B Gobi

C Takla Makan

D Karakum

Answer: B

Question 42

Who was appointed by Akbar as his Court Musician?

A Abul Fazal

B Mian Tansen

C Raja Birbal

D Raja Todar Mal

Answer: B

Question 43

Ashoka was a king of which dynasty?

A Pradyota

B Haryanka

C Maurya

D Nanda

Answer: C

Question 44

Which Indian won a Nobel Peace Prize in 2014?

A Kailash Satyarthi

B Venkat Raman

C Ram Krishnan

D Mother Teresa

Answer: A

Question 45

One nanometer is equal to.....meters.

A 10 raised to the power (c:

B 10 raised to the power (6)

C b: 10 raised to the power (6)
c: 10 raised to the power (9)

D 10 raised to the power (1b:

Answer: C

Question 46

What is the unit of relative density?

A kg/m

B kg/m2

C kg/m3

D It has no unit

Answer: D

Question 47

To be a voter in India, what is the minimum qualifying age?

A 24 Years

B 22 Years

C 20 Years

D 18 Years

Answer: D

Question 48

Indian Constitution came into force on

A 15th August 1947

B 26th January 1950

C 26th November 1948

D 6th November 1948

Answer: B

Question 49

The first Asian city to host Summer Olympics was.....

A Moscow

B Beijing

C Tokyo

D Singapore

Answer: C

Question 50

Who is the author of "I Too Had A Love Story"?

A Jhumpa Lahiri

B Amish Tripathi

C Ravinder Singh

D Salman Rushdie

Answer: C

English

Instructions
For the following questions answer them individually

Question 51

Select the synonym of spine

A supple

B vertebrae

C rotund

D grime

Answer: B

Question 52

Improve the bracketed part of the sentence. If I (have had) money, I would have bought this car.

A had

B did have

C had had

D no improvement

Answer: A

Question 53

Rearrange the parts of the sentence in correct order.
The first clue
Pto the nature of this agenda
Qlies in the origin of
Rthe smart city idea itself

A RPQ

B QPR

C QRP

D PQR

Answer: D

Question 54

In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.
I had invited(A)/all my sisterinlaws(B)/to my son's birthday party.(C)/No error(D)

A A

B B

C C

D D

Answer: B

Question 55

In the following question, out of the four alternatives, select the alternative which is the best substitute of the phrase.
a loud, harsh, piercing cry

A noise

B howl

C screech

D cry

Answer: C

Question 56

In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.
Run out of steam

A To lose impetus or enthusiasm

B To work quickly like a machine

C To give up easily

D no more money to spend

Answer: A

Question 57

Select the word with the correct spelling.

A haunchhes

B exulltant

C marketted

D transmit

Answer: D

Explanation:
The correct spelling of 'haunchhes' is 'haunches'.
The correct spelling of 'exulltant' is 'exultant'.
The correct spelling of 'marketted' is 'marketed'.

The only word correctly spelled among the given options is 'transmit'. Therefore, option D is the right answer.

Question 58

Select the antonym of demure

A humble

B bold

C coy

D sober

Answer: B

Explanation:
'Demure' means 'shy and reserved'.

'Coy' means 'pretending to be shy'. 'Sober' means 'not under the influence of alcohol'.

Therefore, 'bold' is the word opposite in meaning to 'demure'. Hence, option B is the right answer.

Question 59

Select the word with the correct spelling.

A stumbal

B wrinkeled

C bristles

D reasert

Answer: C

Question 60

In the following question, a sentence has been given in Active/Passive voice. Out of four alternatives suggested, select the one which best expresses the same sentence in Passive/Active voice.
The payment was collected by the hardworking salesman.

A The hardworking salesman collected the payment.

B The salesman who worked hard was able to collect the payment.

C To collect the payment the salesman had to work hard.

D The hardworking salesman was able to collect the payment.

Answer: D

Question 61

In the following question, a sentence has been given in Direct/Indirect speech. Out of the four alternatives suggested, select the one which best express the same sentence in Indirect/Direct speech.
The client said to the ticketseller, "At what time do the counters close?"

A The client asked the ticketseller at what time the counters closed.

B The client asked the ticketseller at what time did the counters always close.

C The client said to the ticketseller at what time the counters close.

D The client inquired to the ticketseller at what time the counters usually close.

Answer: A

Question 62

Improve the bracketed part of the sentence.
This palace (has been belonging) to our family since generations.

A has belonging

B has belonged

C belonged

D no improvement

Answer: B

Question 63

Rearrange the parts of the sentence in correct order.
One year after its official launch,
Pwhile expectations
Qhas largely escaped political scrutiny
Rhave been scaled down, the rhetoric

A QPR

B RPQ

C PRQ

D PQR

Answer: C

Question 64

In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.
The Department has..... a complaint against Mr. Bakshi.

A expressed

B registered

C informed

D noted

Answer: B

Question 65

In the following question, out of the four alternatives, select the alternative which is the best substitute of the phrase.
A hollow object used to contain something.

A platter

B salver

C plate

D receptacle

Answer: D

Question 66

In the following question, the sentence given with blank to be filled in with an appropriate word. Select the correct alternative out of the four and indicate it by selecting the appropriate option.
He has a.....interest in studying human psychology.

A deep

B wide

C vast

D heavy

Answer: A

Explanation:
The sentence expresses an interest in 'human psychology'. Since it is a single subject, 'wide' does not fit the blank. Only the word 'deep' fits the blank correctly.

Question 67

In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.
Due to me being new(A)/to the city, I had(B)/difficulty in finding a job.(C)/No error(D)

A A

B B

C C

D D

Answer: A

Question 68

Select the synonym of purge

A evacuate

B pressurize

C thrust

D float

Answer: A

Explanation:
'Purge' means to get rid of something. Option A - 'evacuate' also means the same thing.

Question 69

Select the antonym of genteel

A uncivilized

B stuffy

C urbane

D prim

Answer: A

Question 70

In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.
saved by the bell

A when time is in your favour

B saved at the last moment

C the bell rings at the most opportune time

D prayers are answered when the church bell rings

Answer: B

Explanation:
'saved by the bell' means to escape narrowly. Hence, option B is the correct answer.

Instructions

In the following passage some of the words have been left out. Read the passage carefully and select the correct answer for the given blank out of the four alternatives.
In Greek mythology, it is said that Lycurgus, the ruler of Sparta, ...(1).....a promise from his .....(2).....,

assuring him of the immutability of his laws till he returned from an .....(3).....journey. To make his laws immutable, Lycurgus ……(4)…... Seven justices of the Indian Supreme Court on a historic day in 1973 christened themselves as modernday Lycurguses, seeking to create, in India's constitutional context, an island of immutability, ...(5).....titled the "basic structure".

Question 71

(1)

A elicited

B derived

C evinced

D attested

Answer: A

Explanation:
The tone of the sentence suggests that he made someone to give him a promise of something. Hence, 'elicit' is the best fit for the blank as it means to call forth something. Hence, option A is the correct answer.

Question 72

(2)

A nation

B society

C subjects

D community

Answer: C

Explanation:
The sentence says that he got a promise from someone. Hence, in this context, 'subjects' is the best fit as it means that he made his people promise him that they will adhere to his laws till he returns. Hence, option C is the correct answer.

Question 73

(3)

A impending

B brewing

C approaching

D looming

Answer: A

Explanation:
The sentence talks about his return from some journey. The context of the passage suggests that the promise was made before he set forth for the journey. Hence, impending is the best choice. Thus, option A is correct.

Question 74

(4)

A did not return

B never did return

C never returns

D never returned

Answer: D

Explanation:
From the passage, it is clear that his subjects had promised him that his laws would be immutable till he returns. Hence, if never returns than his laws will remain immutable. Thus, option D is correct.

Question 75

(5)

A timely

B aptly

C opportunely

D pertinently

Answer: B

Explanation:
From the reading of the passage, it is clear that the title appropriately fits the context. Hence, 'apt' is the right choice for the given blank. Hence, option B is correct.

Mathematics

Instructions
For the following questions answer them individually

Question 76

What should be added to 8(3x-4y) to obtain 18x-18y?

A 6x - 14y

B 14y + 6x

C 14y- 6x

D 6xy

Answer: C

Explanation:
Let m should be added to 8(3x-4y) to obtain 18x-18y

=> $(m) + [8(3x - 4y)] = 18x - 18y$

=> $m + 24x - 32y = 18x - 18y$

=> $m = (32y - 18y) + (18x - 24x)$

=> $m = 14y - 6x$

=> Ans - (C)

Question 77

What is the equation of the line whose yintercept is 3/4 and making an angle of 45° with the positive xaxis?

A 4x - 4y = 2

B 4x - 4y = -3

C 3x - 3y = 4

D 3x - 4y = 4

Answer: B

Explanation:
Slope of line making an angle of 45° with the positive x-axis = $tan(45°)$

=> Slope, $m = 1$

y-intercept, $c = \frac{3}{4}$

Equation of line having slope m and y intercept c is : $y = mx + c$

=> $y = x + \frac{3}{4}$

=> $4y = 4x + 3$

=> $4x - 4y = -3$

=> Ans - (B)

Question 78

If a retailer offers a discount of 32% on the marked price of his goods and thus ends up selling at cost price, what was the % markup price?

A 24 percent

B 47.05 percent

C 22.34 percent

D 32 percent

Answer: B

Explanation:
Let marked price = $Rs.100$

Discount % = 32%

=> Selling price = $100 - (\frac{32}{100} \times 100)$

= $100 - 32 = Rs.68$

According to ques, => Cost price = Selling price = Rs. 68

$\therefore$ Markup % = $\frac{100-68}{68} \times 100$

= $\frac{800}{17} = 47.05\%$

=> Ans - (B)

Question 79

In what ratio does the point T (3,0) divide the segment joining the points S (4,2) and U (1,4)?

A 2:1

B 1:2

C 2:3

D 3:2

Answer: B

Explanation:

Using section formula, the coordinates of point that divides line joining A = (x_1, y_1) and B = (x_2, y_2) in the ratio a : b

= $(\frac{ax_2+bx_1}{a+b}, \frac{ay_2+by_1}{a+b})$

Let the ratio in which the segment joining S and U is divided by the point T = $k : 1$

Now, point T(3,0) divides S(4,2) and U(1,4) in ratio = k : 1

=> $0 = \frac{(4\times k)+(2\times 1)}{k+1}$

=> $4k + 2 = 0$

=> $k = \frac{-2}{4} = \frac{-1}{2}$

∴ Line segment joining S and U is divided by T in the ratio = 1 : 2 externally

=> Ans - (B)

Question 80

The average revenues of 7 consecutive years of a company is Rs 75 lakhs. If the average of first 4 years is Rs 70 lakhs and that of last 4 years is Rs 82 lakhs, what will be the revenue for the 4th year.

A Rs 85 lakhs

B Rs 83 lakhs

C Rs 81 lakhs

D Rs 79 lakhs

Answer: B

Explanation:
Total revenues of 7 years of the company = 75×7 = Rs. 525 lakhs

Total revenue of first 4 years = 70×4 = Rs. 280 lakhs

Total revenue of last 4 years = 82×4 = Rs. 328 lakhs

∴ Revenue of 4th year = (280 + 328) - 525 = 608 - 525

= Rs. 83 lakhs

=> Ans - (B)

Question 81

$\frac{(1+tan^2 A)cotA}{cosec^2 A}$ **is equal to**

A cotA

B tanA

C sinA

D cosA

Answer: B

Explanation:

Expression : $\frac{(1+tan^2 A)cotA}{cosec^2 A}$

$\because (sec^2 A - tan^2 A = 1)$

= $\frac{sec^2 AcotA}{cosec^2 A}$

= $\frac{1}{cos^2 A}\frac{cosA}{sinA} \div \frac{1}{sin^2 A}$

= $\frac{1}{sinAcosA} \div \frac{1}{sin^2 A}$

= $\frac{1}{sinAcosA} \times sin^2 A$

= $\frac{sinA}{cosA} = tanA$

=> Ans - (B)

Question 82

A mason can build a wall in 70 hours. After 7 hours he takes a break. What fraction of the wall is yet to be built?

A 0.9

B 0.8

C 0.5

D 0.75

Answer: A

Explanation:

Time taken to build the wall = 70 hours

Time spent = 7 hours

=> Fraction of the wall yet to be built = $\frac{(70-7)}{70} = \frac{63}{70}$

= $\frac{9}{10} = 0.9$

=> Ans - (A)

Question 83

To cover a distance of 216 km in 3.2 hours, what should be the average speed of the car in meters/second?

A 67.5 m/s

B 33.75 m/s

C 37.5 m/s

D 18.75 m/s

Answer: D

Explanation:
The car covers 216 km in 3.2 hours

Speed of car (in km/hr) = $\frac{216}{3.2} = 67.5$ km/hr

=> Speed in m/s = $67.5 \times \frac{5}{18}$

= $5 \times 3.75 = 18.75$ m/s

$\therefore$ In 1 second, it travels 18.75 metres

=> Ans - (D)

Question 84

Which of the following numbers is completely divisible by 99?

A 57717

B 57627

C 55162

D 56982

Answer: A

Explanation:
For a number to be divisible by 99, it must be divisible by 9 and 11

(A) : 57717 = 5 + 7 + 7 + 1 + 7 = 27 which is divisible by 9 and also by 11

(B) : 57627 = 5 + 7 + 6 + 2 + 7 = 27 which is divisible by 9 but not by 11

(C) : 55162 = 5 + 5 + 1 + 6 + 2 = 19 which is not divisible by 9

(D) : 56982 = 5 + 6 + 9 + 8 + 2 = 30 which is not divisible by 9

Thus, only option (A) is divisible by 99

Question 85

On a certain principal if the simple interest for two years is Rs 1400 and compound interest for the two years is Rs 1449, what is the rate of Interest?

A 7 percent

B 3.5 percent

C 14 percent

D 10.5 percent

Answer: A

Explanation:
Let the principal amount = $Rs.100x$ and rate of interest = $r\%$

Time period = 2 years

Simple Interest = $\frac{P\times R\times T}{100} = 1400$

=> $\frac{100x\times r\times 2}{100} = 1400$

=> $2rx = 1400$

=> $x = \frac{1400}{2r} = \frac{700}{r}$

Compound Interest = $P[(1+\frac{R}{100})^T - 1] = 1449$

=> $100x[(1+\frac{r}{100})^2 - 1] = 1449$

=> $100x[(1+\frac{r^2}{100^2} + 2\frac{r}{100}) - 1] = 1449$

=> $(100\times\frac{700}{r})[\frac{r^2}{10000} + \frac{2r}{100}] = 1449$

=> $7r + 1400 = 1449$

=> $7r = 1449 - 1400 = 49$

=> $r = \frac{49}{7} = 7\%$

=> Ans - (A)

Question 86

In an army selection process, the ratio of selected to unselected was 3:1. If 80 less had applied and 40 less selected, the ratio of selected to unselected would have been 4:1. How many candidates had applied for the process?

A 480

B 960

C 240

D 1440

Answer: A

Explanation:
Let $4x$ candidates applied for the process.

Candidates selected = $3x$ and candidates not selected = x

If candidates applied = $4x - 80$

Candidates selected = $3x - 40$

=> Candidates not selected = $(4x - 80) - (3x - 40) = x - 40$

According to ques,

=> $\frac{3x-40}{x-40} = \frac{4}{1}$

=> $3x - 40 = 4x - 160$

=> $x = 160 - 40 = 120$

$\therefore$ Number of candidates who applied for the process = $4 \times 120 = 480$

=> Ans - (A)

Question 87

If 4(2x+3)>5-x and 5x -3(2x-7)>3x-1, then x can take which of the following values?

A -6

B -1

C 5

D 6

Answer: C

Explanation:
Expression 1 : 4(2x+3)>5-x

=> $8x + 12 > 5 - x$

=> $8x + x > 5 - 12$

=> $9x > -7$

=> $x > \frac{-7}{9}$ ----------(i)

Expression 2 : 5x -3(2x-7)>3x-1

=> $5x - 6x + 21 > 3x - 1$

=> $3x + x < 21 + 1$

=> $4x < 22$

=> $x < \frac{11}{2}$ ----------(ii)

Combining inequalities (i) and (ii), we get : $\frac{-7}{9} < x < \frac{11}{2}$

The only value that x can take among the options = 5

=> Ans - (C)

Question 88

If 5x - 40 = 3x, then the numerical value of 2x - 11 is

A 29

B 39

C 19

D 9

Answer: A

Explanation:
Expression : 5x - 40 = 3x

=> $5x - 3x = 40$

=> $x = \frac{40}{2} = 20$

To find : 2x - 11

= $(2 \times 20) - 11$

= $40 - 11 = 29$

=> Ans - (A)

Question 89

Which of the following equations has equal roots?

A $3x2 - 6x + 2 = 0$

B $3x^2 - 6x + 3 = 0$

C $x^2 - 8x + 8 = 0$

D $4x^2 - 8x + 2 = 0$

Answer: B

Explanation:
A quadratic equation : $ax^2 + bx + c = 0$ has equal roots iff Discriminant, $D = b^2 - 4ac = 0$

(A) : $3x2 - 6x + 2 = 0$

=> D = $(-6)^2 - 4(3)(2) = 36 - 24 = 12 \neq 0$

(B) : $3x^2 - 6x + 3 = 0$

=> D = $(-6)^2 - 4(3)(3) = 36 - 36 = 0$

(C) : $x^2 - 8x + 8 = 0$

=> D = $(-8)^2 - 4(1)(8) = 64 - 32 = 32 \neq 0$

(D) : $4x^2 - 8x + 2 = 0$

=> D = $(-8)^2 - 4(4)(2) = 64 - 32 = 32 \neq 0$

Thus, the equation : $3x^2 - 6x + 3 = 0$ has equal roots.

Question 90

Two students appeared for an examination. One of them secured 9 marks more than the other and his marks were 56% of the sum of their marks. The marks obtained by them are

A 40 and 31

B 72 and 63

C 42 and 33

D 68 and 59

Answer: C

Explanation:
Let marks scored by 1st student = x

=> Marks scored by another student = $(x + 9)$

According to question, => $(x + 9) = \frac{56}{100} \times (x + x + 9)$

=> $x + 9 = \frac{14}{25} \times (2x + 9)$

=> $25x + 225 = 28x + 126$

=> $3x = 225 - 126 = 99$

=> $x = \frac{99}{3} = 33$

∴ Marks scored by other student = 33 + 9 = 42

=> Ans - (C)

Question 91

If tan(A - B) = X, then the value of X is

A $\frac{(tanA - tanB)}{(1 - tanAtanB)}$

B $\frac{(tanA + tanB)}{(1 - tanAtanB)}$

C $\frac{(tanA-tanB)}{(1+tanAtanB)}$

D $\frac{(tanA+tanB)}{(1-tanAtanB)}$

Answer: C

Explanation:

Expression : tan(A - B) = X

= $\frac{sin(A-B)}{cos(A-B)}$

= $\frac{sinAcosB-cosAsinB}{cosAcosB+sinAsinB}$

Dividing both numerator and denominator by $(cosAcosB)$

= $\frac{sinAcosB-cosAsinB}{cosAcosB} \div \frac{cosAcosB+sinAsinB}{cosAcosB}$

= $\frac{tanA-tanB}{1+tanAtanB}$

=> Ans - (C)

Question 92

What is the value of sec 330°?

A 2

B $\frac{-2}{\sqrt{3}}$

C 4

D $\frac{2}{\sqrt{3}}$

Answer: D

Explanation:

Expression : sec 330°

= $sec(360 - 30) = sec(30)$

= $\frac{2}{\sqrt{3}}$

=> Ans - (D)

Question 93

In a triangle the length of the side opposite the angle which measures 45° is 8 cm, what is the length of the side opposite to the angle which measures 90°?

A $8\sqrt{2}$ cm

B $4\sqrt{2}$ cm

C $8\sqrt{3}$ cm

D $4\sqrt{3}$ cm

Answer: A

Explanation:
In the given triangle, two angles are 90° and 45°, => Third angle = 45°

=> The given triangle is isosceles right angled triangle with measure of equal sides = 8 cm

Let length of hypotenuse = h cm

=> $h^2 = (8)^2 + (8)^2$

=> $h = \sqrt{2 \times (8)^2}$

=> $h = 8\sqrt{2}$ cm

=> Ans - (A)

Question 94

A trader had 22 quintals of wheat. He sold a part of it at 23% profit and the rest at 33% profit, so that he made a total profit of 27%. How much wheat did he sell at 33% profit?

A 1320 kg

B 440 kg

C 880 kg

D 1760 kg

Answer: C

Explanation:
1 quintal = 100 kg => 22 quintals = 2200 kg

Let the part he sold at 33% profit = x kg

=> Part he sold at 23% profit = $(2200 - x)$ kg

Total profit made by the trader = 27%

=> $33x + 23(2200 - x) = 27 \times 2200$

=> $33x + (23 \times 2200) - 23x = 27 \times 2200$

=> $10x = 2200 \times (27 - 23)$

=> $x = 220 \times 4 = 880$ kg

=> Ans - (C)

Question 95

If curved surface area of a cylinder is 1386 sq cm and height is 21 cm, what will be its radius? (Take π = 22/7)

A 21 cms

B 5.25 cms

C 10.5 cms

D 15.75 cms

Answer: C

Explanation:
Let radius of cylinder = r cm and height, $h = 21$ cm

Curved surface area of cylinder = $2\pi rh = 1386$

=> $2 \times \frac{22}{7} \times r \times 21 = 1386$

=> $44 \times 3 \times r = 1386$

=> $r = \frac{1386}{44 \times 3} = 10.5$ cm

=> Ans - (C)

Question 96

A solid has 12 vertices and 30 edges. How many faces does it have?

A 22

B 24

C 26

D 20

Answer: D

Explanation:
Euler's formula : $V + F - E = 2$ where V is number of vertices , F is number of faces and E is number of edges.

It is given that V = 12 and E = 30

=> F = 2 + E - V

= 2 + 30 - 12 = 20

=> Ans - (D)

Question 97

Refer the below data table and answer the following Question.

	Boys	Girls
Medical	30	70
Engineering	75	25

What percent students who chose Engineering are girls?

A 26.32

B 12.5

C 25

D 33.33

Answer: C

Explanation:
Number of girls who chose engineering = 25

Total number of engineers = 75 + 25 = 100

=> Percent of the girls who choose engineering = $\frac{25}{100} \times 100 = 25\%$

=> Ans - (C)

Question 98

Refer the below data table and answer the following Question.

	Cumulative Production
January	590
February	1240
March	1940
April	2610
May	3050
June	3420

How many cars were manufactured in the months of April and May?

A 810

B 1370

C 5660

D 1110

Answer: D

Explanation:
Number of cars produced in :

January = 590

February = 1240 - 590 = 650

March = 1940 - 1240 = 700

April = 2610 - 1940 = 670

May = 3050 - 2610 = 440

June = 3420 - 3050 = 370

=> Number of cars that were manufactured in the month of the April and may = 670 + 440 = 1110

=> Ans - (D)

Question 99

Refer the below data table and answer the following Question.

Day of the Week	Distance Jogged
Monday	3
Tuesday	2
Wednesday	2.5
Thursday	5
Friday	1
Saturday	2.5
Sunday	4

If 400 calories are burned by jogging 5km, how many calories were burnt in the given week?

A 1650 calories

B 1550 calories

C 1500 calories

D 1600 calories

Answer: D

Explanation:
Total distance jogged in entire week

= 3 + 2 + 2.5 + 5 + 1 + 2.5 + 4 = 20 km

Calories burned after jogging 5 km = 400 calories

=> Calories burned after jogging 20 km = $\frac{400}{5} \times 20$

= $80 \times 20 = 1600$ calories

=> Ans - (D)

Question 100

Refer the below data table and answer the following Question.

Items	Yearly Expense
Raw Materials	11
Labour	7
Rent	5
Interest	3
Taxes	3

Raw Materials and Taxes are what percent of total expenses?

A 55.53 percent

B 41.03 percent

C 33.78 percent

D 48.28 percent

Answer: D

Explanation:
Yearly expense in Raw material and taxes (in lakhs) = 11 + 3 = 14

Total expenses (in lakhs) = 11 + 7 + 5 + 3 + 3 = 29

=> Required % = $\frac{14}{29} \times 100$

= $\frac{1400}{29} \approx 48.28\%$

=> Ans - (D)