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# General Awareness

## Instructions

For the following questions answer them individually

### Question 1

What is the process of increasing the conductivity of intrinsic semiconductor by adding an appropriate amount of suitable impurity?

- A Frenkel defect
- B Schottky defect
- C Doping
- D Stoichiometry

Answer: C

### Question 2

Which is the Lower House of the Parliament?

- A Grama Sabha
- B Rajya Sabha and Lok Sabha
- C Lok Sabha
- D Rajya Sabha

Answer: C

### Question 3

The Indian Constitution was adopted on

- A 26th January, 1950
- B 15th August, 1947
- C 26th August, 1949
- D 26th November, 1949

Answer: D

### Question 4

Which one of the following is the abbreviation of the term 'OS' in the Gross Value Added Measurement?

- A Operating Subsidies
- B Operating System
- C Operating Surplus
- D Operating Statistics

Answer: C

Question 5

Who invented the game Volleyball?

- A John Wooden
- B Giba
- C Karch Kiraly
- D William G Morgan

Answer: D

Question 6

First Modern Olympic Games was held in which year?

- A 1908
- B 1896
- C 1951
- D 1784

Answer: B

Question 7

The vernal equinox in Northern Hemisphere occurs on which of the following dates?

- A Around 22nd December
- B Around 23rd September
- C Around 21st March
- D Around 21st June

Answer: C

Question 8

The winds which blow from Sub-tropical high pressure belt to Equatorial low pressure belt is called

- A Seasonal winds
- B Local winds
- C Trade winds
- D Westerlies

Answer: C

#### Question 9

Which of the following lakes is the largest freshwater lake in India?

- A Pulicat lake
- B Wular lake
- C Dal lake
- D Chilika lake

Answer: B

#### Question 10

Ashoka started to follow Buddhism after which one of the following battles?

- A Pataliputra
- B Ujjain
- C Kalinga
- D Taxila

Answer: C

#### Question 11

When did the historic Dandi March began?

- A March 21, 1930
- B March 21, 1931
- C March 12, 1930
- D March 12, 1931

Answer: C

#### Question 12

Which one of the following is our nearest galaxy?

- A Sombrero
- B Whirlpool
- C Triangulum
- D Andromeda

Answer: D

#### Question 13

Who among the following is referred to as the Parrot of India?

- A Abu'l-Fazl ibn Mubarak
- B Amir Khusrow
- C Dharma Pala
- D Marco Polo

Answer: B

#### Question 14

Who authored the famous 'Ain-i-Akbari'?

- A Abu'l-Fazl ibn Mubarak
- B Ibn Batuta
- C Gulbadan Begum
- D Abd-ul-Qadir Bada

Answer: A

#### Question 15

The displacement divided by the time interval in which the displacement occurs is termed

---

- A Average velocity
- B Average frequency
- C Instantaneous frequency
- D Average acceleration

Answer: A

#### Question 16

The only steel plant of India which has a coastal location is located at

- A Mumbai
- B Visakhapatnam
- C Chennai
- D Puducherry

Answer: B

#### Question 17

The process of providing suitable physical and social infrastructure for the upcoming urban areas is known as

- A Town and Country Planning
- B Social Planning
- C Town/Urban Planning
- D Family planning

Answer: C

#### Question 18

What is the total number of schedules in the Constitution?

- A 12
- B 10
- C 11
- D 13

Answer: A

#### Question 19

The main thrust of the First Five Year Plan was on

- A Coastal development
- B Agricultural development
- C Industrial development
- D Rural development

Answer: B

#### Question 20

The Jawahar Rozgar Yojana was launched in

- A 1989
- B 1987
- C 1953
- D 1990

Answer: A

#### Question 21

The maximum electric field that a dielectric medium can withstand without break-down is called its\_\_\_\_\_

- A Dielectric strength
- B Dipole inductance

- C Dipole flux
- D Dielectric capacitance

Answer: A

#### Question 22

Which Delhi Sultan was responsible for introducing token currency?

- A Ghiyas ud din Balban
- B Muhammad Bin Tughlaq
- C Alauddin Khalji
- D Iltutmish

Answer: B

#### Question 23

The famous Boxing personality Mary Kom belongs to which State?

- A Punjab
- B Sikkim
- C Meghalaya
- D Manipur

Answer: D

#### Question 24

The Dr. DY Patil stadium is located in

- A New Delhi
- B Kochi
- C Kolkata
- D Navi Mumbai

Answer: D

#### Question 25

The ground of sports for the game Lawn Tennis is called as

- A Court
- B Course
- C Field
- D Ring

Answer: A

Question 26

Among the following, Which one is associated with Men's Badminton?

- A Thomas Cup
- B Uber Cup
- C Ryder Cup
- D Azlan Shah Cup

Answer: A

Question 27

Which of the following features is borrowed from the French Constitution?

- A Principle of Equality
- B Principle of Liberty
- C Principle of Fraternity
- D All of these

Answer: D

Question 28

Which of the following processes/methods is used to remove the temporary hardness of the water?

- A Bayer Process
- B Down method
- C Haber Process
- D Clark's method

Answer: D

Question 29

Which process is used to harden the natural rubber?

- A Polymerization
- B Vulcanisation
- C Copolymerisation
- D Condensation

Answer: B



**Question 30**

Which is the legislative organ of the Union Government?

- A State Legislature
- B Council of Ministers
- C Supreme court
- D Parliament

Answer: D

**Question 31**

The first railway line was laid between

- A Mumbai and Thane
- B Kolkata and Raniganj
- C Mumbai and Nashik
- D Chennai and Arakkonam

Answer: A

**Question 32**

Which one of the following organizations publishes the Human Development Index?

- A UNESCO
- B UNDP
- C UDHR
- D UNEP

Answer: B

**Question 33**

Which one of the following is a major gas present in the Sun?

- A Carbon dioxide
- B Methane
- C Oxygen
- D Hydrogen

Answer: D

**Question 34**

Which of the following regulates the process of transpiration and gaseous exchange in plants?

- A Bracteate
- B Style
- C Stomata
- D Tendril

Answer: C

#### Question 35

Which of the following is also called as Leucocytes?

- A Red Blood Cells
- B Haemoglobin
- C Platelets
- D White Blood Cells

Answer: D

#### Question 36

Which Court is called the Court of Record?

- A District Court
- B Munsif Court
- C Supreme Court
- D Consumer Court

Answer: C

#### Question 37

The phenomenon in which the electrons move with an average velocity which is independent of time, although electrons are accelerated is called

- A Drift velocity
- B Linear velocity
- C Momentum velocity
- D Angular velocity

Answer: A

#### Question 38

Who among the following was known for his famous work "Arthashastra"?

- A Aryabhata
- B Ashoka
- C Chanakya
- D Kalidasa

Answer: C

#### Question 39

Wheeler island is an offshore island located near the coast of

- A Tamil Nadu
- B West Bengal
- C Odisha
- D Andhra Pradesh

Answer: C

#### Question 40

How many states are there in Indian Constitution?

- A 27 states
- B 26 states
- C 29 states
- D 28 states

Answer: C

#### Question 41

In which year the Indian Government initiated the Economic reforms?

- A 1995
- B 1930
- C 2010
- D 1991

Answer: D

#### Question 42

Who was the last Governor General of free India?

- A Jawaharlal Nehru
- B Sardar Vallabhbhai Patel

- C C. Rajagopalachari
- D Netaji Subhash Chandra Bose

Answer: C

#### Question 43

Who was the founder of Chola dynasty?

- A Vijayalaya
- B Aditya Chola
- C Raja Raja Chola
- D Rajendra Chola

Answer: A

#### Question 44

The Constitution has not fixed the term of office of members of which House among the following, which is left to the Parliament?

- A Panchayat Sabha
- B Lok Sabha
- C Rajya Sabha
- D Grama Sabha

Answer: C

#### Question 45

Which was the new body appointed for appointing judges?

- A National Judicial Appointments Commission
- B Union Public Service Commission
- C Judges Selection Commission
- D Collegium

Answer: A

#### Question 46

Who set up 'Swadesh Bandhab Samiti' to propagate swadeshi movement?

- A Promod Mitter
- B Rabindranath Tagore
- C Aurobindo Ghosh
- D Ashwini Kumar Datta

Answer: D

Question 47

Khajuraho temples were made by

- A Pandyas
- B Chandela
- C Cheras
- D Pallavas

Answer: B

Question 48

What type of document is the Indian Constitution?

- A Mural
- B Unwritten
- C Written
- D Pictographic

Answer: C

Question 49

Which river changes its course very frequently?

- A Kosi
- B Tapi
- C Narmada
- D Wardha

Answer: A

Question 50

The arrangement of flowers on the floral axis is termed as

- A Tendrils
- B Inflorescence
- C Spines
- D Calyx

Answer: B

## Reasoning

### Instructions

For the following questions answer them individually

#### Question 51

Replace the question mark with an option that follows the same logic applied in the first pair

Thermometer:Temperature::Clock: ??

- A Mobile
- B Time
- C Heat
- D Energy

Answer: B

#### Question 52

If a mirror is placed on the shaded line, then which of the following options is the right image of the given figure?



- A GREECE
- B EREEC
- C EREEC
- D GREECE

Answer: A

Question 53

Choose the correct water image of the given question from the given options.

MURPHY

A WUBBHΛ

B MUBBHΛ

C WUBBHΥ

D ΥHQBUM  
A|

Question 54

Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
Pleasant, Lovely, Nas ty, Great, Nice

A Great

B Lovely

C Pleasant

D Nasty

Answer: D

Question 55

How many straight lines are there in the given figure?



A 7

B 8

C 6

D 10

Answer: D

#### Question 56

Read the given information carefully and answer the questions that follow.

Eight people P, Q, R, S, T, U, V and W sit around a square table facing centre (not necessarily in the same order) in such a way that four of them sit at four corners of the square while the remaining four sit in the middle of each of the four sides.

- i) P sits between S and W but not in any of the corners.
- ii) Q sits third to the right of P but doesn't sit diagonally opposite to W.
- iii) R sits in one of the corners.
- iv) T sits opposite to U but not next to R.

Which of the following options is the odd man out with respect to the arrangement?

- A S
- B T
- C U
- D V

Answer: A

#### Question 57

A is B's mother. C is D's father. E is D's grandmother and A's mother-in-law who has only one son. How is B related to D, if B is a female?

- A Cousin
- B Niece
- C Sister
- D Aunt

Answer: C

#### Question 58

In this question, three statements are given followed by three conclusions. You have to assume everything in the statement to be true, then consider the given conclusions together and decide which of them logically follows beyond a reasonable doubt from the information given in the statements.

Statements: All lights are beams. Some beams are reds. All reds are bright.

Conclusions:

- i) Some lights are reds
- ii) Some lights are bright
- iii) Some bright are beams

- A Only i) and iii)
- B Only i) and ii)
- C Only ii) and iii)
- D Only (iii)

Answer: D



Question 59

Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?

BFJ, HLP, NQT, RVZ, LPT

A LPT

B RVZ

C BFJ

D NQT

Answer: D

Question 60

Introducing a girl, Vinod said to Kajol, "She is my wife's father-in-law's daughter's daughter." How is the girl related to Vinod?

A Sister

B Mother

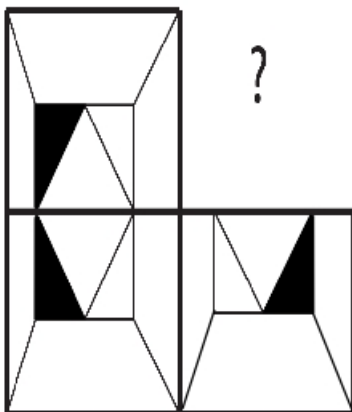
C Cousin

D Niece

Answer: D

Question 61

Choose the correct alternative which will complete the image pattern of the given image.



A



B



C



D



Answer: D

#### Question 62

In a certain code language, if ANGLE is coded as BPHNF, then how is BAKER coded in that language?

A DCMGT

B CBLFS

C DMCTG

D CCLGS

Answer: D

#### Question 63

Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to that group?  
G, I, N, O, R

A N

B G

C R

D O

Answer: B

#### Question 64

In this question, a statement is given followed by two conclusions numbered i and ii. You have to assume everything in the statement to be true, then consider the two conclusions together and decide which of them logically follows beyond a reasonable doubt from the information given in the statement.

**Statement:** This is not the first time in India where a kid is swept away in floodwaters.

**Conclusion:**

i) Floods often occur in India.

ii) Incidents like this had already happened in India.

Choose the appropriate one from the following options

(A) Only conclusion i follows

(B) Only conclusion ii follows

(C) Either i or ii follows

(D) Neither i nor ii follows

(E) Both i and ii follow.

A C

B B

C D

D A

Answer: B

#### Question 65

In this question, three statements showing relationship have been given, which are followed by three conclusions i, ii and iii.

Assuming that the given statements are true, find out which conclusion(s) is/are definitely true.

**Statements:**  $A > D \geq V$ ;  $V < I \leq S$ ;  $S = E > R$

**Conclusions:**

i)  $D \leq S$

ii)  $I < R$

iii)  $V \leq E$

A only i) and iii)

B Only ii) and iii)

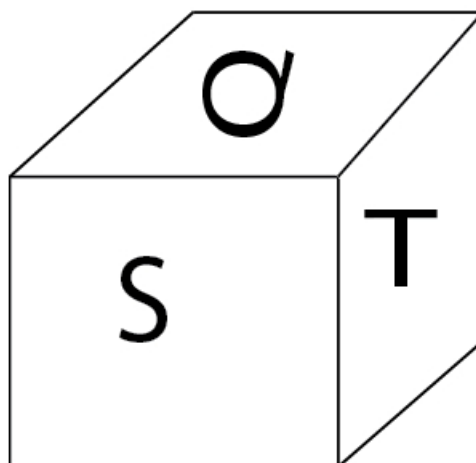
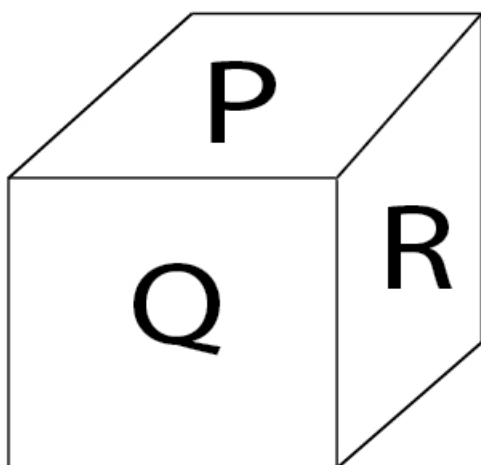
C Only iii)

D None follows

Answer: D

Question 66

Each face of the dice is printed with 6 letters P, Q, R, S, T and U as shown in the given figure. What letter is printed on the face opposite to letter S?



- A R
- B T
- C Q
- D U

Answer: A

Question 67

Read the given information carefully and answer the questions that follow. Eight people P, Q, R, S, T, U, V and W sit around a square table facing centre (not necessarily in the same order) in such a way that four of them sit at four corners of the square while the remaining four sit in the middle of each of the four sides.

- i) P sits between S and W but not in any of the corners.
- ii) Q sits third to the right of P but doesn't sit diagonally opposite to W.
- iii) R sits in one of the corners.
- iv) T sits opposite to U but not next to R.

Which of the following statements is false with respect to the arrangement?

- A R sits diagonally opposite to W
- B U sits second to the right of V
- C V and S are neighbours
- D T and U sit opposite to each other

Answer: C

### Question 68

In this question, two statements are given followed by two conclusions numbered i and ii. You have to assume everything in the statements to be true, then consider the two conclusions together and decide which of them logically follows beyond a reasonable doubt from the information given in the statements.

Statements: All pianos are sitars. All sitars are instruments.

Conclusions:

- i) All pianos are instruments.
- ii) Some instruments are Sitar.

Choose the appropriate one from the following options

- (A) Only conclusion i follows
- (B) Only conclusion ii follows
- (C) Either i or ii follows
- (D) Neither i nor ii follows
- (E) Both i and ii follow.

A C

B E

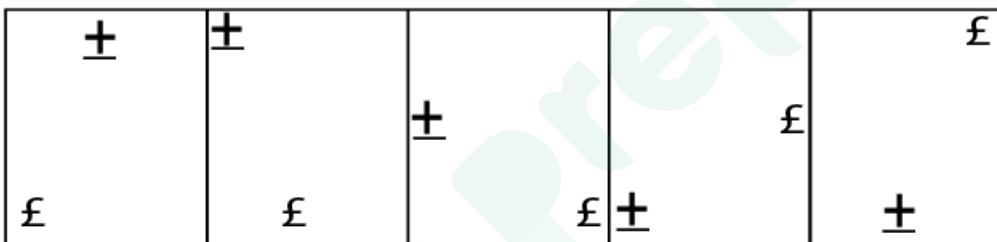
C B

D A

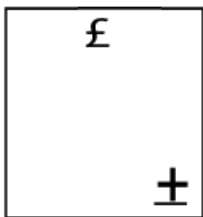
Answer: B

### Question 69

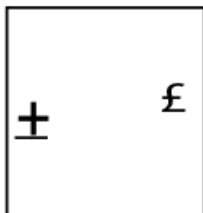
Which one of the alternative will be the next figure from the given alternatives for the given series?

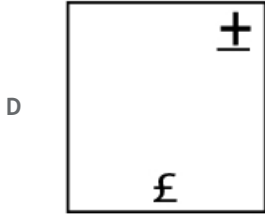
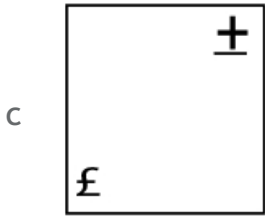


A



B





Answer: A

#### Question 70

In this question, a passage is given followed by a statement. Read the passage carefully and judge the statement based on the given passage.

Using knives and shears, a pair of Russian space walkers on Tuesday cut samples of material around a mysterious hole in a Soyuz spacecraft docked on the International Space Station that a Moscow official suggested could have been deliberately sabotaged. The 2 mm cavity on the Soyuz spaceship docked at the ISS caused an air leak detected in August, two months after the craft's last voyage. Roscosmos space agency said the aim was to discover whether the small but dangerous hole had been made on Earth or in space, to cut away the insulation covering the hole, take out a sample of the material around it to analyse and put new insulation over the area. Roscosmos chief stated that an investigation had ruled out a manufacturing error. The veteran cosmonauts struggled but eventually succeeded in their mission. Before this spacewalk, astronauts had only been able to examine the hole from inside the spacecraft. What made it especially hard is that the Soyuz spacecraft, unlike the ISS, was not designed to be repaired in spacewalks and has no outside railings for astronauts to hold onto.

Statement: The mysterious hole in the Soyuz spacecraft is not due to manufacturing error.

Choose the appropriate one from the following options

- A - The statement is definitely true.
- B - The statement is probably true.
- C - The statement cannot be determined.
- D - The statement is definitely false.

A B

B C

C D

D A

Answer: D

#### Question 71

Read the following statements and answer the following question.

A4B means A is the mother of B

A3B means A is the father of B

A5B means A is the son of B

A7B means A is the daughter of B

Which of the following equation shows "P's father is the grandfather of S"?

A P5Q5R4S

B P7Q5R4S

C P4Q4R7S

D P7Q3R4S

Answer: D

#### Question 72

Replace the question mark with an option that follows the same logic applied in the first pair

Q:L::P: ??

A K

B M

C L

D I

Answer: A

#### Question 73

In a certain code language, if LEGAL is coded as OVTZO, then how is GROUP coded in that language?

A TIQWR

B ITQWR

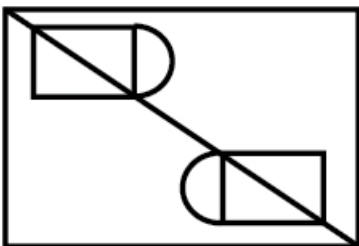
C TILFK

D TIFLK

Answer: C

#### Question 74

How many Right angled triangles can be formed from the given figure?



A 4

B 6

C 8

D 5

Answer: B

Question 75

Find the next number in the series.

14, 39, 89, 189, 389, ?

A 790

B 890

C 789

D 780

Answer: C

Question 76

Find the next number in the series.

13, 29, 55, 113, 223, ?

A 446

B 453

C 450

D 449

Answer: D

Question 77

Replace the question mark with an option that follows the same logic applied in the first pair

Begin:Start::Amazing : ??

A Mad

B Launch

C Wonderful

D Believe

Answer: C

Question 78

Read the given information carefully and answer the questions that follow.

Eight people P, Q, R, S, T, U, V and W sit around a square table facing centre (not necessarily in the same order) in such a way that four of them sit at four corners of the square while the remaining four sit in the middle of each of the four sides.

i) P sits between S and W but not in any of the corners.

ii) Q sits third to the right of P but doesn't sit diagonally opposite to W.

iii) R sits in one of the corners.

iv) T sits opposite to U but not next to R.

Who sits exactly between T and V?

A Q



B U

C R

D W

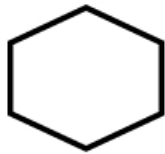
Answer: A

#### Question 79

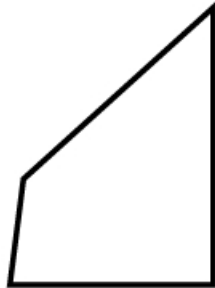
Select the correct alternative from the following options which can form a complete square (3 out of 5 images given below) :



1



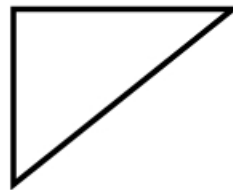
2



3



4



5

A 1,3,5

B 1,3,4

C 1,2,4

D 1,4,5

Answer: A

#### Question 80

Find the next number in the series.

14, 28, 31, 62, 65, ?

A 127

B 132

C 129

D 130

Answer: D

### Question 81

In this question, relationship between different elements is shown in the statement. This statement is followed by two conclusions:

Statement:  $A < D \leq V = I < S > E$

Conclusions:

i)  $A < S$

ii)  $A < E$

Choose the appropriate one from the following options

(A) Only conclusion i follows

(B) Only conclusion ii follows

(C) Either i or ii follows

(D) Neither i nor ii follows

(E) Both i and ii follow.

A D

B A

C B

D C

Answer: B

### Question 82

Replace the question mark with an option that follows the same logic applied in the first pair

2130:36::4312: ??

A 121

B 110

C 100

D 120

Answer: C

### Question 83

Find the next number in the series.

34, 45, 58, 75, 94, ?

A 115

B 117

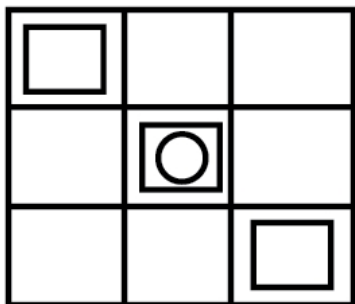
C 119

D 121

Answer: B

Question 84

How many squares are there in the given figure?



- A 15
- B 17
- C 13
- D 12

Answer: B

Question 85

In this question, a passage is given followed by a statement. Read the passage carefully and judge the statement based on the given passage.

Using knives and shears, a pair of Russian space walkers on Tuesday cut samples of material around a mysterious hole in a Soyuz spacecraft docked on the International Space Station that a Moscow official suggested could have been deliberately sabotaged. The 2 mm cavity on the Soyuz spaceship docked at the ISS caused an air leak detected in August, two months after the craft's last voyage. Roscosmos space agency said the aim was to discover whether the small but dangerous hole had been made on Earth or in space, to cut away the insulation covering the hole, take out a sample of the material around it to analyse and put new insulation over the area. Roscosmos chief stated that an investigation had ruled out a manufacturing error.

The veteran cosmonauts struggled but eventually succeeded in their mission. Before this spacewalk, astronauts had only been able to examine the hole from inside the spacecraft. What made it especially hard is that the Soyuz spacecraft, unlike the ISS, was not designed to be repaired in spacewalks and has no outside railings for astronauts to hold onto.

Statement: The Soyuz spacecraft was designed to be repaired in spacewalks.

Choose the appropriate one from the following options

- A - The statement is definitely true.
- B - The statement is probably true.
- C - The statement cannot be determined.
- D - The statement is definitely false.

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

Answer: B

# Quant

## Instructions

For the following questions answer them individually

### Question 86

LCM of two numbers is 90 and their HCF is 3. Given that one number is 18, find the second number.

A 90

B 12

C 15

D 17

Answer: C

#### Explanation:

Product of 2 numbers = Product of L.C.M. and H.C.F.

Let second number be  $x$

$$\Rightarrow x \times 18 = 90 \times 3$$

$$\Rightarrow x = \frac{270}{18} = 15$$

$\Rightarrow$  Ans - (C)

### Question 87

The Loss incurred by selling an article at Rs. 335 is 60% of the gain attained by selling the same article at Rs. 671. Find the cost price of the article. (in Rs)

A 461

B 458

C 459

D 460

Answer: A

#### Explanation:

Let cost price of the article = Rs.  $x$

$$\text{Loss} = \text{Rs. } (x - 335)$$

$$\text{Profit} = \text{Rs. } (671 - x)$$

$$\text{According to ques, } \Rightarrow x - 335 = \frac{60}{100} (671 - x)$$

$$\Rightarrow 5x - 1675 = 2013 - 3x$$

$$\Rightarrow 5x + 3x = 2013 + 1675 = 3688$$

$$\Rightarrow x = \frac{3688}{8} = 461$$

$\therefore$  Cost price = Rs. 461

$\Rightarrow$  Ans - (A)

### Question 88

What is the height of the cuboid, if the cube of diagonal  $44\sqrt{3}$  cm is melted and casted, the cuboid's length is the same as the cube's side and the breadth of the cuboid is 22 cm? (in cm)

A 99

B 101

C 88

D 77

Answer: C

#### Explanation:

Let side of cube be  $a$  cm

$$\Rightarrow \text{Diagonal} = \sqrt{a^2 + a^2 + a^2} = 44\sqrt{3}$$

$$\Rightarrow \sqrt{3}a = 44\sqrt{3}$$

$$\Rightarrow a = 44 \text{ cm}$$

Let height of cuboid =  $h$  cm, length,  $l = 44$  cm and breadth,  $b = 22$  cm

According to ques, Volume of cuboid = Volume of cube

$$\Rightarrow lbh = a^3$$

$$\Rightarrow 44 \times 22 \times h = (44)^3$$

$$\Rightarrow h = \frac{44 \times 44}{22} = 88 \text{ cm}$$

$\Rightarrow$  Ans - (C)

### Question 89

A person cycles from hostel to college at a speed of 20 kmph and reaches 6.5 minutes late. If he cycles at a speed of 24 kmph and reaches early by 6.5 minutes, find the distance between hostel and college. (in km)

A 27

B 29

C 26

D 28

Answer: C

#### Explanation:

Let ideal time taken =  $t$  hours

Also, speed is inversely proportional to time.

$$\Rightarrow \frac{20}{24} = \frac{t - \frac{6.5}{60}}{t + \frac{6.5}{60}}$$

$$\Rightarrow 5t + 12 = 6t - 10$$

$$\Rightarrow 6t - 5t = \frac{6.5}{12} + \frac{6.5}{10}$$

$$\Rightarrow t = \frac{32.5 + 39}{60} = \frac{71.5}{60}$$

$\therefore$  Distance = speed  $\times$  time

$$= 20 \times \left( \frac{71.5}{60} + \frac{6.5}{60} \right)$$

$$= \frac{78}{3} = 26 \text{ km}$$

=> Ans - (C)

#### Question 90

The length of a floor is 125% of its breadth. If the area of floor is  $125m^2$ , what is the sum of the length and the breadth of the floor? (in m)

A 20.5

B 22.5

C 18

D 25

Answer: B

Explanation:

Let breadth of floor =  $x$  m

$$\Rightarrow \text{Length} = 100 \times \frac{125}{100} x = 1.25x \text{ m}$$

$$\text{Area} = x \times 1.25x = 125$$

$$\Rightarrow x^2 = \frac{125}{1.25} = 100$$

$$\Rightarrow x = \sqrt{100} = 10$$

$$\therefore \text{Sum of length and breadth} = x + 1.25x = 2.25x$$

$$= 2.25 \times 10 = 22.5$$

=> Ans - (B)

#### Question 91

Anil obtained 79 marks out of 120 in French, 95 marks out of 130 in English, 31 out of 70 in Spanish and 35 out of 80 in Japanese. What is the overall percentage obtained by him? (in %)

A 50

B 60

C 65

D 55

Answer: B

Explanation:

$$\text{Marks obtained} = 79 + 95 + 31 + 35 = 240$$

$$\text{Maximum marks} = 120 + 130 + 70 + 80 = 400$$

$$\therefore \text{Overall percentage obtained by him} = \frac{240}{400} \times 100 = 60\%$$

=> Ans - (B)

#### Question 92

Martin donates 13% of his Salary to organization for Visually challenged, 12% of his Salary to orphanage, 14% of his Salary to organization for Physically challenged and 16% of his Salary to the foundations for medical help. If the remaining amount Rs. 18,900 of Salary has been deposited in the bank for monthly expenses. Find the amount donated to organization for Visually challenged. (in Rs.)

- A 5,660
- B 5,760
- C 5,560
- D 5,460

Answer: D

Explanation:

If total salary is 100%, then % salary remaining after the donations =  $100 - (13 + 12 + 14 + 16) = 45\%$

According to ques,  $45\% \equiv \text{Rs. } 18,900$

Thus, amount donated to organization for Visually challenged =  $13\% \equiv \frac{18900}{45} \times 13$

$= 420 \times 13 = \text{Rs. } 5,460$

=> Ans - (D)

#### Question 93

A bulb producing company found that 19% of the overall product is defective. If the number of non defective products is 1944 then find the number of defective products.

- A 457
- B 456
- C 459
- D 458

Answer: B

Explanation:

% of non defective bulbs =  $100 - 19 = 81\% \equiv 1944$

=> Number of defective products =  $19\% \equiv \frac{1944}{81} \times 19$

$= 24 \times 19 = 456$

=> Ans - (B)

#### Question 94

The number of employees working in a firm is increased by 14% and the wages per head are decreased by 14%. If it results in x% decrease in total wages, then find the value of x.

- A 1.98
- B 1.97
- C 1.95

D 1.96

Answer: D

Explanation:

Let number of employees in the firm initially = 100 and wages per head = Rs. 100

$$\Rightarrow \text{Total wages} = 100 \times 100 = \text{Rs. } 10,000$$

$$\text{Number of employees after decrease of } 14\% = 100 - \frac{14}{100} \times 100 = 86$$

$$\text{Similarly, new wages per head} = \text{Rs. } 114$$

$$\Rightarrow \text{New wages} = 86 \times 114 = \text{Rs. } 9804$$

$$\therefore \text{Decrease in total wages} = \frac{10000-9804}{10000} \times 100 = 1.96\%$$

$\Rightarrow$  Ans - (D)

#### Question 95

Simplify:

$$132 - [5^2 - 4^2 + \sqrt{(144 \div 12 + 132(2 \times 2 \div 4))}]$$

A 101

B 111

C 121

D 134

Answer: B

Explanation:

$$\text{Expression: } 132 - [5^2 - 4^2 + \sqrt{(144 \div 12 + 132(2 \times 2 \div 4))}]$$

$$= 132 - [5^2 - 4^2 + \sqrt{(12 + 132(1))}]$$

$$= 132 - [25 - 16 + \sqrt{144}]$$

$$= 132 - (9 + 12) = 111$$

$\Rightarrow$  Ans - (B)

#### Question 96

Find the fraction of X,  $X = 0.782222\ldots$

A 704/900

B 711/990

C 741/900

D 721/990

Answer: A

Explanation:

$$\text{Given : } x = 0.782222\ldots$$

$$\Rightarrow 100x = 78.2222\ldots \text{----- (i)}$$



$$\Rightarrow 1000x = 782.2222 \dots \text{----- (ii)}$$

Subtracting equation (i) from (ii), we get :

$$\Rightarrow 900x = 782.2222 - 78.2222 = 704$$

$$\Rightarrow x = \frac{704}{900}$$

$\Rightarrow$  Ans - (A)

#### Question 97

The selling price of the article is Rs. 1,764 after a successive discounts of 10% and 20%. If the cost price is 50% of the marked price, then what is the cost price. (in Rs)

A 1,225

B 1,235

C 1,245

D 1,255

Answer: A

#### Explanation:

Let marked price = Rs.  $100x$

After 1st discount of 10%, selling price =  $100x - \left( \frac{10}{100} \times 100x \right) = \text{Rs. } 90x$

Similarly, after 2nd discount of 20%, selling price =  $90x - \left( \frac{20}{100} \times 90x \right) = \text{Rs. } 72x$

According to ques,  $\Rightarrow 72x = 1764$

$$\Rightarrow x = \frac{1764}{72} = 24.5$$

$\therefore$  Cost price =  $\frac{50}{100} \times 100 \times 24.5 = \text{Rs. } 1225$

$\Rightarrow$  Ans - (A)

#### Question 98

The average weight of 87 Notebooks in a box is 8.7 kg. When a new Notebook is added to the box the average goes to 8.8 kg. Find the weight of the new Notebook. (in kg)

A 17.7

B 17.6

C 17.5

D 17.8

Answer: C

#### Explanation:

Average weight of 87 Notebooks in a box = 8.7 kg

$$\Rightarrow \text{Total weight} = 87 \times 8.7 = 756.9 \text{ kg}$$

Let weight of new book =  $x$  kg

$$\Rightarrow \text{New average} = \frac{756.9 + x}{88} = 8.8$$

$$\Rightarrow 756.9 + x = 88 \times 8.8 = 774.4$$

$$\Rightarrow x = 774.4 - 756.9 = 17.5 \text{ kg}$$

$\Rightarrow$  Ans - (C)

### Question 99

A train of length 135 m travels at a speed of 54 kmph crosses a bridge in 27 seconds. Find the length of the bridge. (in m)

A 270

B 272

C 274

D 268

Answer: A

Explanation:

$$\text{Speed of train} = 54 \text{ kmph} = 54 \times \frac{5}{18} = 15 \text{ m/s}$$

Let length of bridge =  $x$  m

Using, speed = distance/time

$$\Rightarrow 15 = \frac{135+x}{27}$$

$$\Rightarrow 135 + x = 27 \times 15 = 405$$

$$\Rightarrow x = 405 - 135 = 270 \text{ m}$$

$\Rightarrow$  Ans - (A)

### Question 100

A sum of Rs. 7,800 invested under simple interest at rate of 11% p.a. If the amount after 5 years is been withdrawn and half of the total amount is been invested in Share market. Find the remaining amount. (in RS)

A 6,245

B 6,045

C 6,145

D 6,345

Answer: B

Explanation:

Principal sum = Rs. 7800

Rate of interest = 11% and time period = 5 years

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

$$= \frac{7800 \times 11 \times 5}{100} = \text{Rs. } 4290$$

Thus, total amount after 5 years = Rs. (7800 + 4290) = Rs. 12,090

$\therefore$  Remaining amount after half of the total amount is been invested in Share market =  $\frac{12090}{2} = \text{Rs. } 6045$

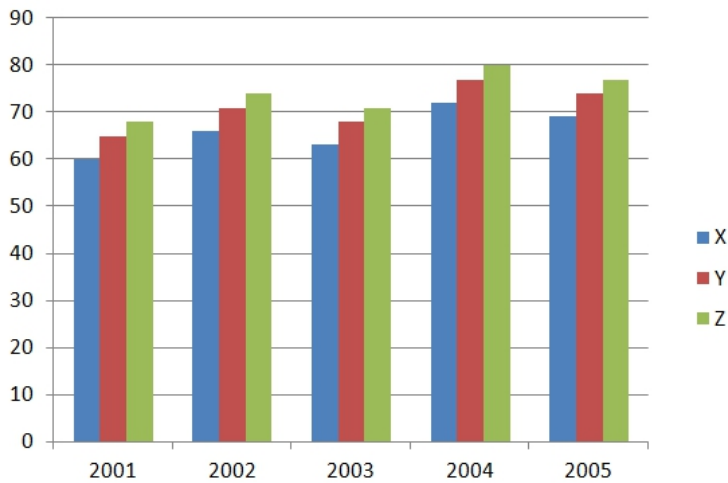
$\Rightarrow$  Ans - (B)

### Question 101

Directions:

The bar graph below shows the data of the production of paper (in thousands) by three different companies X, Y and Z over the years (2001-2005)

What is the difference between the production of company Z in 2001 and company Y in 2002? (in thousands)



A 6

B 4

C 5

D 3

Answer: D

Explanation:

Production of company Z in 2001 (in thousands) = 68

Production of company Y in 2002 (in thousands) = 71

=> Required difference =  $71 - 68 = 3$

=> Ans - (D)

### Question 102

Anitha walks a certain distance at  $(\frac{9}{10})$ th of her usual speed and takes 24 minutes more than the usual time. Find the usual time taken. (in minutes)

A 621

B 261

C 126

D 216

Answer: D

Explanation:

Let usual speed = 10 m/min and usual time taken =  $t$  min

=> New speed = 9 m/min and new time =  $(t + 24)$  min

Also, speed is inversely proportional to time.

$$\Rightarrow \frac{10}{9} = \frac{t+24}{t}$$

$$\Rightarrow 10t = 9t + 216$$

$$\Rightarrow 10t - 9t = t = 216$$

∴ Usual time taken = **216 minutes**

⇒ Ans - (D)

#### Question 103

A sum of money is to be distributed among Ankit, Babu, Christo and David in the proportion of 5:4:3:2. If Christo gets Rs. 114 more than David, what is Babu's share? (in Rs)

A 456

B 453

C 454

D 455

Answer: A

Explanation:

Let amount received by Ankit, Babu, Christo and David be  $5x$ ,  $4x$ ,  $3x$  and  $2x$  respectively.

According to ques,  $\Rightarrow 3x - 2x = 114$

$$\Rightarrow x = 114$$

∴ Babu's share =  $4 \times 114 = \text{Rs. } 456$

⇒ Ans - (A)

#### Question 104

Directions:

The bar graph below shows the data of the production of paper (in thousands) by three different companies X, Y and Z over the years (2001-2005)

What is the percentage increase in the production of the company X from 2002 to 2005? (in % - round off to 2 decimal places)



A 4.77

B 4.44

C 4.55

D 4.66

Answer: C

Explanation:

Production of paper (in thousands) by company X in 2002 = 66

Production of paper (in thousands) by company X in 2005 = 69

$$\Rightarrow \% \text{ increase in production} = \frac{(69-66)}{66} \times 100$$

$$= \frac{3}{66} \times 100 = 4.55\%$$

$\Rightarrow$  Ans - (C)

#### Question 105

Which of the following number is divisible by 24?

A 146604

B 166440

C 146600

D 166044

Answer: B

Explanation:

Numbers which are divisible by 24, must first be divisible by 3 and also by 8. Checking divisibility by 8.

146604 and 166044 are not divisible by 8, so of the middle two numbers, only second number is divisible by 8.

Thus, **166440** is divisible by 24.

$\Rightarrow$  Ans - (B)

#### Question 106

Simplify:

$$((4^2)^3 \div 16^2) \times ([20 - 4] \div 4)$$

A 68

B 64

C 56

D 128

Answer: B

Explanation:

$$\text{Expression : } ((4^2)^3 \div 16^2) \times ([20 - 4] \div 4)$$

$$= (4^6 \div 16^2) \times (16 \div 4)$$

$$= 4^2 \times 4 = 64$$

$\Rightarrow$  Ans - (B)

#### Question 107

The difference between the interest earned on the same amount invested under compound interest and simple interest at same rate of interest for 2 years is Rs. 180. If the rate of interest is 6% p.a. then find the amount invested. (in Rs.)

- A 50,000
- B 55,000
- C 52,500
- D 47,500

Answer: A

**Explanation:**

Rate of interest = 6% and time period = 2 years

Let principal sum = Rs.  $P$

Also, difference between compound interest and simple interest for 2 years =  $P \left( \frac{r}{100} \right)^2$

$$\Rightarrow P \left( \frac{6}{100} \right)^2 = 180$$

$$\Rightarrow P = 180 \times \frac{10000}{36}$$

$$\Rightarrow P = \text{Rs. } 50,000$$

$\Rightarrow$  Ans - (A)

#### Question 108

The amount doubles itself under Compound interest in 7 years. In how many years will it become 64 times of it? (in years)

- A 42
- B 51
- C 48
- D 45

Answer: A

**Explanation:**

The amount gets doubled in 7 years.

In case of compound interest, the amount will become  $2^n$  times in  $7n$  years

$$\Rightarrow \text{Final amount} = 64 = (2)^6$$

Thus, after  $7 \times 6 = 42$  years, amount will become 64 times.

$\Rightarrow$  Ans - (A)

#### Question 109

A Box contains three different types of old coins in the ratio 3:5:7. The values of old coins are 1 rupee, 5 rupees and 10 rupees respectively. If the total value of the coins in the box is Rs.2352, find the number of coins values 10 rupees

- A 162
- B 164
- C 166
- D 168

Answer: D

**Explanation:**

Let number of 1 rupee, 5 rupees and 10 rupees respectively be  $3x$ ,  $5x$  and  $7x$

$$\text{Total amount} = (1 \times 3x) + (5 \times 5x) + (10 \times 7x) = 2352$$

$$\Rightarrow 3x + 25x + 70x = 2352$$

$$\Rightarrow x = \frac{2352}{98} = 24$$

$$\therefore \text{Number of 10 rupees coins} = 7 \times 24 = 168$$

$\Rightarrow$  Ans - (D)

**Question 110**

What will be the remainder when 36367 is divided by 9?

A 6

B 5

C 8

D 7

Answer: D

**Explanation:**

Sum of digits of 36367 =  $3+6+3+6+7=25$

Now, when 25 is divided by 9,  $\Rightarrow 25 = 9 \times 2 + 7$

Thus, remainder = 7

$\Rightarrow$  Ans - (D)

**Question 111**

The sum of three numbers is 216. If the ratio of the first to the second is 2:3 and that of the second to the third is 3:4, then the second number is

A 75

B 72

C 74

D 73

Answer: B

**Explanation:**

Let the three numbers respectively be  $2x$ ,  $3x$  and  $4x$

$$\text{Sum} = 2x + 3x + 4x = 9x = 216$$

$$\Rightarrow x = \frac{216}{9} = 24$$

$$\therefore \text{Second number} = 3 \times 24 = 72$$

$\Rightarrow$  Ans - (B)

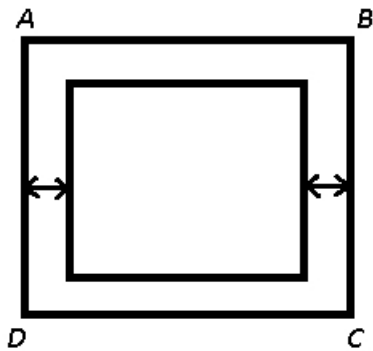
Question 112

Total area of the square Glass Piece is  $841\text{cm}^2$ , which is placed on the top of a table. The width between the edge of the table and the edge of the glass piece is 11cm wide. Find the length of the table. (in cm)

- A 47
- B 45
- C 49
- D 51

Answer: D

Explanation:



ABCD is the table and the glass piece is placed inside.

$$\text{Side of glass} = \sqrt{841} = 29 \text{ cm}$$

$$\text{Width between glass and table} = 11 \text{ cm}$$

$$\Rightarrow \text{Side of table} = 11 + 29 + 11 = 51 \text{ cm}$$

$\Rightarrow$  Ans - (D)

Question 113

Find the value of X:

$$\sqrt{(596 - X)} = \sqrt{(598 - \sqrt{484})}$$

- A 54
- B 28
- C 20
- D 49

Answer: C

Explanation:

$$\text{Expression: } \sqrt{(596 - X)} = \sqrt{(598 - \sqrt{484})}$$

$$\Rightarrow (596 - X) = (598 - 22)$$

$$\Rightarrow X = 596 - 598 + 22 = 20$$

$\Rightarrow$  Ans - (C)



#### Question 114

A Gift box contains 10 bangles, of which average weight of first 4 bangles is 71 grams and the average weight of remaining 6 bangles is 72 grams. Find the average weight of the total bangles. (in grams)

- A 71.6
- B 73.6
- C 74.6
- D 72.6

Answer: A

Explanation:

Average weight of first 4 bangles = 71 grams

=> Weight of first 4 bangles =  $71 \times 4 = 284$  grams

Similarly, weight of remaining 6 bangles =  $72 \times 6 = 432$  grams

$\therefore$  Average weight of the total bangles =  $\frac{284+432}{10} = 71.6$  grams

=> Ans - (A)

#### Question 115

Simplify:

$$\sqrt{(1190 - \sqrt{(1181 - \sqrt{(601 + \sqrt{576})})})}$$

- A 24
- B 34
- C 42
- D 37

Answer: B

Explanation:

Expression :  $\sqrt{(1190 - \sqrt{(1181 - \sqrt{(601 + \sqrt{576})})})}$

$$= \sqrt{(1190 - \sqrt{(1181 - \sqrt{(601 + 24)})})}$$

$$= \sqrt{(1190 - \sqrt{(1181 - \sqrt{625})})}$$

$$= \sqrt{(1190 - \sqrt{(1181 - 25)})}$$

$$= \sqrt{(1190 - \sqrt{1156})}$$

$$= \sqrt{(1190 - 34)}$$

$$= \sqrt{(1156)} = 34$$

=> Ans -(B)

#### Question 116

In a mixture of 168 litres, the ratio of milk and water is 3:4. If this ratio is to be 3:5, then the quantity of water to be further added is. (in Litres)

A 26

B 24

C 25

D 23

Answer: B

Explanation:

$$\text{Quantity of milk in 168 litres mixture} = \frac{3}{(3+4)} \times 168 = 72 \text{ litres}$$

$$\Rightarrow \text{Quantity of water} = 168 - 72 = 96 \text{ litres}$$

Let  $x$  litres of water is to be added.

$$\Rightarrow \frac{72}{96+x} = \frac{3}{5}$$

$$\Rightarrow 360 = 288 + 3x$$

$$\Rightarrow 3x = 360 - 288 = 72$$

$$\Rightarrow x = \frac{72}{3} = 24$$

$\therefore$  Quantity of water to be further added is **24 litres**.

=> Ans - (B)

#### Question 117

A shopkeeper sells a product at the rate of Rs. 1,539 and earns a profit of 14%. Find the amount which is equal to half of the cost price of the product. (in Rs)

A 695

B 675

C 685

D 650

Answer: B

Explanation:

Selling price = Rs. 1539 and profit % = 14%

$$\Rightarrow \text{Cost price} = \frac{1539}{(100+14)} \times 100$$

$$= 27 \times 50 = \text{Rs. } 1350$$

$$\therefore \text{Amount which is equal to half of the cost price of the product} = \frac{1350}{2} = \text{Rs. } 675$$

=> Ans - (B)

### Question 118

In a support project of an English based company, there are 217 male and 217 female employees. The average productivity of all the employees is 75 calls per day. The average calls attended by a male employee is 75 calls per day. What is the average calls attended per day by a female employee?

- A 76
- B 75
- C 77
- D 74

Answer: B

#### Explanation:

Since, there are an equal number of male and female employees in the company, and also the average productivity is 75 calls per day which is equal to the number of calls attended by the males.

Thus, number of calls attended per day by a female employee will also equal to = 75

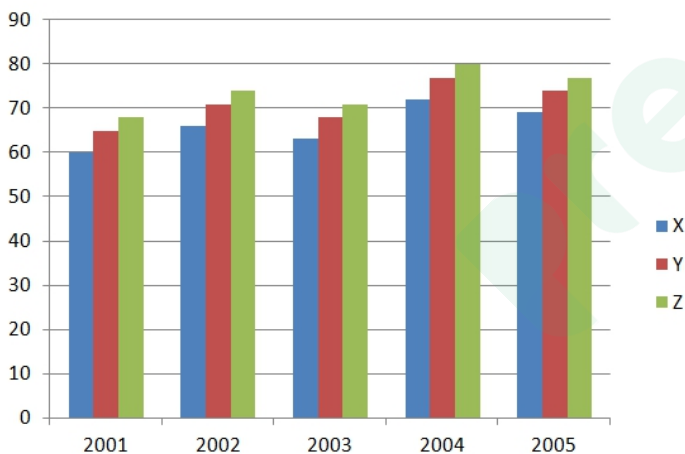
=> Ans - (B)

### Question 119

#### Directions:

The bar graph below shows the data of the production of paper (in thousands) by three different companies X, Y and Z over the years (2001-2005)

The average production for the five years was minimum for which company?



- A X
- B Y
- C Z
- D None of these

Answer: A

#### Explanation:

Total production of company :

$$X = 60 + 66 + 62 + 71 + 69 = 328$$

$$Y = 65 + 70 + 68 + 76 + 73 = 352$$

$$Z = 67 + 73 + 70 + 80 + 76 = 366$$

Thus, average production for the five years was minimum for company X.

=> Ans - (A)

#### Question 120

A man completes a journey in 7 hours. He travels first half of the journey at the rate of 20 kmph and second half at the rate of 30 kmph. Find the total distance of the entire journey. (in km)

A 174

B 172

C 168

D 170

Answer: C

Explanation:

Let total distance =  $2d$  km

Using, time = distance/speed

$$\Rightarrow \frac{d}{20} + \frac{d}{30} = 7$$

$$\Rightarrow \frac{30d+20d}{600} = 7$$

$$\Rightarrow 5d = 7 \times 60$$

$$\Rightarrow d = 7 \times 12 = 84$$

$$\therefore \text{Total distance of the entire journey} = 2 \times 84 = 168 \text{ km}$$

=> Ans - (C)



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