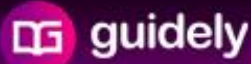


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General Awareness

1) Kudankulam Nuclear Power Plant, largest nuclear power station in India is located in which state?

- a) Madhya Pradesh
- b) Tamil Nadu
- c) Rajasthan
- d) Odisha

Answer: B

Kudankulam Nuclear Power Plant is the largest nuclear power station in India, situated in Kudankulam in the Tirunelveli district of the southern Indian state of Tamil Nadu.

2) Saddle Peak which is the highest point of the archipelago in Bay of Bengal is located in _____?

- a) Middle Andaman
- b) Little Andaman
- c) Northern Andaman
- d) Great Nicobar

Answer: C

Saddle Peak or Saddle Hill is located on North Andaman Island in India's Andaman and Nicobar Islands. At 731 m, it is the highest point of the archipelago in the Bay of Bengal. It is surrounded by Saddle Peak National Park. It is located near Diglipur, a town in North Andaman Island.

3) Sabarimala is a prominent Hindu temple located in_____.

- a) Karnataka
- b) Tamil Nadu
- c) Kerala
- d) Odisha

Answer: C

The Sabarimala Temple is a temple complex located at sabarimala inside the Periyar Tiger Reserve in Pathanamthitta district, Kerala, India. It is one of the largest annual pilgrimage sites in the world.

4) Chikankari Embroidery is associated with which Place of India?

- a) Lucknow
- b) Nagpur
- c) Jaipur
- d) Mysuru

Answer: A

Chikan is a traditional embroidery style from Lucknow, India. It is one of Lucknow's best known textile decoration styles.

5) The Prarthana Samaj, a leading society for socio-religious reform was established in Bombay in which year?

- a) 1867

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b) 1871

c) 1862

d) 1877

Answer: A

Prarthana Samaj was founded by Atmaram Pandurang with the help of Keshav Chandra Sen in 1867, with an aim to make people believe in one God and worship only one God. It became popular after Mahadev Govind Ranade joined.

6) The Gobi Desert is the largest desert of which of the following continent?

a) Asia

b) Antarctica

c) Africa

d) Australia

Answer: A

The Gobi Desert is the largest desert in Asia and fifth largest in the world. It extends out to Mongolia's south and on the other side it reaches out to northern and northwestern parts of China.

7) Who among the following is the first Tirthankara of Jainism?

a) Rishabhanatha

b) Ajitanatha

c) Sambhavanatha

d) Abhinandananatha

Answer: A

Rishabhanatha is the first Tirthankara of Jainism and the founder of Ikshvaku dynasty. The first Tirthankara, Rishabhanatha is mentioned in Hindu texts like the Rigveda, Vishnupurana and Bhagwata Purana. The Vishnu Purana and Bhagavat Purana describes Rishabha as an incarnation of Narayana.

8) Second Battle of Panipat was fought between Hemu and Bairam Khan in which year?

a) 1540

b) 1555

c) 1556

d) 1560

Answer: C

The Second Battle of Panipat was fought between the forces of Samrat Hem Chandra Vikramaditya, popularly called Hemu, the Hindu king who was ruling North India from Delhi, and the army of Akbar, on November 5, 1556. It was a decisive victory for Akbar's generals Khan Zaman I and Bairam Khan.

9) Earth Day is observed every year on_____.

a) 22nd April

b) 18th March

c) 31st December

d) 29th August

Answer: A

Earth Day is an annual event celebrated around the world on April 22 to demonstrate support for environmental protection. It was first celebrated in 1970.

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10) Sputnik, world's first COVID-19 vaccine belongs to which country?

- a) United States
- b) Russia
- c) China
- d) India

Answer: B

Russia became the first country to register the world's first COVID-19 vaccine on August 11. It is named after Russia's first satellite, Sputnik 1.

11) International Women's Day is celebrated on _____ every year around the world.

- a) 11th November
- b) 8th March
- c) 16th April
- d) 10th May

Answer: B

International Women's Day (IWD) is celebrated on the 8th of March every year around the world. It is a focal point in the movement for women's rights.

12) What is the S.I unit of Electric current?

- a) Joule
- b) Volt
- c) Ampere
- d) Farad

Answer: C

An electric current is a flow of electric charge in a circuit. The SI unit of electric current is known as Ampere.

13) What is the maximum age for opening sukanya samriddhi account under Pradhan Mantri Sukanya Samriddhi Scheme?

- a) 15 years
- b) 18 years
- c) 21 years
- d) 10 years

Answer: D

The Sukanya Samriddhi account can be opened anytime between the birth of a girl child and the time she attains 10 years age by the parent/guardian. Only one account is allowed per child. Parents can open a maximum of two accounts for each of their children. The account can be transferred to anywhere in India.

14) URL, link address on the internet stands for_____.

- a) Universal Resource Locator
- b) Uniform Resource Locator
- c) Unique Resource Language
- d) Uniform Registered Link

Answer: B

A URL (Uniform Resource Locator) is a unique identifier used to locate a resource on the internet. It is also referred to as a web address. URLs consist of multiple parts including a protocol and domain name

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that tell a web browser how and where to retrieve a resource.

15) The 3rd Edition of Khelo India Youth Games was held in_____.

- a) Pune, Maharashtra
- b) Gorakhpur, Uttar Pradesh
- c) Guwahati, Assam
- d) Kolkata, West-Bengal

Answer: C

The third Khelo India Youth Games was held from 10 January 2020 and 22 January 2020 in Guwahati, Assam, India. It was won by Maharashtra.

16) Bhopal gas Tragedy was caused by the leakage of which of the following gas?

- a) Helium
- b) Isobutylene
- c) Methyl Isocyanate
- d) Nitrogen Trifluoride

Answer: C

The Bhopal disaster or Bhopal gas tragedy was an industrial accident. It happened at a Union Carbide subsidiary pesticide plant in the city of Bhopal, India. On the night of 2-3 December 1984, the plant released 42 tonnes of toxic Methyl Isocyanate (MIC) gas, exposing more than 500,000 people to toxic gases.

17) Which one of the following is called as the brain of a computer?

- a) CPU
- b) ALU
- c) Hard Disk
- d) Cache memory

Answer: A

The CPU is the brain of a computer, containing all the circuitry needed to process input, store data, and output results. The CPU constantly follows instructions of computer programs that tell it which data to process and how to process it.

18) Who among the following is the head of Defence Research and Development Organization (DRDO)?

- a) G. Satheesh Reddy
- b) K Sivan
- c) Sunil Arora
- d) Rajiv Bansal

Answer: A

Dr G. Satheesh Reddy is an Indian aerospace scientist and the current Chairman of Defence Research and Development Organisation.

19) Name the person who is the CEO of Microsoft?

- a) Jeff Bezos
- b) Elon Musk
- c) Satya Nadella
- d) Charles Wong

Answer: C

Satya Narayana Nadella is an Indian-American business executive. He is the chief executive officer

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(CEO) of Microsoft. He succeeded Steve Ballmer in 2014.

20) What is the chemical name of Tear Gas?

- a) chlorobenzalmalonitrile
- b) Sodium hydrogen carbonate
- c) Carbonyl dichloride
- d) Calcium sulfate hemihydrate

Answer: A

Tear gas, also known as a lachrymator agent is a chemical weapon that stimulates the nerves of the lacrimal gland in the eye to produce tears. Chemical name of Tear Gas is chlorobenzalmalonitrile.

21) Who among the following was the youngest President of India?

- a) Kocheril Raman Narayanan
- b) Neelam Sanjiva Reddy
- c) Varahagiri Venkata Giri
- d) Sarvepalli Radhakrishnan

Answer: B

Neelam Sanjiva Reddy was the sixth President of India, serving from 1977 to 1982. The youngest President to assume office was Neelam Sanjiva Reddy.

22) According to which article of Indian constitution, superintendence, direction and control of elections is vested in an Election Commission?

- a) Article 329
- b) Article 324

c) Article 326

d) Article 327

Answer: B

Article 324 of the Constitution provides that the power of superintendence, direction and control of elections to parliament, state legislatures, the office of president of India and the office of vice-president of India shall be vested in the election commission.

23) Name the host city of the Commonwealth Youth Games 2021?

- a) Pune, India
- b) Port of Spain, Trinidad and Tobago
- c) Edinburgh, Scotland
- d) Apia, Samoa

Answer: B

The 2021 Commonwealth Youth Games is an upcoming youth sporting event which had been expected to be held in Port of Spain, Trinidad and Tobago between 1 and 7 August 2021. It will be the seventh edition of the Commonwealth Youth Games.

24) As of December 2020, how many Ramsar sites are there in India?

- a) 45
- b) 51
- c) 42
- d) 55

Answer: C

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There are 42 Ramsar sites in India. These are wetlands deemed to be of "international importance" under the Ramsar Convention.

25) Rajatarangini, historical chronicle of early India is written by whom?

- a) Kalhana
- b) Banabhatta
- c) Harsha Vardhana
- d) Kalidasa

Answer: A

Rajatarangini is a metrical legendary and historical chronicle of the north-western Indian subcontinent, particularly the kings of Kashmir. It was written in Sanskrit by Kashmiri historian Kalhana in the 12th century CE.

26) Who among the following is the winner of the 55th Gyanpeeth Award?

- a) Shankha Ghosh
- b) Raghuveer Chaudhari
- c) Bhalchandra Nemade
- d) Akkitham Achuthan Namboothiri

Answer: D

The prestigious 55th Jnanpith Award has been won by the 92-year-old Akkitham Achuthan Namboothiri, a noted Indian poet-writer in the Malayalam language.

27) Partition of Bengal was carried out by the British viceroy, Lord Curzon in which year?

- a) 1909
- b) 1905
- c) 1901
- d) 1903

Answer: B

The Partition of Bengal was a territorial reorganization of the Bengal Presidency implemented by the authorities of the British Raj in 1905. It was announced on 19 July 1905 by Lord Curzon, the then Viceroy of India.

28) Phagu Chauhan is the 29th Governor of which Indian state?

- a) Bihar
- b) Rajasthan
- c) Madhya Pradesh
- d) Meghalaya

Answer: A

Phagu Chauhan is an Indian politician serving as the 29th and current Governor of Bihar. He has represented various parties like Lok Dal, Bahujan Samaj Party, and Bharatiya Janata Party.

29) Which one of the following is the longest National Highway in India?

- a) NH52
- b) NH44
- c) NH27
- d) NH48

Answer: B

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The NH 44 is the longest National Highway In India. It is 3,745 km long and covers the North-South Corridor of NHDP. It starts from Srinagar in the north and ends in Kanyakumari in the south.

30) Who proposed the double helical model of DNA?

- a) Godfrey Hounsfield & Allan Cormack
- b) James Watson and Francis Crick
- c) Robert Edward and Patrick Steptoe
- d) Marshall Nirenberg and Heinrich J. Matthaei

Answer: B

The double helix describes the appearance of double-stranded DNA, which is composed of two linear strands that run opposite to each other, or anti-parallel, and twist together. The 3-dimensional double helix structure of DNA, was proposed by James Watson and Francis Crick.

31) The maximum strength of Lok Sabha envisaged by the Constitution is _____.

- a) 552
- b) 551
- c) 545
- d) 565

Answer: A

Maximum strength of the House is 552 members - 530 members to represent the States, 20 members to represent the Union Territories, and 2 members to be nominated by the President from the Anglo-Indian Community. At present, the strength of the House is 545.

32) Which among the following was the host country of The Indian Premier League (IPL) 2020?

- a) North Korea
- b) United Arab Emirates
- c) Saudi Arabia
- d) Brazil

Answer: B

The Indian Premier League (IPL) is a professional Twenty20 cricket league in India contested every year. The venue for the 2020 season was moved due to the COVID-19 pandemic and games were played in the United Arab Emirates.

33) Jai Ram Thakur is the 14th and the current Chief Minister of which state?

- a) Arunachal Pradesh
- b) Gujarat
- c) Maharashtra
- d) Himachal Pradesh

Answer: D

Jai Ram Thakur is an Indian politician, who is the 14th and the current Chief Minister of Himachal Pradesh. He was elected the BJP legislative party leader on 24 December 2017.

34) Surat is situated on the bank of which river?

- a) Tapi
- b) Saraswati
- c) Narmada
- d) Jhelum

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Answer: A

Surat is a city in the Indian state of Gujarat. It is a port city situated on the banks of the Tapi river.

35) Rukmini Devi Arundale is associated with which Indian dance form?

- a) Kuchipudi
- b) Bharatnatyam
- c) Kathak
- d) Odissi

Answer: B

Rukmini Devi Arundale was an Indian dancer and choreographer of the Indian classical dance form of Bharatanatyam, and an activist for animal rights and welfare. She was the first woman in Indian history to be nominated a member of the Rajya Sabha.

36) What is the rank of India in the Global Hunger Index 2020?

- a) 94th
- b) 88th
- c) 75th
- d) 68th

Answer: A

The Global Hunger Index (GHI) is a tool for comprehensively measuring and tracking hunger at global, regional, and national levels. The GHI 2020 report has placed India 94th position among 107 countries.

37) The Central Pollution Control Board of India, statutory organisation under the Ministry of Environment, Forest and Climate Change was established in_____.

- a) 1978
- b) 1981
- c) 1974
- d) 1988

Answer: C

The Central Pollution Control Board of India is a statutory organisation under the Ministry of Environment, Forest and Climate Change. It was established in 1974 under the Water Act, 1974.

38) What is the value of Density of Earth?

- a) 5.51 gm/cm³
- b) 3.34 gm/cm³
- c) 4.98 gm/cm³
- d) 6.12 gm/cm³

Answer: A

The density of the Earth is 5.513 g/cm³. This is an average of all of the material on the planet.

39) Who won the Men's Singles tennis title at the 2020 US Open?

- a) Alexander Zverev
- b) Dominic Thiem
- c) Rafael Nadal
- d) Novac Djokovic

Answer: B

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Dominic Thiem won his first major title, defeating Alexander Zverev in the final, to capture the Men's Singles tennis title at the 2020 US Open.

40) Bank of Baroda merged with which of the following bank?

- a) Dena Bank
- b) Vijaya Bank
- c) Union Bank of India
- d) Both a and b

Answer: D

The government of India announced the merger of Bank of Baroda, Vijaya Bank and Dena Bank on September 17, 2018 to create the country's third largest lender and they merged on April 1, 2019.

Logical Reasoning

1. An assertion (A) and a reason (R) are given below.

Assertion (A):

Rainwater harvesting reduces soil erosion.

Reason (R):

Rainwater harvesting is not important for conversion of water.

Choose the correct option.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true, but R is not the correct explanation of A.
- c) A is true, but R is false.
- d) A is false, but R is true.

Answer: C

c) A is true, but R is false.

Rainwater harvesting reduces soil erosion. → True
Rainwater harvesting is not important for conversion of water. → False

Rainwater harvesting is important for conversion of water.

2. Choose the conclusion which logically follows from the given statement(s).

Statement:

- 1. A weight lifter increases his efficiency to lift more weight by doing regular physical exercise.
- 2. Same as, antique saints have extra ordinary mental ability by doing regular breathing exercise.

Conclusions:

- 1. Regular mental exercise makes efficient in weight lifting.
 - 2. Physical exercise is only for body, not for mind.
- a) Only conclusion 1 follows.
 - b) Only conclusion 2 follows.
 - c) Both conclusions 1 and 2 follows.
 - d) Neither conclusion 1 nor 2 follows.

Answer: D

3. Choose the odd one out.

- a) 8 : 63
- b) 11 : 122
- c) 7 : 48
- d) 13 : 167

Answer: D

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- a) $8 : 63 \rightarrow 8 : 8^2 - 1$
- b) $11 : 120 \rightarrow 11 : 11^2 - 1$
- c) $7 : 48 \rightarrow 7 : 7^2 - 1$
- d) $13 : 167 \rightarrow 13 : 13^2 - 2$

4. Three of the following words are alike in a certain way while one is different. Find the odd one out.

- a) Run
- b) Sleep
- c) Jog
- d) Walk

Answer: B

5. Three of the following four letter-clusters are alike in a certain way and one is different. Find the odd one out.

- a) MJPK
- b) FYGT
- c) SAHM
- d) KSWC

Answer: C

- a) MJPK $\rightarrow M + J = 23$; $P + K = 27$ and difference between 23 and 27 is 4
- b) FYGT $\rightarrow F + Y = 31$; $G + T = 27$ and difference between 31 and 27 is 4
- c) SAHM $\rightarrow S + A = 20$; $H + M = 21$ and difference between 20 and 21 is 1
- d) KSWC $\rightarrow K + S = 30$; $W + C = 26$ and difference between 30 and 26 is 4

6. Replace # sign with the mathematical operators '+', '-', 'x', '÷' and '=' to get a balanced equation out of $(27 \# 15 \# 2) \# 10 \# 4$. Choose the correct sequence from below.

- a) $+ \div = -$
- b) $- + = \div$
- c) $+ - \div =$
- d) $+ = \div -$

Answer: C

- c) $+ - \div =$
 $\Rightarrow (27 \# 15 \# 2) \# 10 \# 4$
 $\Rightarrow (27 + 15 - 2) \div 10 = 4$
 $\Rightarrow (42 - 2) \div 10 = 4$
 $\Rightarrow 40 \div 10 = 4$
 $\Rightarrow 4 = 4$

7. Which two numbers need to be interchanged to make the following equation correct?

$$8 \times (4/3) + 9 - 5 = 10$$

- a) 8, 4
- b) 9, 3
- c) 5, 3
- d) 4, 3

Answer: D

$$\begin{aligned} 8 \times (4/3) + 9 - 5 &= 10 \\ \text{L.H. S} &= 8 \times (3/4) + 9 - 5 \\ &= 6 + 9 - 5 \\ &= 15 - 5 \\ &= 10 = \text{R.H.S} \end{aligned}$$

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8. Which two numbers should be interchanged in the following equation to make it correct?

$$12 \times 2 + 8 - 48 \div 6 = 20$$

- a) 12 and 48
- b) 6 and 8
- c) 8 and 12
- d) 2 and 6

Answer: C

$$12 \times 2 + 8 - 48 \div 6 = 20$$

- c) 8 and 12

$$\text{L.H.S} = 8 \times 2 + 12 - 48 \div 6$$

$$= 16 + 12 - 8$$

$$= 28 - 8$$

$$= 20 = \text{R.H.S}$$

9. 'Anaemia' is related to 'Blood' in the same way as 'Hepatitis' is related to ' _____ '.

- a) Lungs
- b) Heart
- c) Liver
- d) Kidney

Answer: C

Anemia (also spelled anaemia) is a decrease in the total amount of red blood cells (RBCs) or hemoglobin in the blood.

Hepatitis refers to the inflammatory condition of the liver.

10. Select the option that is related to the third number in the same way as the second number is related to the first number.

$$17 : 29 :: 25 : ?$$

- a) 45
- b) 55
- c) 67
- d) 89

Answer: A

$$17 : 29 \rightarrow 17 \times 2 - 5 = 29$$

$$25 : ? \rightarrow 25 \times 2 - 5 = 45$$

11. Select the option that is related to the third letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster.

$$\text{SEASON} : \text{HVZHLM} :: \text{TROPIC} : ?$$

- a) GILRKX
- b) GILKRX
- c) GILKPX
- d) GLIKRX

Answer: B

Letters are coded by its reverse letter.

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

Statements:

All caps are mufflers

All brushes are mufflers

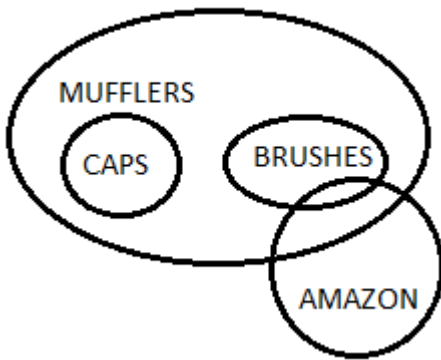
Some amazon is brushes

Conclusions:

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- I. Some caps are brushes.
- II. Some mufflers are caps.
- III. Some mufflers are amazon.
- a) Only conclusion I and II follow.
- b) Only conclusions I and III follow.
- c) Only conclusion I follows.
- d) Only conclusion II and III follow.

Answer: D)



- I. Some caps are brushes. → False
- II. Some mufflers are caps. → True
- III. Some mufflers are amazon. → True

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

Statements:

Some rain is storm

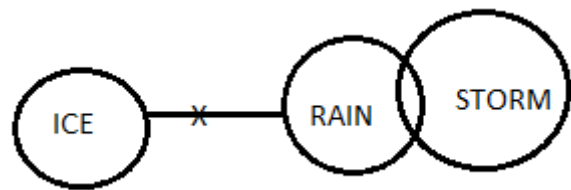
No ice is rain

Conclusions:

- I. Some storm is not ice.
- II. Some storm is ice.

- III. Some rain is not storm.
- a) Only conclusion I and II follow.
- b) Only conclusions I and III follow.
- c) Either conclusion I or II follows.
- d) Only conclusion II and III follow.

Answer: C



- I. Some storm is not ice. → False
- II. Some storm is ice. → False
- III. Some rain is not storm. → False

But conclusion I and II forms a complementary pair. Either conclusion I or II follows.

14. Rearrange the jumbled letters to form a meaningful word and then select which one is different.

- a) LGDO
- b) VOSET
- c) ZBRONE
- d) ERSLIV

Answer: B

- a) LGDO → GOLD
- b) VOSET → STOVE/VOTES
- c) ZBRONE → BRONZE
- d) ERSLIV → SILVER

Direction (15-17): Consider the following information and answer the question based on it.

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P, Q, R and S are four friends who pursue teaching, law, banking and cooking and own red, blue, white and yellow house, in a random order. An individual owns only one house and pursues only one profession.

1. R is a teacher.
2. The colour of S's house is neither yellow nor white.
3. P owns a red house and is not a banker.
4. The owner of blue house is a lawyer.
15. The owner of blue house is a ____.

- a) P
- b) Q
- c) R
- d) S

Answer: D

Person	Profession	House
P	Cook	Red
Q	Banker	White/Yellow
R	Teacher	White/Yellow
S	Lawyer	Blue

16. White house is owned by

- a) Q
- b) R
- c) Cannot be determined
- d) None of these

Answer: C

Person	Profession	House
P	Cook	Red
Q	Banker	White/Yellow
R	Teacher	White/Yellow

S	Lawyer	Blue
---	--------	------

17. Q is a _____.

- a) Lawyer
- b) Banker
- c) Cook
- d) Teacher

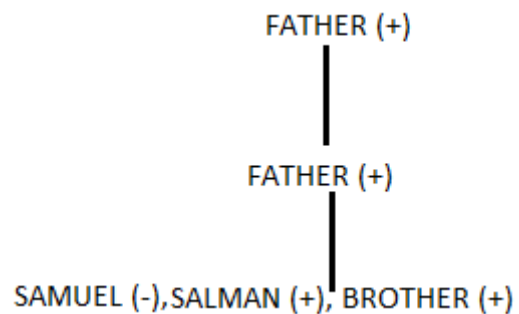
Answer: B

Person	Profession	House
P	Cook	Red
Q	Banker	White/Yellow
R	Teacher	White/Yellow
S	Lawyer	Blue

18. Pointing to Salman in a photograph Samuel said, "His brother's father is the only son of my grandfather". How is Samuel related to the man in the photograph?

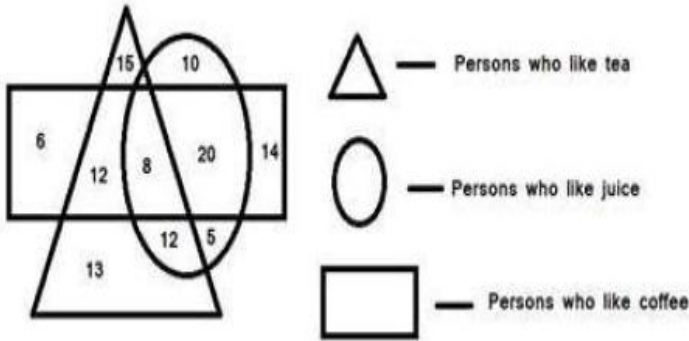
- a) Aunt
- b) Daughter
- c) Sister
- d) Mother

Answer: C



19. Study the following diagram and answer the given question.

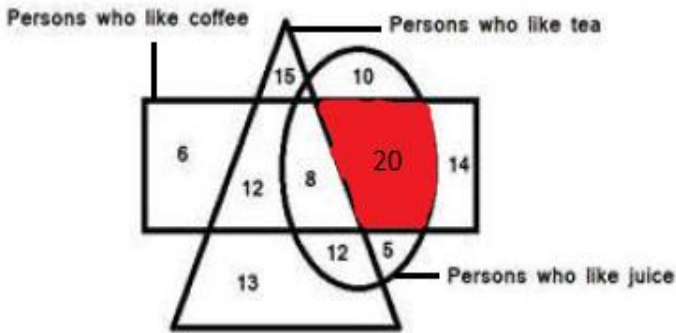
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How many persons like coffee and juice but not tea?

- a) 28
- b) 20
- c) 25
- d) 17

Answer: B

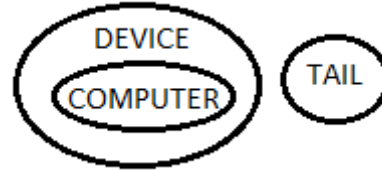


20. Select the venn diagram that best illustrates the relationship between the following classes.

Computer, Tail, Device

- a)
- b)
- c)
- d)

Answer: B



21. Select the correct alternative to indicate the arrangement of the following words in a logical and meaningful order.

1. Puberty
 2. Childhood
 3. Toddler
 4. Infant
 5. Old Age
- a) 4, 3, 2, 1, 5
 - b) 4, 3, 1, 2, 5
 - c) 4, 2, 3, 1, 5
 - d) 4, 1, 2, 3, 5

Answer: A

4. Infant
3. Toddler
2. Childhood
1. Puberty
5. Old Age

22. If TEAM = 27, CATCH = 20, then FARM = ?

- a) 38
- b) 36
- c) 26
- d) 28

Answer: C

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Sum of the place value of the letters – number of letters × 3

TEAM → 20 + 5 + 1 + 13 = 39; 39 – 4 × 3 = 27

CATCH → 3 + 1 + 20 + 3 + 8 = 35; 35 – 5 × 3 = 20

FARM → 6 + 1 + 18 + 13 = 38; 38 – 4 × 3 = 26

23. In a certain code language TERRACE is coded as %&&@*# and TOURIST is coded as \$8^&!=\$, then how is RACIST coded as in that language?

- a) &@!*=\$
- b) &*@!=\$
- c) &@*!=\$
- d) &@=!*\$

Answer: C

T	E	R	R	A	C	E
\$	%	&	&	@	*	#

T	O	U	R	I	S	T
\$	8	^	&	!	=	\$

R	A	C	I	S	T
&	@	*	!	=	\$

24. If in a certain code language, PHOENIX is coded as OHPEXIN, how is MEANS coded as in that language?

- a) SNAEM
- b) SNAKE
- c) SNAME
- d) NAMES

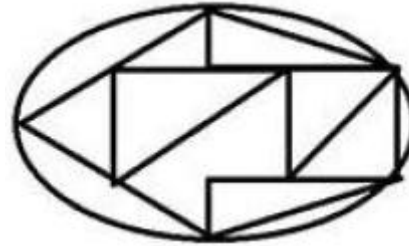
Answer: A

PHOENIX
OHPEXIN

Similarly,

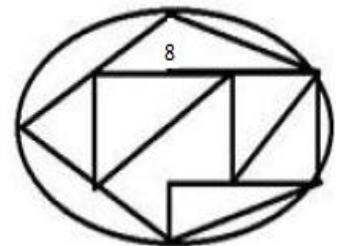
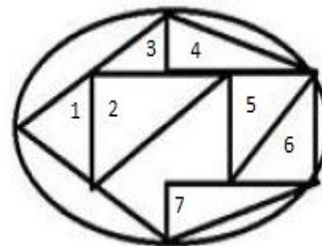
MEANS
EMASN

25. How many triangles are there in the given figure?



- a) 7
- b) 8
- c) 9
- d) 10

Answer: B



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

Eraser : Stationary

- a) Chair : Wood

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b) Plastic : Paper

c) Seat : Cover

d) Table : Furniture

Answer: D

27. Choose the conclusion which logically follows from the given statement(s).

Statement:

Meghna emphasized the need to replace the present training programme by other methods which will bring out the real merit of the candidates.

Conclusions:

1. It is bit important to bring out the real merit of the candidates.

2. The present training programme does not bring out the real merit of the candidates.

a) Only conclusion 1 follows.

b) Only conclusion 2 follows.

c) Both conclusions 1 and 2 follows.

d) Neither conclusion 1 nor 2 follows.

Answer: B)

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

Statements:

Some wax is not seed

No rice is wax

Conclusions:

I. Some rice is not seed

II. Some seeds are not wax

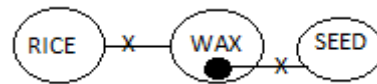
a) Both conclusion I and II follow.

b) Only conclusions I follows.

c) Neither conclusion I nor II follows.

d) Only conclusion II follows.

Answer: C



I. Some rice is not seed → False

II. Some seeds are not wax → False

Direction (29-30): Consider the following information and answer the question based on it.

Q, W, E, R, T and Y are watching cricket match sitting in a row. All of them are facing towards north. W sits exactly between Y and R. E does not sits at any of the extreme ends. Y is sitting 2nd to the left of Q who is sitting at the extreme right end.

29. Who among the following is sitting at the extreme left end?

a) T

b) R

c) W

d) Q

Answer: A

T R W Y E Q

30. Who among the following is sitting third to the right of R?

a) W

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b) Q

c) E

d) Y

Answer: C

T R W Y E Q

Mathematics

1. A train starts from station A at the speed of 50 km/hr and another train starts from station B after 30 min at the speed of 150 km/hr towards each other.

Find the distance of their meeting point from Station

A. The distance between A and B is 725 km.

a) 200 km

b) 250 km

c) 225 km

d) None of these

Answer: A

Distance travelled by first train in $\frac{1}{2}$ hour = $50 \times \frac{1}{2} = 25$ km

Remaining distance = $725 - 25 = 700$

Time = $700 / (150 + 50) = 3.5$ hour

Relative speed = $150 + 50 = 200$ kmph

Distance travelled by first train in $(3.5 + 0.5)$ hour = $50 \times 4 = 200$ km

2. A principal sum of Rs. 2400 gives Rs.640 as simple interest in 4 years. Find the Interest rate.

a) 7.6%

b) 5.35%

c) 6.67%

d) None of these

Answer: C

$$SI = P \times r \times t/100$$

$$640 = 2400 \times r \times 4/100 = 6.67\%$$

3. If x and y, y and z and z and x can complete a work in 12, 15 and 18 days respectively. Then find the number of days in which they will complete the same work together.

a) 180/37 days

b) 360/37 days

c) 9 days

d) None of these

Answer: B

$$1/x + 1/y = 1/12$$

$$1/y + 1/z = 1/15$$

$$1/z + 1/x = 1/18$$

Adding together

$$2 (1/x + 1/y + 1/z) = 1/12 + 1/15 + 1/18$$

$$2 (1/x + 1/y + 1/z) = (15+12+10)/180 = 37/180$$

$$1/x + 1/y + 1/z = 37/360$$

So, number of days required by all three to complete the work together = $360/37$ days

4. In an equilateral triangle, if the altitude is $2\sqrt{3}$ cm then find the area of the triangle.

a) $5\sqrt{3}$ sq. cm

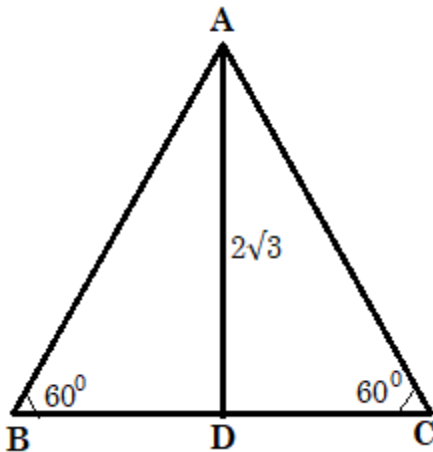
b) $3\sqrt{3}$ sq. cm

c) $6\sqrt{3}$ sq. cm

d) $4\sqrt{3}$ sq. cm

Answer: D

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In equilateral triangle all angle will be equal i.e. 60°

In triangle ADC

$$\tan 60 = \frac{2\sqrt{3}}{BD}$$

$$\text{Or, } \sqrt{3} = \frac{2\sqrt{3}}{BD}$$

$$\text{So, } BD = 2 \text{ cm}$$

$$\text{And } BC = 2 \times BD = 4 \text{ cm}$$

$$\text{Area of triangle ABC} = \frac{1}{2} \times 4 \times 2\sqrt{3} = 4\sqrt{3} \text{ sq. cm}$$

5. A Boy can do a piece of work in 20 days and a girl can do the same piece of work in 30 days. If they work together and get 28000 as total wages, find the wages of Girl?

- a) 11000
- b) 11200
- c) 9800
- d) 12000

Answer: B

Ratio of efficiency of boy and girl = $30 : 20 = 3 : 2$

$$\text{So, wages of Girl} = 28000 \times \frac{2}{5} = 11200$$

6. Find the value of “?” in following expression: 12% of 1200 + ? = 18% of 5400

- a) 828
- b) 120
- c) 980

d) 876

Answer: A

$$12\% \text{ of } 1200 + ? = 18\% \text{ of } 5400$$

$$1200 \times 0.12 + ? = 5400 \times 0.18$$

$$144 + ? = 972$$

$$? = 972 - 144 = 828$$

7. The ratio of adjacent angles in a rhombus is 2:3. Find the measure of the smallest angle.

- a) 60°
- b) 72°
- c) 98°
- d) 86°

Answer: B

Let adjacent angles of rhombus are $2x$ and $3x$.

$$\text{Sum of adjacent angle} = 180^\circ$$

$$2x + 3x = 180^\circ$$

$$5x = 180^\circ$$

$$x = 36^\circ$$

$$\text{Smallest angle} = 2 \times 36 = 72^\circ$$

8. If the length of the side of a square is increased by 20% then find the percentage change in the area of the square.

- a) 44%
- b) 50%
- c) 66%
- d) 56%

Answer: A

$$\text{"\% change in the area"} = 20 + 20 + \frac{(20 \times 20)}{100} = 44\%$$

9. You must secure 50% to declare as pass in two subjects. In Paper-I you got 40% out of 200, in

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Paper-II how much minimum marks must you secure out of 150 marks.

- a) 84
- b) 95
- c) 66
- d) 56

Answer: B

Marks in paper I = 40% of 200 = 80

Total required marks = 50% of 350 = 175

Marks in paper II = 175 – 80 = 95

10. If $2x$, $5x - 12$, $3x - 8$ are angles of a triangle. Find the largest angle.

- a) 60°
- b) 72°
- c) 88°
- d) 86°

Answer: C

Sum of angles = 180°

So, $2x + 5x - 12 + 3x - 8 = 180^\circ$

$10x = 200^\circ$

$x = 20^\circ$

So, angles will be 40° , 88° and 52°

And largest angle = 88°

11. Find the smallest 4-digit number among the given numbers which when divided by 7 gives 6 as remainder.

- a) 3395
- b) 6222
- c) 6929
- d) 5075

Answer: B

$$3395 \div 7 = 485$$

$$6222 \div 7 = 888 + 6 \text{ remainder}$$

$$6929 \div 7 = 989 + 6 \text{ remainder}$$

$$5075 \div 7 = 725$$

Hence smallest one = 6222

12. $\cos 2\theta = \sin \theta$ and $(0^\circ < \theta < 90^\circ)$, find the value of θ ?

- a) 60°
- b) 30°
- c) 45°
- d) 86°

Answer: B

$$\cos 2\theta = \sin \theta$$

$$\cos 60^\circ = \sin 30^\circ = 1/2$$

$$\text{So, } \theta = 30^\circ$$

13. A number is first increased by 40% and then reduced by 40% again. Find overall increase/decrease in the Number.

- a) 15% decrease
- b) 16% increase
- c) 15% increase
- d) 16% decrease

Answer: D

There are always decrease in such condition.

$$\text{Overall decrease} = (40 \times 40)/100 = 16\%$$

14) A does a piece of work in 10 days and B does the same piece of work in 15 days. They work together and A leaves the work 5 days before the completion. Find the time taken by them to complete the whole work.

- a) 5 days

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b) 6 days

c) 8 days

d) 2 days

Answer: C

Let total work = 30 unit (LCM of 10 and 15)

Ratio of efficiency of A and B = 10 : 15 = 2 : 3

Work done by B in last 5 days = $5 \times 3 = 15$ unit

Remaining work = $30 - 15 = 15$ unit

They worked together = $15/(2 + 3) = 3$ days

Total time to complete the work = $5 + 3 = 8$ days

15) In a class 70 boys and 50 girls. If 40% of girls and 50% boys attend a function, how many students attended the function?

a) 55

b) 60

c) 39

d) 52

Answer: A

Boys attend function = 50% of 70 = 35

Girls attend function = 40% of 50 = 20

Total student that attend function = 55

16) Find the number of spherical balls of radius 12 cm that can be made by melting a cuboid of dimensions 28 cm x 32 cm x 36 cm. Use, $\pi = 3$

a) 5

b) 6

c) 4

d) 7

Answer: C

Number of spherical balls = Volume of cuboid/

Volume of spherical balls

$$= (28 \times 32 \times 36)/(4/3 \times 3 \times 12^3) = 4.67$$

Hence total number of balls = 4

17) Simplify: $5\sin 75^\circ \sec 15^\circ + 3\cot 15^\circ \cot 75^\circ + 2 \tan 45^\circ$

a) 15

b) 16

c) 14

d) 10

Answer: D

$$5 \times \sin 75^\circ \times \operatorname{cosec} 75^\circ + 3 \times \cot 15^\circ \times \tan 15^\circ + 2 \tan 45^\circ$$

$$= 5 \times \sin 75^\circ \times 1/\sin 75^\circ + 3 \times \cot 15^\circ \times 1/\cot 15^\circ + 2$$
$$= 5 + 3 + 2 = 10$$

18) The HCF and LCM of two numbers are 12 and 72 respectively and the sum of the two numbers is 60. Find the sum of the reciprocals of the two numbers.

a) 5/23

b) 4/27

c) 5/72

d) 13/35

Answer: C

Let the numbers be x and y.

$$\text{Then, } x + y = 60 \text{ and } xy = 12 \times 72$$

Now,

$$1/x + 1/y = (x + y)/xy = 60/(12 \times 72) = 5/72$$

19) The Cost price of an article is 75% of the marked price. The seller offers a discount of 15% on the marked price. Then find the profit percent.

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- a) 15%
- b) 16%
- c) 14%
- d.) 13.33%

Answer: D

Let marked price be x.

Then cost price = 0.75 x

Selling price = 0.85x

Profit percent = $0.10 x / 0.75x \times 100 = 13.33$

20) Simplify: $(54 \times 125) \div (24 \times 45)$

- a) 22.5
- b) 26
- c) 14
- d) 6.25

Answer: D

$\Rightarrow (54 \times 125) \div (24 \times 45) = 6.25$

21) In a class boys and girls ratio is 2 : 3. When 300 girls were added ratio becomes 2 : 5. Find out number of new girls?

- a) 500
- b) 760
- c) 750
- d) 700

Answer: C

Let number of boys and girls be 2x and 3x respectively.

After adding 300 girls,

Number of girls = $3x + 300$

According to question,

$$2x / (3x + 300) = 2/5$$

$$5x = 3x + 300$$

$$2x = 300$$

$$x = 150$$

Number of new girls = $3x + 300 = 450 + 300 = 750$

22. If $\sin \theta = 3/4$ and $\cos \theta = 5/4$. Find $(1 + \tan \theta) / (1 - \tan \theta)$

- a) 5
- b) 7
- c) 6
- d) 4

Answer: D

$$\tan \theta = \sin \theta / \cos \theta = 3/5$$

$$(1 + \tan \theta) / (1 - \tan \theta) = (1 + 3/5) / (1 - 3/5) = (8/5) / (2/5) = 4$$

23. If $a^3 - b^3 = 625$, $a^2 - b^2 = 25$ and $a + b = 5$. Find $a^2 + ab + b^2$

- a) 125
- b) 127
- c) 126
- d) 124

Answer: A

$$a^2 - b^2 = 25$$

$$\text{or, } (a + b)(a - b) = 25$$

$$\text{or, } 5(a - b) = 25$$

$$\text{So, } (a - b) = 5$$

$$\text{Now, } a^3 - b^3 = (a - b)(a^2 + ab + b^2)$$

$$625 = 5 \times (a^2 + ab + b^2)$$

$$(a^2 + ab + b^2) = 125$$

24. If the length of a rectangle is twice the breadth and the perimeter is 48 cm then find the area of the rectangle.

- a) 128

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b) 147

c) 136

d) 124

Answer: A

Let length and breadth be $2x$ and x respectively

So, Perimeter = $2(2x + x) = 48$

$x = 8$

Area of rectangle = $2x \times x = 16 \times 8 = 128$ sq cm

25) If the simple interest for 2 years at 10% interest rate is Rs.500, then what is the compound interest for 2 years at same interest rate and same principal.

a) 500

b) 525

c) 540

d) 600

Answer: B

$500 = P \times 10 \times 2/100$

$P = 2500$

$A = P(1 + r/100)^n$

$A = 2500(1 + 10/100)^2 = 3025$

$CI = 3025 - 2500 = 525$

26) The smallest number which is divided by 15, 20 and 35 left 8 as a remainder.

a) 332

b) 428

c) 346

d) 482

Answer: B

LCM of 15, 20 and 35 is = 420

Required number = $420 + 8 = 428$

27. Cost Price of a watch is 15000 and selling price is 20000 then what is the profit percent?

a) $33 \frac{1}{3}\%$

b) 12%

c) 18%

d) 35%

Answer: A

Required Profit % = $5000/15000 \times 100 = 33 \frac{1}{3}\%$

28. A shopkeeper gives two successive discounts of 20% and 10%. Find the effective discount for the same.

a) 22%

b) 38%

c) 24%

d) 28%

Answer: D

Effective discount = $20 + 10 - (20 \times 10)/100 = 28\%$

29) Height of a cylinder is 14cm and curved surface area is 528 cm^2 . Find the volume of the cylinder.

a) 1584

b) 1660

c) 1770

d) 1544

Answer: A

Curved surface area = 528

$2 \times (22/7) \times r \times 14 = 528$

$R = 6$

Required volume = $22/7 \times 6 \times 6 \times 14 = 1584$

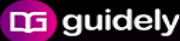
30) The ratio of A : B : C is 2 : 3 : 4. Sum of all the numbers is 120. Find the number B.

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- a) 40
- b) 34
- c) 30
- d) 45

Answer: A

$$B = \frac{3}{9} \times 120 = 40$$

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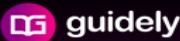
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