# Agniveer Army GD 20 April 2023 (Shift 1) Memory-Based Paper. (Previous Year Paper)

Army GD Agniveer • 2023 • 50 questions • 60 minutes • Answer key and solutions

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## GENERAL KNOWLEDGE

**Q1.** Through which of the following states does the Chambal river flow?

**(a)** Chhattisgarh
**(b)** Maharashtra
**(c)** BIhar
**(d)** Madhya Pradesh

**Q2.** Anandpur Sahib is located in which of the following state?

**(a)** Himanchal Pradesh
**(b)** Aruanchal Pradesh
**(c)** Haryana
**(d)** Punjab

**Q3.** What is the maximum sanctioned strength of judges in the Supreme Court including the Chief Justice?

**(a)** 34
**(b)** 33
**(c)** 31
**(d)** 30

**Q4.** The Border–Gavaskar Trophy is a Test cricket series played between India and _____.

**(a)** England
**(b)** Australia
**(c)** New Zealand
**(d)** West Indies

**Q5.** Which is the least populous state in India?

**(a)** Arunachal Pradesh
**(b)** Goa
**(c)** Sikkim
**(d)** Tripura

**Q6.** The historic place 'Chauri Chaura' is situated in which district?

**(a)** Prayagraj
**(b)** Gorakhpur
**(c)** Kanpur
**(d)** Agra

**Q7.** Who was the First Indian to clear Indian Civil Services?

**(a)** Subhash Chandra Bose
**(b)** Devendranath Tagore
**(c)** Satyendranath Tagore

**(d)** Ravindranath Tagore

**Q8.** On which date Sardar Udham Singh killed General Dyer in England?

**(a)** March 1938
**(b)** March 1940
**(c)** March 1942
**(d)** March 1945

**Q9.** Gujarat high court is located at which of the following place?

**(a)** Gandhinagar
**(b)** Vadodara
**(c)** Surat
**(d)** Ahmedabad

**Q10.** Research and Analysis Wing (RAW) is the foreign intelligence agency of India. Who is the current head of RAW (As of 2019)?

**(a)** Samant Goyal
**(b)** Kuldeep Singh
**(c)** Arvind Kumar
**(d)** Subodh Kumar Jaiswal

**Q11.** The Amber fort is located in which of the following state?

**(a)** Telangana
**(b)** Madhya Pradesh
**(c)** Rajasthan
**(d)** Uttar Pradesh

**Q12.** Who has been appointed as Governor of Chhattisgarh?

**(a)** Biswa Bhusan Harichandan
**(b)** La. Ganesan
**(c)** Phagu Chauhan
**(d)** Ramesh Bais

**Q13.** 'Jaldapara Sanctuary' is located in which of the following state of India?

**(a)** Gujarat
**(b)** Maharashtra
**(c)** West Bengal
**(d)** Tamil Nadu

**Q14.** Which of the following countries won the FIH Hockey Men's World Cup 2023?

**(a)** Belgium
**(b)** Netherlands
**(c)** Australia
**(d)** Germany

**Q15.** Which of the following states is called 'Spice Garden' of India?

**(a)** Andhra Pradesh
**(b)** Kerala
**(c)** Kashmir
**(d)** Punjab

## GENERAL SCIENCE

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**Q16.** Antacid substance used for the treatment of acidity in stomach is

**(a)** Caustic soda
**(b)** Caustic potash
**(c)** Milk of magnesia
**(d)** Lunar caustic

**Q17.** The _____ is the site of complete digestion of carbohydrates, proteins and fats in the human body.

**(a)** pharynx
**(b)** stomach
**(c)** small intestine
**(d)** large intestine

**Q18.** Which of the following is NOT an example of Acute disease?

**(a)** High blood pressure
**(b)** Flu
**(c)** Strep throat
**(d)** Common Cold

**Q19.** Which of the following diseases causes loss of memory?

**(a)** Rickets
**(b)** Alzheimer's disease
**(c)** Nyctalopia
**(d)** Scurvy

**Q20.** Reaction of an acid with a base is known as:

**(a)** Decomposition
**(b)** Combination
**(c)** Redox reaction
**(d)** Neutralization

**Q21.** The pH value of blood is

**(a)** 6
**(b)** 7.4
**(c)** 8.4
**(d)** 6.4

**Q22.** Who among the following discovered electromagnetic induction?

**(a)** Joule
**(b)** Faraday
**(c)** Ohm
**(d)** Kepler

**Q23.** The lungs are part of which system?

**(a)** of nervous system
**(b)** of digestive system
**(c)** of respiratory system
**(d)** none of these

**Q24.** Which one of the following parts of human alimentary canal can be of maximum length?

**(a)** Stomach
**(b)** Small intestine
**(c)** Large intestine
**(d)** Rectum

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**Q25.** Earthquake produces which kind of sound before the main shock wave begins

**(a)** ultrasound
**(b)** infrasound
**(c)** audible sound
**(d)** none of the above

**Q26.** The non-metal used in the vulcanization of rubber is _____.

**(a)** Phosphorus
**(b)** Sulphur
**(c)** Graphite
**(d)** Iodine

**Q27.** Usually the rate of heart beat is measured as _____.

**(a)** pulse rate per second
**(b)** pulse rate per minute
**(c)** pulse rate per hour
**(d)** None of the above

**Q28.** The image formed by a concave lens is always _____ and _____.

**(a)** Virtual, erect
**(b)** Real, Inverted
**(c)** Virtual, inverted
**(d)** Real, erect

**Q29.** Major part of fat digestion is done with the help of

**(a)** Bile juice
**(b)** Gastric juice
**(c)** Hydrochloric acid
**(d)** Pepsin

**Q30.** The unit of frequency is

**(a)** hertz
**(b)** henry
**(c)** farad
**(d)** second

## MATHS

**Q31.** A polygon that has 8 sides is called _____

**(a)** octagon
**(b)** hexagon
**(c)** pentagon
**(d)** decagon

**Q32.** Ratio of age of Sonu & Monu is 9:12. If age of Sonu is 27 year then age of Monu willl be

**(a)** 50
**(b)** 56
**(c)** 36
**(d)** 60

**Q33.** The ratio of two numbers is 4 : 5 and their LCM is 60 then their HCF is-

**(a)** 1
**(b)** 3
**(c)** 4
**(d)** 2

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**Q34.** The average age of three people is 34 years. If the age of the first and second person is 20 years and 28 years respectively, what is the age of the third person?

**(a)** 50 year
**(b)** 52 year
**(c)** 54 year
**(d)** 56 year

**Q35.** The value of $(3m - 4n)^2$ will be

**(a)** $9m^2 + 16n^2$
**(b)** 9m2 + 24mn +16n2
**(c)** 9m2 - 24mn +16n2
**(d)** 9m2 - 16n2

**Q36.** If $2(2x + 3) – 4(x – 5) – x + 2 = 3$ then the value of x will be

**(a)** 15
**(b)** 25
**(c)** 30
**(d)** 20

**Q37.** What is the ratio of milk to water when 20 ml of milk is mixed with 4 liters of water?

**(a)** 200:1
**(b)** 100:1
**(c)** 1:100
**(d)** 1:200

**Q38.** 7/10 = ? %

**(a)** 7%
**(b)** 17%
**(c)** 70%
**(d)** 93%

**Q39.** Shanti has three daughters. Their average age of them is 15 years. If she adopted an 11-year-old girl, then new average will be

**(a)** 11
**(b)** 13
**(c)** 14
**(d)** 16

**Q40.** The speed of a man for the first 4 hours is 35 km/h and for the next 6 hours his speed is 45 km/h, find the ratio of average of speeds to the average speed.

**(a)** 10/11
**(b)** 21/20
**(c)** 30/31
**(d)** 40/41

**Q41.** Ram and Shyam distribute 320 packets of chocolate in a ratio of 7 : 9, find Ram’s chocolate.

**(a)** 160
**(b)** 140
**(c)** 180
**(d)** 200

**Q42.** Two cubes each of side 7 cm are joined end to end to form a solid. Find the volume of the resulting cuboid.

**(a)** 686 $cm^3$
**(b)** 2744 $cm^3$
**(c)** 1372 $cm^3$

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**(d)** 441 $cm^3$

**Q43.** If Rs. 400, will Rs. 480 in 4 years, then what is the rate of simple interest per annum?

**(a)** 5%
**(b)** 25 over2 %
**(c)** 15%
**(d)** 25 over3 %

**Q44.** Pipes 'A' and 'B' can fill a tank in 10 hours and 15 hours respectively. How much time will they take together to fill the tank

**(a)** 8 hours
**(b)** 5 hours
**(c)** 7 hours
**(d)** 6 hours

**Q45.** HCF of 12, 18 and 24 is

**(a)** 24
**(b)** 12
**(c)** 6
**(d)** 2

## LOGICAL REASONING

**Q46.** In a certain code language, if 'D' = 4 and 'AND' = 19, than how will 'ADM' be written in that language?

**(a)** 17
**(b)** 18
**(c)** 19
**(d)** 20

**Q47.** A girl is standing in a row and her rank is 27 from the top and 5 from the bottom. Find the total number of people standing in the queue.

**(a)** 32
**(b)** 31
**(c)** 30
**(d)** 22

**Q48.** If in a certain language, CATCHER is coded as ECVEJGT, then how is LEATHER coded in that language?

**(a)** NCGJVGT
**(b)** NGCJVGT
**(c)** NCGVJGT
**(d)** NGCVJGT

**Q49.** In following question find out the alternative which will replace the question mark

Conference : Chairman :: Newspaper : ?

**(a)** Reporter
**(b)** Distributor
**(c)** Printer
**(d)** Editor

**Q50.** In a code language, if 'USUAL' is coded as '74' then how will 'FINISH' be coded in the same language?

**(a)** 67
**(b)** 86
**(c)** 43
**(d)** 65

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## ANSWER KEY

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | d | 2 | d | 3 | a | 4 | b | 5 | c | 6 | b | 7 | c | 8 | b | 9 | d | 10 | a |
| 11 | c | 12 | a | 13 | c | 14 | d | 15 | b | 16 | c | 17 | c | 18 | a | 19 | b | 20 | d |
| 21 | b | 22 | b | 23 | c | 24 | b | 25 | b | 26 | b | 27 | b | 28 | a | 29 | a | 30 | a |
| 31 | a | 32 | c | 33 | b | 34 | c | 35 | c | 36 | b | 37 | d | 38 | c | 39 | c | 40 | d |
| 41 | b | 42 | a | 43 | a | 44 | d | 45 | c | 46 | b | 47 | b | 48 | d | 49 | d | 50 | d |

## SOLUTIONS

**Q1. Answer: (d) Madhya Pradesh**

The correct answer is Madhya Pradesh.

Key Points

Chambal River:

• It originates from the Singar Chouri peak on the Northern slopes of the Vindhyan Range near Mandav,67.5 km South-West of Mhow in Indore District of Madhya Pradesh.

• The length of the Chambal river is 1024 km. It enters at Etawah district in Uttar Pradesh and meets the Yamuna river at Muradganj.

• It is a tributary of the Yamuna River in Central India. Thus, it forms part of the greater Gangetic drainage system and forming the boundary between Madhya Pradesh and Rajasthan states before turning South-East to join the Yamuna river in Uttar Pradesh state.

• The Chambal river flows first in a North direction through Madhya Pradesh for about 376 km and then in a generally North-East direction for 249 km through Rajasthan. It flows for another 216 km between Madhya Pradesh and Rajasthan states.

Image view of the Chambal River:

**Q2. Answer: (d) Punjab**

The correct answer is Punjab.

Key Points

The Anadnpur Sahib:

• It is located in Punjab near the Sutlej river.

• The last two Sikh gurus Guru Gobind Singh and Guru Tegh Bahadur lived here.

• Guru Gobind Singh founded the Khalsa Panth here.

• The Anadpur Sahib was founded by Guru Tegh Bahadur, the ninth guru.

Additional Information

• In the holy city of Anandpur Sahib, close to Chandigarh, the capital of the Indian state of Punjab, is the museum of Sikhism known as Virasat-e-Khalsa.

• The museum provides information on the historical occasions that occurred in Punjab five hundred years ago and gave rise to Sikhism and ultimately the Khalsa Panth.

• There is an auditorium with 400 seats located in the western area. It contains a sizable exhibition space and a library that houses all Sikhism-related journals, publications, books, and periodicals.

• The north wing of the eastern complex is sometimes referred to as the "flower building."

**Q3. Answer: (a) 34**

The correct answer is 34.

Key Points

• The sanctioned judge strength of the Supreme Court is 34 (including the Chief Justice of India).

Additional Information

• Supreme Court -

• It is at the apex of the Indian judicial system.

• Its constitution, jurisdiction, powers, independence, etc. have been described in Part 5 of the Constitution (Articles 124 to 147).

• According to Article 124 of the Indian Constitution, the judges of the Supreme Court are appointed by the President.

• Tenure -

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• The retirement age of Supreme Court judges is 65 years.

• Judges can only be removed (impeachment) on conviction of misbehavior or incapacity.

• For this, removal can be done by the President only on the basis of a resolution passed by both the Houses of Parliament by a two-thirds majority.

**Q4. Answer: (b) Australia**

The correct answer is Australia.

Key Points

• About Border Gavaskar Trophy

• It is a Test cricket series played between India and Australia.

• It is named after Alan Border of Australia and Sunil Gavaskar of India.

• Number of teams - 2

• Current trophy holder - India (10th title)

• Most Runs - Sachin Tendulkar (3,235)

• Most wickets - Anil Kumble (105)

• Most successful - India (10 titles)

• First edition - 1996–97 (India)

**Q5. Answer: (c) Sikkim**

The correct answer is Sikkim.

Key Points

• Sikkim

• Sikkim is close to Bangladesh and the Indian Siliguri Corridor.

• It is the least populous and second-smallest State in India, with a population of 6.9 lakh.

• The province of Sikkim lies in northeastern India. Its borders with Tibet are to the north and northeast, with Bhutan to the east, Nepal to the west, and West Bengal to the south.

• Between 2003 and 2016, Sikkim succeeded in converting all of its agriculture to organic practices, becoming the first state in India to do so.

Additional Information

• The Eastern Himalayan region of Sikkim is renowned for its biodiversity, alpine and subtropical temperatures, and for being home to Kangchenjunga, the third-highest mountain on Earth and the highest peak in India.

• Gangtok is the capital and largest city in Sikkim.

• Cardamom production in India is dominated by Sikkim, which is also the world's second-largest producer of spices after Guatemala.

**Q6. Answer: (b) Gorakhpur**

The correct answer is Gorakhpur.

Key Points

• The place named Chauri Chaura was notably related to Non-Cooperation Movement.

• The Chauri Chaura incident took place on 4 February 1922 in Chauri Chaura in the Gorakhpur district of the United Provinces (modern-day Uttar Pradesh) in British India, when a large group of protesters participating in the non-cooperation movement were fired upon by the police. In retaliation, the demonstrators attacked and set fire to a police station, killing all of its occupants.

• The incident led to the death of three civilians and 22 policemen.

• Due to this incident, Mahatma Gandhi called off the Non-Cooperation Movement.

• The Non-Cooperation movement was launched on 4 September 1920.

• Thousands of students boycotted Government schools and colleges.

• Gandhiji chalked out the following program for the Non-cooperation movement:-

• Surrender of titles

• Refusal to attend government functions

• Boycott of law courts

• Boycott of foreign goods

• Not to vote in elections, etc.

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**Q7. Answer: (c) Satyendranath Tagore**

Satyendranath Tagore was the First Indian to clear Indian Civil Services.

Key Points

• Satyendranath Tagore is known as a famous writer, poet, litterateur, musician and social reformer.

• Satyendranath Tagore is also known as the first IAS officer of India.

• He was the elder brother of world famous poet Rabindranath Tagore.

• The Indian Civil Service (ICS), officially known as the 'Imperial Civil Service'.

• During the British rule between 1858 and 1947, it was the 'higher civil service' of the British Empire in India.

• During the British period, the 'Indian Civil Service' was formed in 1861 under the 'Indian Civil Services Act 1861'.

• After this, in June 1863, Satyendranath Tagore (the first Indian) was selected.

• Earlier, only the British were considered eligible for this post.

• In 1863, he was selected in the 'Indian Civil Service' examination.

• Satyendranath Tagore's first appointment as an IAS officer was in 'Bombay Presidency'.

• During this, in 1865, he started his career as Assistant Magistrate and Collector in 'Ahmedabad'.

• In 1882, he was appointed as the District Judge in 'Karwar' of Karnataka.

• He remained in civil services for almost 30 years.

Hence we can conclude that Satyendranath Tagore was the First Indian to clear Indian Civil Services.

**Q8. Answer: (b) March 1940**

The correct answer is 1940.

Key Points

• On 13th March, 1940, Singh shot Michael O'Dwyer instead of General Dyer at a meeting of the East India Association and the Royal Central Asian Society at Caxton Hill.

Sardar Udham Singh:

• He was born in Sunam in Punjab's Sangrur district in 1899, also referred to as Shaheed-i-Azam Sardar Udham Singh which means 'Great Martyr'.

• He is regarded as one of the foremost revolutionaries of the Indian Freedom Struggle.

• Following the Jallianwala Massacre on 13th April 1919, he got profoundly involved in revolutionary activities and politics. He was deeply influenced by Bhagat Singh.

• He joined the Ghadar Party in 1924 to organise overseas Indians with the purpose of overthrowing colonial rule.

• In 1927, while returning to India with associates and weapons to carry out revolutionary activities, he was arrested for illegal possession of firearms and sentenced to five years in prison.

Additional InformationKartar Singh Sarabha:

• He was born in a highly educated family.

• He was brought up by his grandfather Badan Singh Grewal due to his parents' early demise.

• One of his teachers included the famous nationalist Beni Madhab Das, who inspired Subhas Chandra Bose.

• In 1912, when he reached Berkeley, he came into contact with Lala Hardayal, an acclaimed Sanskrit scholar, Sohan Singh Bhakna, a farmer, and Pandurang Sadashiv Khankhoje, an agricultural scientist who formed the Pacific Coast Hindustan Association in 1913.

• It was a precursor to the Ghadar Party, that was formed on July 15, 1913, with the express aim of over throwing the British government in India.

• The party set up a printing press in San Francisco, and brought out its first issue of The Ghadar in Urdu on November 1, 1913, followed by the Punjabi edition on December 13.

• Sarabha left his studies and became Ghadar Party's youngest founding member.

• He was one of the most active fundraisers in the organisation, holding meetings in the rural areas where the farmers donated generously.

• Bhagat Singh's father Kishan Singh had given Sarabha Rs.1,000 for his movement.

Baba Gurdit Singh:

• He was the central figure in the Komagata Maru incident of 1914.

• Singh was born in 1860 at Sarhali, in the Amritsar District of the Punjab province in British India.

• In 1914 he chartered a Japanese ship, the Komagata Maru, to go to Canada, reaching Vancouver on 23 May 1914.

**Q9. Answer: (d) Ahmedabad**

The correct answer is Ahmedabad.

Key Points

• The Gujarat High Court is one of the high courts in India, and it is located in the city of Ahmedabad in the state of Gujarat.

• The High Court of Gujarat was established on May 1, 1960, after the state of Gujarat was created from the Bombay State.

Additional Information

• High Court:

• THERE shall be a High Court in each State [Art. 214] but Parliament The High Court has the power to establish a common High Court for two or more States. The High Court stands at the head of the Judiciary in the State.

• Every High Court shall consist of a Chief Justice and such other Constitution of Judges as the President of India may from time to time appoint

• Participatory Consultative Process: A nine-Judge Bench of the Supreme Court has held that (1) the process of the appointment of the Judges of the High Courts is an integrated 'participatory consultative process' for selecting the best and most suitable persons available for appointment; and all the constitutional functionaries must perform this duty collectively with a view primarily to reach an agreed decision, subserving the constitutional purpose, so that the occasion of primacy does not arise.

• Initiation of the proposal for appointment in the case of High Court must invariably be made by the Chief Justice of that High Court.

• In the event of conflicting opinions by the constitutional functionaries, the opinion of the judiciary is symbolized by the view of the Chief Justice of India formed by him in consultation with two senior-most Judges of the Supreme Court who come from that State would have the supremacy.

• No appointment of any Judge of a High Court can be made unless it conforms with the opinion of the Chief Justice of India.

• In exceptional cases alone, for stated strong cogent reasons, disclosed to the Chief Justice of India, indicating that the recommended is not suitable for appointment, that the appointment recommended by the Chief Justice of India not be made.

• However, if the stated reasons are not accepted by the CJI and the other Judges of the Supreme Court, consulted by him in the matter, on reiteration of the recommendation by the CJI, the appointment should be made as a healthy convention.

**Q10. Answer: (a) Samant Goyal**

The correct answer is Samant Goyal.

Key Points

• Samant Kumar Goel is an IPS officer and an Indian public servant who works as an intelligence officer.

• He was the head of India's foreign intelligence agency, the Research and Analysis Wing.

• On June 26, 2019, he was named Chief of R&AW, succeeding Anil Dhasmana.

• IPS officer Ravi Sinha is the current head of the Research and Analysis Wing (RAW) (2024).

• India's foreign intelligence agency is the Research and Analysis Wing (R&AW).

• Gathering foreign intelligence, counter-terrorism, counter-proliferation, advising Indian policymakers, and furthering India's foreign strategic objectives are the agency's main responsibilities.

• It is also involved in India's nuclear program's security.

**Q11. Answer: (c) Rajasthan**

The correct answer is Rajasthan.

Key Points

• Amer Fort or Amber Fort is a fort located in Amer, Rajasthan, India.

• Amer is a town with an area of 4 square kilometres located 11 kilometres from Jaipur, the capital of Rajasthan.

• The town of Amer and the Amber Fort was originally built by Raja Man Singh and additions were, later, made by Sawai Jai Singh.

• Amer Fort is known for its artistic style elements.

• With its large ramparts and series of gates and cobbled paths, the fort overlooks Maota Lake, which is the main source of water for the Amer Palace.

• At the 37th session of the World Heritage Committee held in Phnom Penh, Cambodia, in 2013, Amer Fort, along with five other forts of Rajasthan, was declared a UNESCO World Heritage Site as part of the group Hill Forts of Rajasthan.

Additional Information

• Jaipur has become the second city of the country after Ahmedabad to get the recognition of UNESCO World Heritage Site.

• With Jaipur's inclusion as a cultural site, the number of heritage sites across India that are on the UNESCO World Heritage list has grown to 38, including 30 cultural properties, 7 natural properties, and 1 mixed site.

• The walled city of Jaipur in Rajasthan was founded in 1727 AD under the patronage of Sawai Jai Singh II.

• It also serves as the capital city of the state of Rajasthan.

• Unlike other cities in the region located in hilly terrain, Jaipur was established on the plain and built according to a grid plan interpreted in the light of Vedic architecture.

**Q12. Answer: (a) Biswa Bhusan Harichandan**

The correct answer is Biswa Bhusan Harichandan.

Key Points

• Shri Biswa Bhusan Harichandan is the Governor of Chhattisgarh. He has appointed by the President Droupadi Murmu.

• La. Ganesan has been appointed as Governor of Nagaland.

Additional Information

• Chhattisgarh:

• Governor: Biswabhusan Harichandan

• Founded: 1 November 2000

• Capital: Raipur

• Chief minister: Vishnu Deo Sai

**Q13. Answer: (c) West Bengal**

The correct answer is West Bengal.

Key Points

• 'Jaldapara Sanctuary' is located in the state of West Bengal of India.

• Jaldapara National Park is situated at the foothills of the Eastern Himalayas in the Alipurduar District of northern West Bengal and on the banks of the Torsa River.

• It was declared a sanctuary in 1941 for the protection of its great variety of flora and fauna.

Important Points

• National parks in India:

• These are IUCN category II protected areas.

• India's first national park was established in 1936 as Hailey National Park, now known as Jim Corbett National Park, Uttarakhand.

• By 1970, India only had five national parks.

• In 1972, India enacted the Wildlife Protection Act and Project Tiger 1973 to safeguard the habitats of conservation-reliant species.

• There are 106 existing national parks in India covering an area of 43,716 km2, which is 1.33% of the geographical area of the country.

**Q14. Answer: (d) Germany**

The Correct Answer is Germany.

Key PointsFIH Odisha Hockey Men's World Cup 2023:

| Country | Position |
|---|---|
| Germany | 1st (Gold) |
| Belgium | 2nd (Silver) |
| Netherlands | 3rd (Bronze) |
| Australia | 4th |

• Germany won the world cup by defeating Belgium in the finals held at Kalinga Stadium, Bhubaneswar.

• With this victory Germany has won the World Cup title for the 3rd time.

• The Tournament took place between 13th January to 29th January 2023.

• Kalinga Stadium, Bhubaneswar and Birsa Munda International Hockey Stadium, Rourkela are the two venues for the tournament.

• 16 Nations are participating in the tournament.

• FIH Odisha Hockey Men's World Cup 2023 is the 15th Edition of the event.

• Niklas Wellen of Germany was conferred with Best Player Award.

• Indian Team led by Harmanpreet Singh along with Argentina finished 9th in the Tournament.

• Mascot: Olly (Olive Ridley Sea Turtle wearing a blue jersey and cap).

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• Official Partners: TATA Steel & Rungta Sons.

Additional InformationFIH - International Hockey Federation:

• Established in 1924.

• President - Mr. Tayyab Ikram.

• HQ - Lausanne, Switzerland.

**Q15. Answer: (b) Kerala**

The correct answer is Kerala.

Key Points

• Kerala:

• Kerala is known as the spice garden of India as it has a variety of spices and which is popular for its taste in the whole world.

• Idukki and Wayanad are the major districts for the cultivation of spices in the entire state.

Additional Information

• Kashmir:

• Kashmir is famous for Horticulture and floriculture.

• Especially for Saffron cultivation, so known as Saffron town.

• Andhra Pradesh:

• Andhra Pradesh is famous for rice, tobacco.

• Andhra Pradesh is also famous for its mangoes (GI Tag).

• It is also known as the "rice bowl of India" for being a major producer of rice in India.

• Punjab:

• The Punjab region is ideal for growing wheat, fruits, and vegetables.

• This is the main reason that Punjab is also referred to as the "Granary of India" or "India's bread-basket."

**Q16. Answer: (c) Milk of magnesia**

The correct answer is Milk of Magnesia.

Key Points

• Acidity is a situation when overproduction of acid in the stomach causes irritation and pain. In severe cases, ulcers are developed in the stomach. To mitigate this, antacids are used. Note that:

• Antacids are a class of medicines that neutralize the acid in the stomach.

• They contain ingredients such as aluminium, calcium, magnesium, or sodium bicarbonate which act as bases (alkalis) to counteract stomach acid and make its pH more neutral.

• Milk of Magnesia is used as an antacid. It can help relieve heartburn, sour stomach, and acid indigestion.

• It's an over-the-counter (OTC) drug that's available without a prescription. Many companies offer it as a brand name, such as Ex-Lax Milk of Magnesia and Phillips' Milk of Magnesia.

• Milk of Magnesia is a brand name for magnesium hydroxide, a medication can also be used to treat constipation.

• It's a type of laxative known as an oral osmotic; it works by drawing water into the colon from the body tissues surrounding it.

• This allows the stool to pass more easily. Milk of Magnesia can be taken as a liquid or a tablet.

• A bowel movement should occur within a half-hour to six hours after taking it.

Hence, we conclude that Milk of Magnesia is an antacid substance used for the treatment of acidity.

**Q17. Answer: (c) small intestine**

The correct answer is the small intestine.

• Complete digestion of Carbohydrates, proteins, and fats takes place in the small intestine in the human body.

Key Points

• In the small intestine, they are broken down into their basic units by different digestive enzymes.

• Carbohydrates break into glucose, fructose by the enzyme amylase.

• Proteins into amino acids by proteases.

• Fats into fatty acids and glycerol by lipase enzyme.

• Absorption of water and electrolytes;

Additional Information

• Absorption of water and electrolytes takes place in the Large Intestine.

• The pharynx is a common passageway for food, air, and water from the nasal cavity and oral cavity.

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**Q18. Answer: (a) High blood pressure**

The correct answer is High blood pressure.

Key Points

• High blood pressure is NOT an example of Acute disease.

• High blood pressure (hypertension) is a common condition in which the long-term force of the blood against your artery walls is high enough that it may eventually cause health problems, such as heart disease.

Additional Information

• Acute diseases develop suddenly and last a short time, often only a few days or weeks, and do not cause any major effect on general health.

• Acute diseases mostly appear suddenly.

• Infections by foreign agents cause the most acute conditions.

• Some diseases might even appear due to accidents and misuse of medication.

• Most acute diseases are communicable and are caused by an infectious agent.

• Acute diseases do not have harmful health effects.

• Symptoms associated with acute diseases appear suddenly and worsen over a short period.

• Symptoms of acute diseases differ according to the nature of the disease.

• Acute diseases can be cured completely with the administration of appropriate dosages of drugs.

• Different prevention steps can be followed for acute diseases.

• The prevention might defer to the nature of the disease.

• Examples: Common cold, Jaundice, Typhoid, Malaria, Flu, Strep throat.

**Q19. Answer: (b) Alzheimer's disease**

The correct answer is 'Alzheimer's disease'.

Key Points

• Alzheimer’s disease is a brain disorder that causes loss of memory.

• It slowly destroys memory and thinking skills and, eventually, the ability to carry out the simplest tasks.

• The disease is named after Dr. Alois Alzheimer.

• Currently, there is no cure for Alzheimer’s disease.

Hence, the correct answer is Alzheimer's disease.

Important Points

Let's have a look at other options:

| Disease | Effect |
|---|---|
| Rickets | Softening and weakening of bones in children. |
| Nyctalopia | Inability to see at night or in poor light. |
| Scurvy | Weakness, anemia, gum disease, and skin problems. |

**Q20. Answer: (d) Neutralization**

The correct answer is neutralization

Concept

• Decomposition reaction - the reaction in which a compound decomposes into two or more components.

• Combination reaction - the reaction in which two or more components combine to form a single product.

• Redox reaction - the reaction in which one species undergo oxidation and other species undergo reduction. A change in oxidation number will take place.

Explanation

• The reaction of an acid with a base is known as a neutralization reaction.

• This reaction produces salt and water.

Example: HCl + NaOH → NaCl + H2O

Either its general formula will be

(acid) + (base) → (salt) + (water)

**Q21. Answer: (b) 7.4**

The correct answer is 7.4.

Key Points

• The pH value of blood is 7.4.

• The pH of blood is a sign of acidity or alkalinity in the body.

• It is a vital indicator of good health.

• The normal pH is necessary for the optimal activity of the body so it is balanced by different physiological processes.

• The normal pH of a healthy person varies from 7.35 to 7.45.

• It is slightly basic in nature.

Additional Information

Ph value of different substances:

• Sea Water - 7.5 - 8.4

• Milk - 6.5

• Ammonia - 10.6 - 11.6

• Lemon Juice - 2.4

• Vinegar - 2.5

**Q22. Answer: (b) Faraday**

The correct answer is Faraday.

Key Points

• Faraday discovered electromagnetic induction.

• Joule studied the nature of heat and led to the law of conservation of energy(the first law of thermodynamics).

• The SI derived unit of energy, the joule, is named after him.

• Georg Ohm gives Ohm's Law which states that the current (I) flows through a conductor is directly proportional to the potential difference (V) and inversely proportional to the resistance(R) i.e.

V = IR

• Kepler discovered that the orbit of Mars was an ellipse.

Important Points

| Invention/Discovery | Name of the Inventor |
|---|---|
| Air Conditioner | Willis Carrier |
| Barometer | Evangelista Torricelli |
| Bifocal Lens | Benjamin Franklin |
| Blood Group | Karl Landsteiner |

**Q23. Answer: (c) of respiratory system**

Explanation:

• We have two lungs that are covered by a double-layered pleura, with pleural fluid between them.

• It reduces friction on the lung surface.

• The Respiratory System consists of a series of organs responsible for taking in oxygen and expelling carbon dioxide.

• These organs are the nose, pharynx, larynx, trachea, bronchi, lungs, and alveoli.

• Respiration is an exchange of oxygen and carbon dioxide in our bodies.

Important Points

• Respiration is the stepwise oxidation of glucose (and other nutrients) which results in the release of energy that is stored in the cytosol in the form of ATP (adenosine triphosphate).

• Whenever energy is required by our body, ATP is broken down and a large amount of energy is released.

Thus, the lungs are a part of the respiratory system.

Additional Information Other important organ systems in the body are:

Nervous system:

• The neural system coordinates and integrates functions as well as metabolic and homeostatic activities of all the organs.

• The human neural system consists of two parts :

• (i) the central neural system (CNS) and

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• (ii) the peripheral neural system (PNS).
• The CNS consists of the brain and spinal cord.

Digestive system:

• The digestive system of humans consists of an alimentary canal and associated digestive glands.
• The alimentary canal consists of the mouth, buccal cavity, pharynx, esophagus, stomach, small intestine, large intestine, rectum, and anus.
• The accessory digestive glands include the salivary glands, the liver (with gall bladder) and the pancreas.

**Q24. Answer: (b) Small intestine**

The correct answer is Small intestine.

Key Points

The alimentary canal:

• The alimentary canal is referring to the pathway through which food enters the body and goes outside through the anus post digestion.
• Its structure looks like a tube that begins in the mouth and ends in the anus.
• The alimentary canal plays an important role in human digestion and is also known as the digestive tract.

Main Organs of the Alimentary Canal:

• The Mouth and Oral cavity.
• Oesophagus.
• Stomach.
• Small intestine.
• Large intestine.

Small intestine:

• The small intestine is the longest part of the alimentary canal.
• It is narrower than the large intestine but forms the longest section of your digestive tube.
• The length is about 6.7 meters which is 3.5 times the length of the human body.
• Absorption of food occurs in the small intestine.
• It comprises three parts- Duodenum, Jejunum, and Ileum.
• Duodenum– It is C- shaped. The pancreatic, bile and hepatic secretions are added to the food by the hepatopancreatic duct.
• Jejunum– Middle part of the small intestine.
• Ileum– It is highly coiled and opens into the large intestine.

**Q25. Answer: (b) infrasound**

The correct answer is infrasound.

Concept:

• When the Lithospheric plates move, the surface of the earth vibrates. The vibrations can travel all round the earth.
• These vibrations are called earthquakes.
• There are three types of earthquake waves:
• P waves or longitudinal waves
• S waves or transverse waves
• L waves or surface waves
• An earthquake is measured with a machine called a seismograph.
• The magnitude of the earthquake is measured on the Richter scale. An earthquake of 2.0 or less can be felt only a little.
• An earthquake over 5.0 can cause damage from things falling.
• A 6.0 or higher magnitude is considered very strong and 7.0 is classified as a major earthquake.

Explanation:

• During the time of an earthquake, infrasound waves are produced before the mainshock.
• During this process there is a sudden release of seismic waves which causes the ground to shake and these seismic waves are classed as infrasound waves.
• Infrasonic waves are sound waves having a frequency less than the audible range, which is around 20 Hz.
• It can travel hundreds of kilometers through the surface of the earth.

Thus, earthquake produces infrasound before the main shock wave begins.

Additional InformationUltrasound

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• Ultrasound or Ultrasonic waves are sounds with frequencies higher than the audible range.

Audible sound

• Audible sound are sounds with frequencies of 20 Hz to 20 kHz.

**Q26. Answer: (b) Sulphur**

The correct answer is Sulphur.

Important Points

• The non-metal used in the vulcanization of rubber is Sulphur.

• Vulcanization of rubber is a process that improves the elasticity of rubber and strength of rubber by heating it in the presence of Sulphur.

• The chemical process that converts natural rubber materials of a variety of elasticity, hardness and mechanical durability by heating is known as Sulfur vulcanization.

• Vulcanization of rubber was invented in the year 1839 by an American chemist Charles Goodyear.

Additional Information

• Charles Goodyear received patent number 3633 for the development of the process of the Vulcanization of rubber.

• Sulfur is a chemical element with atomic number 16, and its symbol is S.

• $3s^2 3p^4$ is the electronic configuration of Sulfur.

**Q27. Answer: (b) pulse rate per minute**

Explanation:

Heart and heartbeat

• The heart is an organ that beats continuously to act as a pump for the transport of blood.

• If heartbeats will stops, we will die.

• The walls of the chambers of the heart are made up of muscles.

• Continuous relaxation and contraction of these muscles cause a rhythmic heartbeat.

• A doctor uses the stethoscope as a device to amplify the sound of the heart.

Pulse rate

• Heartbeat can also be measured using pulse rate.

• Pulse is the throbbing movement observed at the wrist.

• Each heartbeat generates one pulse in the arteries and the pulse rate per minute indicates the rate of heartbeat.

• That means we count the number of pulses in one minute. This will give heart beat.

• Normally the pulse rate is 72 heartbeats per minute.

The correct option is pulse rate per minute.

**Q28. Answer: (a) Virtual, erect**

The correct answer is Virtual, erect.

Key Points

• The image formed by a concave lens is always Virtual and erect.

• Images are always smaller than the object, erect, and virtual.

• As the distance between the object and the lens decreases, the size of the virtual image increases as the distance between the virtual image and the mirror decreases.

Additional Information

• Concave lens: It is a diverging lens that diverges the parallel beam of light.

• It can also gather light from all directions and project it as a parallel beam.

• The focal length of the concave lens is negative.

• It has a virtual focus from the diverging rays of light that seem to converge.

**Q29. Answer: (a) Bile juice**

The correct answer is Bile juice.

Key Points

• Major part of fat digestion is done with the help of Bile Juice.

• Bile juice is a digestive fluid that is produced by the liver.

• Gallbladder stores bile juice in the body.

• The major function of bile juice is to change fats in food into fatty acids, which are assimilated in the gut.

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• It is a bitter-tasting dark green to the yellowish-brown fluid that helps in the digestion of lipids in the human body.

• Bile Juice is important for the absorption of fat, vitamins, iron, and calcium.

Additional Information

• Gastric Juice is a mixture of hydrochloric acid (HCL), lipase, and pepsin.

• The major duty of Gastric Juice is to inactive swallowed microorganisms, thereby stopping infectious agents from reaching the intestine.

• Gastric Juice is a digestive fluid that is produced within the lining of the stomach.

• Gastrin regulates the production of Gastric Juice.

• It is a peptide hormone and it is produced by G cells in the pyloric antrum of the stomach.

• Hydrochloric Acid (HCL) is also known as muriatic acid, the spirit of salt, hydronium chloride, and chlorhydric acid.

• The digestive juice in our stomach consists mainly of hydrochloric acid.

• It has no color and it is a transparent liquid that fumes in the air if concentrated and it has a very strong smell.

• It is acidic in nature and forms an acidic salt.

• It is used for refining and pickling of steel, production of inorganic compounds, pH (Hydrogen potentials) control, and neutralization, Regeneration of ion exchangers, and other laboratory use.

• Pepsin enzyme aids in converting proteins into polypeptides.

• Pepsinogen is converted to pepsin through hydrochloric acid.

• It helps in the digestion of proteins into peptones.

• Pepsin was recognized as the first enzyme to be discovered in the 18th century and was named by T. Schwann in the year 1825.

**Q30. Answer: (a) hertz**

The correct answer is hertz.

Key Points

• Frequency -

• It is expressed in units of Hertz (Hz).

• It is the number of occurrences of a repeating event per unit of time.

• For examples of cyclic phenomena such as oscillations, waves, or simple harmonic motion, the term frequency is defined as the number of cycles or vibrations per unit of time.

Additional Information

• Henry (H) -

• It is the SI unit of inductance.

• It is named after the American scientist Joseph Henry.

• He discovered electromagnetic induction only when it was discovered by Michael Faraday (1791–1867) in England.

• The magnetic permeability of the vacuum is $4\pi \times 10^{-7}$ H/m (Henry per meter).

• Farad (F) -

• It is a unit of capacity.

• It is named after the English physicist Michael Faraday.

• IT is a very large unit.

• Therefore, microfarad, nano farad, picofarad, etc. are mostly used in practice.

**Q31. Answer: (a) octagon**

Given,

Number of sides of polygon = 8

Calculation:

A polygon which has 8 sides is called octagon.

**Q32. Answer: (c) 36**

Shortcut Trick

Ratio of Sonu : Monu = 9 : 12

Given Sonu's age = 27 years

9 units = 27 years

1 unit = 27 ÷ 9 = 3 years

Monu's age = 12 units = 12 × 3 = 36 years

Therefore The correct answer is 36 years.

Alternate Method

Given:

Ratio of Sonu's age to Monu's age = 9 : 12

Sonu's actual age = 27 years

Formula:

Value = Ratio part × Constant factor (k)

Calculations:

=> Let the age of Sonu be 9k and Monu be 12k.

=> According to the question, 9k = 27

=> k = 27 ÷ 9

=> k = 3

=> Monu's age = 12k

=> Monu's age = 12 × 3 = 36

Therefore The correct answer is 36 years.

Additional Information

Ratio Simplification

A ratio can be simplified by dividing both terms by their Highest Common Factor (HCF). Here, 9:12 = 3:4 (HCF = 3).

Age Ratio After 'n' Years

If the current ratio is a:b, then after 'n' years the ages will be (ak + n) and (bk + n). The difference between ages always remains constant.

Proportionality Rule

If a:b = c:d, then product of extremes (a × d) is always equal to the product of means (b × c).

**Q33. Answer: (b) 3**

Shortcut Trick

LCM of two numbers = HCF × Product of Ratio parts.

Let HCF be H.

=> 60 = H × 4 × 5

=> 60 = H × 20

=> H = 60 ÷ 20 = 3

Therefore The correct answer is 3.

Alternate Method

Given:

Ratio of two numbers = 4 : 5

LCM (Least Common Multiple) = 60

Formula Used:

If the ratio of two numbers is a : b and their HCF is x, then the numbers are ax and bx.

LCM of ax and bx = abx

Calculations:

Let the HCF of the two numbers be x.

=> First number = 4x

=> Second number = 5x

=> LCM of 4x and 5x = 20x

According to the question:

=> 20x = 60

=> x = 60 ÷ 20

=> x = 3

Therefore The correct answer is 3.

Additional Information

Product Rule

For any two numbers A and B, the product of the numbers is equal to the product of their HCF and LCM (A × B = HCF × LCM).

Co-prime Numbers

If two numbers are co-prime, their HCF is always 1 and their LCM is the product of the numbers.

HCF of Fractions

HCF of fractions = (HCF of Numerators) ÷ (LCM of Denominators).

**Q34. Answer: (c) 54 year**

Formula used:

Average = (Sum of values) / (Number of values)

Calculation:

Let's denote the age of the third person as "x".

We know that the average age of three people is 34 years

=> (20 + 28 + x) / 3 = 34

=> 48 + x = 102

=> x = 54

Therefore, the age of the third person is 54 years.

**Q35. Answer: (c) 9m2 - 24mn +16n2**

Formula used:

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

Calculation:

We have

$(3m - 4n)^2$

Using the above identity

$(3m)^2 + (4n)^2 - 2 \times (3m)(4n)$

$9m^2 + 16n^2 - 24mn$

Therefore (3m - 4n)2 = 9m2 + 16n2 - 24 mn

**Q36. Answer: (b) 25**

Calculation:

We have

2(2x + 3) - 4(x - 5) - x + 2 = 3

Expanding the brackets, we get:

4x + 6 - 4x + 20 - x + 2 = 3

Simplifying the terms, we get:

=> - x + 28 = 3

=> -x = -25

=> x = 25

Therefore, the value of x is 25.

**Q37. Answer: (d) 1:200**

Shortcut Trick

Convert all units to ml: 4 liters = 4 × 1000 = 4000 ml.

Required Ratio (Milk : Water) = 20 : 4000.

Divide both sides by 20 → 1 : 200.

Therefore The correct answer is 1:200.

Alternate Method

Given:

Quantity of Milk = 20 ml

Quantity of Water = 4 liters

Formula Used:

Ratio = (Quantity of Milk) : (Quantity of Water)

Conversion: 1 Liter = 1000 Milliliters (ml)

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Milk (20 ml)

Water (4000 ml)

Ratio = 20 : 4000 = 1 : 200

=> Quantity of Water in ml = 4 × 1000 ml

=> Quantity of Water = 4000 ml

=> Ratio of Milk to Water = 20 / 4000

=> Ratio = 2 / 400

=> Ratio = 1 / 200

Therefore The correct answer is 1:200.

Additional Information

Unit Consistency in Ratios

A ratio is a comparison of two quantities of the same kind. Always convert both values to the same unit (e.g., both to ml or both to liters) before calculating the ratio.

Ratio Simplification

To simplify a ratio a:b, divide both terms by their Highest Common Factor (HCF). A ratio has no units as it is a pure numerical comparison.

Common Conversions

1 Liter = 1000 ml | 1 kg = 1000 g | 1 km = 1000 m. These are essential for solving mix-and-ratio problems in banking exams.

**Q38. Answer: (c) 70%**

Given:

7/10 = ? %

Calculation:

Multiply both sides by 100,

7/10 × 100 = x %

=> 0.7 × 100 = x %

=> 70 = x %

=> 70%.

**Q39. Answer: (c) 14**

Shortcut Trick

Deviation of the newly adopted girl's age from the current average = 11 − 15 = −4 years.

This deficit of 4 years will be shared equally among all 4 girls (3 current + 1 new).

Change in average = −4 ÷ 4 = −1 year.

New average = 15 − 1 = 14 years.

Therefore The correct answer is 14 years.

Alternate Method

Given:

Number of current daughters = 3

Average age of the 3 daughters = 15 years

Age of the adopted girl = 11 years

Formula Used:

Average = Total Sum of Observations ÷ Total Number of Observations

Current Daughters & Adopted Girl:

15

15

15

• 11

Sum = 56

New Average (Equally Distributed):

14

14

14

14

Avg = 14

Calculations:

=> Total age of 3 daughters = 3 × 15 = 45 years

=> Total age of all girls after adoption = 45 + 11 = 56 years

=> Total number of girls after adoption = 3 + 1 = 4

=> New average age = 56 ÷ 4 = 14 years

Therefore The correct answer is 14 years.

Additional Information

Weighted Average

If group 1 has n1 items with an average of A1, and group 2 has n2 items with an average of A2, then the Combined Average = (n1A1 + n2A2) ÷ (n1 + n2).

Average Replacement

If an existing person is replaced by a new person and the overall average increases by x, the new person's value = Old person's value + (Total persons × x).

Effect of Arithmetic Operations

If each given observation in a set is systematically increased, decreased, multiplied, or divided by a constant value 'k', then the average of the set will also undergo the same exact operation by 'k'.

**Q40. Answer: (d) 40/41**

Given :

The speed of a man for the first 4 hours is 35 km/h and for the next 6 hours is 45 km/h.

Formula used :

Average speed = Total distance/total time

Average of speed = (sum of all speeds)/Number of different speeds

Calculations :

Total distance = 4 × 35 + 6 × 45 (distance = speed × time)

=> 140 + 270 = 410 km

Average speed = 410/10 (distance = 410 and time = 4 + 6 = 10 hours)

=> 41 km/h

Now,

Average of speeds = (35 + 45)/2 (He travelled with speed of 35 km/h and 45 km/h)

=> 80/2 = 40

Now required ratio = 40/41

Therefore Option 4 will be the correct choice.

**Q41. Answer: (b) 140**

Calculation:

Let, Ram & Shyam, distributes 7x & 9x packets of chocolate respectively.

We know that,

7x + 9x = 320

Simplifying this equation, we get:

=> 16x = 320

=> x = 20

Ram distributes 7x = 7 × 20 = 140 packets of chocolate.

Therefore Ram distributes 140 packets of chocolate.

**Q42. Answer: (a) 686 $cm^3$**

Formula used:

Volume = length x width x height

Calculation:

Joining two cubes of side 7 cm end to end forms a cuboid with dimensions 14 cm × 7 cm × 7 cm.

Volume = length x width x height

The volume of the resulting cuboid = 14 cm × 7 cm × 7 cm = 686 $cm^3$

Therefore The volume of the resulting cuboid is 686 cubic centimeters.

**Q43. Answer: (a) 5%**

Given:

P = Rs. 400

A = Rs. 480

T = 4 years

Concept used:

SI = (P × R × T)/100

A = P + SI

SI = Simple Interest

R = Rate

P = Principle amount

T = Time period in years

Calculation:

SI = A - P = 480 - 400 = Rs. 80

=> 80 = (400 x R x 4)/100

=> 8000 = 1600 x R

R = 8000/1600

R = 5%

Therefore, the correct answer is 5%

**Q44. Answer: (d) 6 hours**

Given:

Pipe A can fill a tank = 10 hours

Pipe B can fill a tank = 15 hours

Concept used:

Work = Efficiency × Time

Calculation:

LCM of 10 and 15 is 30

Efficiency of A = (30/10) = 3 units/hour

Efficiency of B = (30/15) = 2 units/hour

Time taken by A and B to fill the tank = [30/(3+2)] hours

=> (30/5) = 6 hours

Therefore The required time taken is 6 hours.

**Q45. Answer: (c) 6**

Given:

12, 18 and 24

Concept:

The greatest number which divides each of the two or more numbers is called HCF or Highest Common Factor. It is also called the Greatest Common Measure(GCM) and Greatest Common Divisor(GCD).

Calculation:

24 = 2 × 2 × 2 × 3

18 = 2 × 3 × 3

12 = 2 × 2 × 3

The greatest common factor = 2 × 3 = 6

Therefore The HCF of 24, 18, 12 is 6.

**Q46. Answer: (b) 18**

The positional value of the English alphabet is given below:

The logic followed here is: Sum of positional values

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D = 4 (Positional Value)

AND = 1 + 14 + 4 = 19

Similarly,

ADM = 1 + 4 + 13 = 18

Hence, the correct answer is "option (2)".

**Q47. Answer: (b) 31**

Calculation:

Here, the formula we used is:-

Total number of people = Rank from the top + Rank from the bottom -1

Total number of people = 27 + 5 - 1 = 31

Hence, the correct answer is "option (2)".

**Q48. Answer: (d) NGCVJGT**

Table shows the positional value of letters:

The logic followed here is:

Similarly,

Hence, the correct answer is "option (4)".

**Q49. Answer: (d) Editor**

Logic followed in the given pair:

Conference : Chairman → Chairman is the head of the conference.

Similarly,

Newspaper : Editor → An editor is the head of a newspaper.

Here, 'Newspaper : Editor' is the correct pair.

Hence, the correct answer is "Option (4)".

**Q50. Answer: (d) 65**

Here, place value of the alphabet in the alphabet series is added to get the code.

USUAL → U = 21, S = 19, U = 21, A = 1, L = 12 → 21 + 19 + 21 + 1 + 12 = 74

Similarly,

FINISH → F = 6, I = 9, N = 14, I = 9, S = 19, H = 8 → 6 + 9 + 14 + 9 + 19 + 8 = 65

Hence, 65 is the correct answer.

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