RPF Constable 3rd Jan 2019 Shift 1

1. **Which of the following tiger reserve is located in the protected place at Sabarimala?**

A Parambikulam

B Silent Valley

C Mudumalai

D **Periyar**

Solution

- The Sabarimala temple is situated deep inside the Periyar Tiger Reserve which is considered as a core forest area which is inhabited by animals like tigers, black panthers and elephants.
- Parambikulam wildlife sanctuary with its panoramic landscape, meandering streams, extensive water spread of the reservoir, cascading waterfalls, rolling hills and valleys and wealth of biodiversity is one of the captivating places in Kerala.
- It is located in the Chittoor taluk of Palakkad district.
- Mudumalai National Park is one of the Tiger Reserve in India.

- The Wildlife Sanctuary is located in the North West region of Coimbatore city in Tamil Nadu state.
- The protected area is home to several endangered and vulnerable species including Indian elephant, Bengal tiger, gaur and Indian leopard.

2. **What is the externally applied force for the operation of the liver?**

A Force

B Speed

C **Effort**

D Weight

Solution

- The externally applied force for the operation of the liver is typically not described in terms of "speed" or "weight."
- Instead, it is associated with the concept of "effort." Therefore, the correct answer is: 3) Effort.
- The liver is a vital organ in the human body that performs various functions, and these functions require the application of effort by the organ's cells and tissues to carry out processes such as metabolism and the detoxification of substances.

3. **During whose tenure was the Factory Act 1881 passed?**

A Dufferin

B **Ripon**

C Mayo

D Litton

Solution

- Lord Ripon (1880-1884): First Factory Act was passed during the administration of Lord Ripon (1880-1884).
- First Factory Act was passed in the year 1881.
- According to the Act, Children under seven years old should not be employed by factories and reduced working hours for children.
- During Lord Ripon's tenure as Viceroy of India from 1880 to 1884, he did introduce several reforms to improve the conditions of the Indian people.
- Some of these reforms included the establishment of local self-government, the reduction of taxes on farmers, and the introduction of measures to protect the rights of Indian workers.

4. **When was the Sports Authority of India (SAI) established?**

A 1986

B 2000

C 1996

D **1984**

Solution

- Sports Authority of India (SAI) is a registered society set up by the Govt. of India in Jan. 1984.
- Govt. of India established Sports Authority of India for promotion of sports, exploration of sports talent in young age and nutrition, organizing sports competitions, providing facilities, utilising stadiums and for maintaining them in appropriate conditions.
- The Sports Authority of India is the Sports Body of India under Ministry of Youth Affairs and Sports.
- It was established in 1984.
- Its headquarters is in New Delhi.
- Honb'le Prime Minister of India is now the Ex-officio President of SAI.

- Union minister for Human Resource Development is the Ex-officio Vice President of the SAI and Chairman of its Governing Body.
- Whereas the Minister of State for Youth Affairs and sports is the Vice-Chairperson of the Governing body of SAI.

5. **Masai castes are from which of the following countries?**

A Saudi Arabia

B Peru

C Mexico

D **Kenya**

Solution

- Masai castes are from Kenya.
- The Maasai people are a Nilotic ethnic group who primarily inhabit parts of Kenya and Tanzania in East Africa.
- The Maasai are known for their distinctive customs, dress, and lifestyle, including their pastoralist traditions and semi-nomadic way of life.

6. **Who was known as "Liberator of Indian Press"?**

A Lord Ripon

B Lord Litton

C **Charles Metcalfe**

D Charles Wood

Solution

- Charles Metcalfe was known as Liberator of Indian Press.
- The Governor-General of India was called as Liberator of Indian Press.
- He lifted restrictions imposed on freedom of the press.
- Charles Theophilus Metcalfe, known as Sir Charles Metcalfe, between 1822 and 1845, was a British colonial administrator.

7. **Where is Rourkela Steel Plant located?**

A Maharashtra

B Jharkhand

C **Odisha**

D Andhra Pradesh

Solution

- Rourkela Steel Plant (RSP), in Rourkela, Odisha is the first integrated steel plant in the public sector in India.
- It was set up with West Germany collaboration with an installed capacity of 1 million tonnes.
- On 3 February 1959, then president Rajendra Prasad inaugurated RSP's first blast furnace named 'Parvati'.
- It was built in 1955.
- CEO of Rourkela Steel Plant is Dipak Chattaraj.
- There is a total of 13462 employees in the Steel plant.

8. **The word "service" is related to which of the following games?**

A Cricket

B Kabaddi

C Boxing

D **Badminton**

Solution

- In badminton, "Service" refers to the act of starting a play or rally.
- The server hits the shuttlecock into the opponent's half of the court to initiate the point.
- This term is also commonly used in other racket sports such as tennis and table tennis.

9. **Himalaya Frontal Fault separates Shivalik from \ (\textit{_____}\)**

A Small Himalaya

B Central Himalayas

C The Great Himalayas

D **Great Plains of India**

Solution

- The Himalaya Frontal Fault separates the Shivalik Range from the Great Plains of northern India, which is also known as the Indo-Gangetic Plains.
- The Shivalik Range is a low mountain range located at the southern foothills of the Himalayas, while the Great Plains are a vast alluvial plain that stretches across northern India, Pakistan, and Bangladesh.
- The fault zone is characterized by intense seismic activity and has been responsible for several major earthquakes in the region over the past century.

10. **What is the unit of solid angle?**

A Angle

B Degree

C **Stereadian**

D Andean

Solution

- Steradian:

It is defined as the solid angle of a sphere subtended by a portion of the surface whose area is equal to the square of the sphere's radius.

- Radian:

A unit of measurement of angles equal to about 57.3°, equivalent to the angle subtended at the center of a circle by an arc equal in length to the radius.

- Solid angle:

A three-dimensional analog of an angle, such as that subtended by a cone or formed by planes meeting at a point. It is measured in steradian.

- Plane angle:

An angle that for a given dihedral angle is formed by two intersecting lines each of which lies on a face of the dihedral angle and is perpendicular to the edge of the face.

- It is measured in radian.

11. **Who has published ''A Bunch of Old letters''?**

A Jaiprakash Narayan

B Mahatma Gandhi

C Annie Besant

D Jawaharlal Nehru

Solution

- Jawaharlal Nehru, the first Prime Minister of India, wrote and published a book called "A Bunch of Old Letters" in 1958.
- The book is a collection of letters that Nehru wrote to his daughter, Indira Gandhi, between 1928 and 1933, while he was imprisoned in various jails across India for his political activities.
- The letters offer insights into Nehru's personal life, his political views, and his relationship with his daughter.

12. **World Happiness Report (2018) Which of the following countries is ranked first in 2018?**

A **Finland**

B Norway

C Denmark

D Iceland

Solution

- According to the World Happiness Report (2018), Finland was ranked as the happiest country in the world in 2018.
- This was the first time that Finland had claimed the top spot in the report.
- The report is published annually by the United Nations Sustainable Development Solutions Network and ranks countries based on a variety of factors such as income, social support, life expectancy, freedom, trust, and generosity.

13. **What is called airees?**

A **Aromatic Hydrocarbons**

B Alkynes

C Unsaturated (unsaturated) hydrocarbons

D Saturated hydrocarbons

Solution

- Alkenes, a class of unsaturated chemicals that include aromatic hydrocarbons, are primarily created when carbon and hydrogen are bound together in a specific kind of resonance structure.
- The hydrogen atom forms a single bond with one carbon atom in the resonance structure of aromatic rings and a double bond with the other carbon atom nearby.
- The precursor of aromatic hydrocarbons is benzene.

14. **What is the number of schedules in the Constitution of India?**

A 9

B **12**

C 8

D 10

Solution

- India’s constitution had 395 articles in 22 parts and 8 schedules at the time of commencement.
- Now the Constitution of India has 448 articles in 25 parts, 12 schedules.
- There are a total of 12 Schedules in the Indian Constitution.

15. **What is the celestial body orbiting the Sun between Mars and Jupiter?**

A Meteorite

B **Asteroid**

C Comet

D Satellite

Solution

- The celestial body orbiting the Sun between Mars and Jupiter is called the asteroid belt.
- It is a region of the solar system where many small, rocky objects, known as asteroids, orbit the Sun in a roughly circular path.
- While there are millions of asteroids in the asteroid belt, the total mass of all the asteroids combined is less than that of Earth's Moon.
- The largest asteroid in the belt is Ceres, which is also classified as a dwarf planet.

16. **According to the vere, the constitution of India is \ (\textit{_____}\).**

A **Semi-chance**

B Communist

C Aik

D Federal

Solution

- According to the vere, the constitution of India is Semi-chance.
- The Constitution of India is the supreme legal authority which binds the legislative, executive, and judicial organs of government.
- The Constitution grants all citizens Fundamental Rights and empowers the independent judiciary to invalidate legislations or government actions which violate the Constitution.

17. **Under the Rajiv Gandhi Khel Ratna award, Rs. \ (\textit{_____}\) is given as a reward for outstanding performances by a player.**

A 2 million

B 1 crore

C **7.5 million**

D 1.5 million

Solution

- The prize money for the Rajiv Gandhi Khel Ratna Award has been increased to Rs 25 lakh from the previous amount of Rs 7.5 lakh.
- Arjuna Award has been enhanced to Rs 15 lakh from Rs 5 lakh.
- The Dhronacharya (Lifetime) awardees, who were earlier given Rs 5 lakh, will now be richer by Rs 15 lakh.
- Dhronacharya (Regular) winners will be given Rs 10 lakh instead of Rs 5 lakh.

18. **What is the pre-declared price for the farmers for their crops by the government?**

A Minimum Sale Price

B **Minimum Support Price**

C Maximum Sale Price

D Maximum Support Price

Solution

- The minimum support price is the price declared by the government to insure agricultural producers against any sharp fall in farm prices.
- It is announced by the government of India every year before the sowing season and provides incentives to the farmers for raising the production of their crops.
- The crops were selected based on the recommendations of the Commission for agricultural costs and Prices(CACP).
- If the market price for the commodity falls below the minimum support price due to the issues in the market, government agencies purchase the entire quantity at the announced minimum price.

- In India, there are twenty-two crops covered under Minimum Support Price.

19. **Tawa river, which is the tributary of River \(\textit{}\) , is located on the Tawa reservoir.**

A Krishna

B Tapti

C **Narmada**

D Godavari

Solution

- Tawa River is the tributary of Narmada river.
- It is the longest tributary of Narmada river.
- Its origin is in the Satpura range.
- It meets the Narmada at Hoshangabad district.
- Its length is 172 km.

20. **Which of the following fossils has the same embryonic origin and basic structure, but their functions differ?**

A Semi-developed fossils

B Decorated Fossil

C **Heterogeneous Fossil**

D Similar Fossils

Solution

- Heterogeneous fossils are fossils that have the same embryonic origin and basic structure, but their functions differ.
- For example, the wings of a bird and the flippers of a whale are both homologous structures, meaning that they have the same embryonic origin.
- However, they have different functions: the wings of a bird are used for flying, while the flippers of a whale are used for swimming.
- The other options are incorrect. Semi-developed fossils are fossils that are not fully formed.
- Decorated fossils are fossils that have been artificially decorated.

- Similar fossils are fossils that are similar in appearance, but they may not have the same embryonic origin or basic structure.

21. **The second Anglo-Mysore war ended under which agreement?**

A **Mangalore Accord**

B Mysore Agreement

C Madras Agreement

D Salbai Memorandum

Solution

- The war was ended on 11 March 1784 with the signing of the Treaty of Mangalore, in which both sides agreed to restore the others' lands to the status quo ante bellum.
- The treaty is an important document in the history of India.
- It was the last occasion when an Indian power dictated terms to the company.

22. **Which year was the Parliament House Local Area Development Plan (MPLADS) started?**

A 1992

B **1993**

C 1990

D 1994

Solution

- Members of Parliament Local Area Development Scheme (MPLADS) was introduced in the year 1993.
- It was launched in December 1993, to provide a mechanism for the Members of Parliament to recommend works of developmental nature for the creation of durable community assets and for the provision of basic facilities including community infrastructure, based on locally felt needs.
- Initially, the Scheme was under the control of the Ministry of Rural Development and Planning.
- In October 1994, the scheme was transferred to the Ministry of Statistics & Programme Implementation.

- The MPLADS is a Plan Scheme fully funded by the Government of India.
- The annual MPLADS fund entitlement per MP constituency is Rs. 5 crores.
- According to the ‘Guidelines on Members of Parliament Local Area Development Scheme (MPLADS)’ published by the Ministry of Statistics and Programme Implementation in June 2016, the MPLAD funds can also be used for implementation of the schemes such as Swachh Bharat Abhiyan, Accessible India Campaign (Sugamya Bharat Abhiyan), conservation of water through rainwater harvesting and Sansad Aadarsh Gram Yojana, etc.

23. **The Cook Strait is situated in which of the following countries?**

A Russia

B Australia

C Iran

D New Zealand

Solution

- Cook Strait is a strait that separates the North and South Islands of New Zealand.
- It connects the Tasman Sea on the northwest with the South Pacific Ocean on the Southeast.
- A strait is a narrow channel of water that joins two water bodies and separates two landmasses.

24. **Which of the following Constitution Amendment Act has reduced voter age from 21 years to 18 years?**

A 44th Constitution Amendment Act

B 42nd Constitution Amendment Act

C 69th Constitution Amendment Act

D **61st Constitution Amendment Act**

Solution

- In India, the voting age has been reduced from 21 years to 18 years by the 61st Constitutional Amendment Act, 1988.
- It comes into force by amending Article 326.
- The bill was passed by the Lok Sabha on 15th December 1988.
- The bill was passed by the Rajya Sabha on 20th December 1988.
- The bill was assented by President Venkaraman on 28th March 1989.
- The bill came into force on 28th March 1989.
- The Prime Minister who reduced the voting age from 21 to 18 years - Rajiv Gandhi.

- The first general elections to the Lok Sabha were held in India - Between 25th October 1951 and 21st February 1952.

25. **The structural part of the Constitution of India is taken from \(\textit{_____}\)**

A Government of India Act, 1919

B Government of India Act, 1935

C Government of India Act, 1858

D Government of India Act, 1909

Solution

- The 1935 Government of India Act was a piece of legislation modified by the British Parliament.
- It was first given royal approval in August 1935.
- It called for the creation of an All India federation with units made up of provinces and princely states.
- Three lists—the federal list, the provincial list, and the concurrent list—were used to distribute the powers between the centre and the units.
- It did away with dyarchy in the provinces and replaced it with "provincial autonomy."

26. **When was the 2nd Round Table Conference held?**

A 1935

B 1939

C **1931**

D 1929

Solution

- The Second Round Table Conference was held in London from 7 September 1931 to 1 December 1931.
- Mahatma Gandhi represented the Indian National Congress and Sarojini Naidu represented Indian women in the second round table conferences.
- Some important participants of the Second Round table conference:-
- Indian National Congress (INC) – Mahatma Gandhi, Rangaswami Iyengar, Madan Mohan Malaviya
- Muslims League – Md. Ali Jinnah, Aga Khan III, Muhammad Iqbal
- Hindus – M R Jayakar
- Depressed classes – Dr. B R Ambedkar

- The Second Round Table Conference was one of the results of the Gandhi-Irwin Pact.
- The British decided to grant a communal award for representing minorities in India by providing separate electorates for minority communities and Gandhiji was against this.

27. **Which Noble Gas (Excellent Gas) is called Stranger Gas?**

A Argon

B **Xenon**

C Neon

D Krypton

Solution

- Xenon(Xe) gas is also known as stranger gas.
- It is called 'STRANGER GAS' because the word 'XENON' means 'STRANGE' in Greek.
- It was discovered by William Ramsay and Morris Travers in 1898.
- It is more than 4.5 times heavier than air.
- Xenon is colourless, odorless, and tasteless.
- It is used in instruments for radiation detection.

28. **Part VI of the Constitution of India is related to?**

A **State Governments**

B Principles of State Policy

C Central Governments

D Elections

Solution

- Part VI of the Constitution contains provisions for the functioning of the State governments.
- It establishes a parliamentary system of government at the state level, a federal system of government, and the judicial system at the state level.
- Articles 153 to 167 in Part VI of the Constitution deal with the state executive.

29. **What is the full form of autonomous body NDTL under the Ministry of Youth Affairs and Sports?**

A **National Dope Testing Laboratory**

B National Darkness Testing Laboratory

C Natural Dope Testing Laboratory

D National Doping Transformation Laboratory

Solution

- It functions under the Ministry of Youth Affairs and Sports.
- It is a dope testing lab aiming to get permanent accreditation from the World Anti-Doping Agency (WADA) and the International Olympic Committee (IOC).
- India signed the Copenhagen Declaration on Anti-Doping, post which it set up the National Anti-Doping Agency in December 2004.
- The National Dope Testing Lab is headed by the Chief Executive Officer, who is generally a Sports Secretary.
- National Anti Doping Agency is headed by the Director-General.

30. **In which state did 'Kalamkari painting' start?**

A Himachal Pradesh

B Madhya Pradesh

C Uttar Pradesh

D **Andhra Pradesh**

Solution

- Kalamkari originated in the modern-day states of Andhra Pradesh and Telangana several hundred years ago.
- It was first used to portray scenes from sacred texts such as the Mahabharata, Ramayana and Bhagavatam.
- These paintings were often displayed as decorative backdrops in temples, depicting the stories of deities.

31. **Which amendment act is called the Micro Constitution of India?**

A **42nd Amendment Act, 1976**

B 44th Amendment Act, 1978

C 24th Amendment Act, 1971

D 86th Amendment Act, 1976

Solution

- 42nd Amendment Act, 1976 is one of the most important amendments to the Indian Constitution.
- It was enacted by the Indian National Congress headed by Indira Gandhi then.
- Due to the large number of amendments this act has brought to the Indian Constitution, it is also known as 'Mini-Constitution.'

32. **Who was the South African cricket player who announced his retirement in May 2018?**

A Lungi Ngudi

B David Miller

C Kagiso Rabada

D **AB de Villiers**

Solution

- His full name is Abraham Benjamin de Villiers.
- AB de Villiers was named as the ICC ODI Player of the Year three times during his 15-year international career.
- He made his international debut in a Test match against England in 2004 and first played a One Day International (ODI) in early 2005.
- His debut in Twenty20 International cricket came in 2006.
- He holds the record for the fastest ODI fifty (16 balls), fastest ODI century (31 balls), and fastest ODI 150 (62 balls).
- His Last Test cricket match was on 30 March in 2018 vs Australia.

- His Last ODI cricket match was on 16 February in 2018 vs India.
- His Last T20I cricket match was on 29 October in 2017 vs Bangladesh.

33. **The duration of the football match in which the extra time is not counted, how much is it?**

A 30 minutes

B 60 minutes

C 3 Hours

D **90 minutes**

Solution

- In a professional football match that typically lasts 90 minutes, there are some exceptions.
- For instance, the time limit is decreased in youth games to compensate for the youngsters' lack of fitness.
- Both men's and women's games last 90 minutes with a 15-minute half-time period in the middle.
- Both games can acquire extra time depending on stoppages and injuries.
- The duration of each match shall be 90 minutes, except in special cases, provided for in these Competition Rules, where an extra 30 minutes shall be played.
- The Referee shall allow for time lost in accordance with the Laws of the Game or through accident or other cause

and his decision on this matter is not subject to appeal.

- The half-time interval shall be 15 minutes for all ties in all competitions.
- Both teams shall enter the field of play together, five minutes prior to the kick-off time, along with the Match Officials.

34. **Who among the following declares the policies of the government on the House of Parliament?**

A Chairman

B President

C Vice President

D **Prime Minister**

Solution

- The PM recommends a person to the President for appointment as minister.
- The PM allocates and reshuffles the portfolios among the ministers.
- The PM can ask for the resignation of any minister.
- The Prime Minister presides over the meeting of the Council of Ministers.
- He guides, directs, controls, and coordinates the activities of all the ministers.
- If the PM resigned from his office the Council of Ministers also collapsed.

35. **Who was the last physical master (Guru in human form) of Sikh religion?**

A Master every opinion

B Guru Every Kishan

C Guru Hargobind

D **Guru Gobind Singh**

Solution

- The tenth and the last guru of Sikhs, Guru Gobind Singh was born on 5 January 1666 in Patna, Bihar.
- He became a Guru at the age of 9 on 24 November 1675.
- He was the tenth and last Guru of Sikhism.
- He introduced the five Ks of Sikhism which refers to the 5 items that a Khalsa Sikh should wear at all times.
- These are as follows:

1. Kesh- uncut hair
2. Kangha- a wooden comb for hair
3. Kirpan- iron dagger
4. Kara- an iron bracelet
5. Kachera- cotton tileable undergarments

36. **Chlorofluorocarbons (CFCs) are also known as \ (\textit{_____}\)**

A Chlorocarbon

B Fluoromethane

C Anisol

D **Frans**

Solution

- Freon is a simple fluorinated aliphatic organic compound that is used in commerce and industry.
- In addition to fluorine and carbon, Freons often contain hydrogen, chlorine, or bromine.
- Thus, Freons are types of chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and related compounds.

37. **Which of the following programs are aimed at building self-employment opportunities in rural areas and small towns?**

A **Rural Employment Generation Program (REGP)**

B Prime Minister Gramodaya Yojana (PMGY)

C Prime Minister Jan Dhan Yojana (PMJDY)

D Swarnjayanti Gram Swarozgar Yojana

Solution

- The Rural Employment Generation Programme was launched in 1995.
- The aim of the programme is to create self-employment opportunities in rural areas and small towns.
- The Khadi & Village Industries Commission (KVIC) launched this programme for the creation of two million jobs under the KVI sector in the rural areas of the country.
- The Prime Minister Employment Generation Programme is a conflation of the PMRY (Prime Minister's Rozgar Yojana) and REGP (Rural Employment Generation Programme).

- The Prime Minister Employment Generation Programme is aimed towards creating jobs in rural, as well as urban areas through various self-employment enterprises.

38. **Which of the following plays Kallidas wrote?**

A Moorish

B Ratnavali

C **Malavinknamitrum**

D Devinagar Gupta

Solution

- Kalidas was a Sanskrit poet and dramatist, probably the greatest Indian writer of any epoch.
- Kalidas was contemporary to Chandra Gupta II (380 CE - 415 CE) of the Gupta Dynasty.
- The Mālavikāgnimitram is a Sanskrit play by Kālidāsa.
- Based on some events of the reign of Pushyamitra Shunga, it is his first play.
- Mālavikāgnimitram tells the story of the love of Agnimitra, the Shunga Emperor at Vidisha, for the beautiful handmaiden of his chief queen.

39. **Which of the following countries was formerly known as Formosa?**

A South Korea

B China

C **Taiwan**

D Japan

Solution

- Taiwan, earlier known as Formosa, a tiny island off the east coast of China, is where Chinese republicans of the Kuomintang government retreated after the 1949 victory of the communists — and it has since continued as the Republic of China (RoC).
- Hence, Taiwan is the correct answer.
- Since its founding in 1949, the PRC has believed that Taiwan must be reunified with the mainland, while the RoC has held out as an “independent” country.
- Taiwan observes October 10 — “double 10” — as its national day.
- It was on this day in 1911 that sections of the Manchu army rose in rebellion, leading ultimately to the

overthrow of the Qing dynasty and the end of 4,000 years of the monarchy.

- The RoC was declared on December 29, 1911.

40. **Constitution of India is \(\textit{_____}\)**

A Pictorial Document

B **The longest written constitution**

C Printed Documents

D The unwritten constitution

Solution

- The Constitution of India is the supreme law in India.
- The constitution is the framework for political principles, procedures, and powers of government.
- It's also the longest constitution in the world with 448 articles, 22 parts, 12 schedules.
- The constitution was written on 26 November 1949, and was made the center of law in 26 on January 1950.

41. **Who was the calligraphist of the Constitution of India?**

A A.V. Thakkar

B Nand Lal Bose

C J.B. Crypallani

D **Prem Bihari Narayan Riyazada**

Solution

- Prem Behari Narain Raizada (Saxena) is the man who hand wrote the original Constitution of India.
- Raizada over his desk in the Constitution Hall (now Constitution Club) for six months to handwrite 395 articles, 8 schedules, and a preamble in both English and Hindi.
- It all began on August 29, 1947, when the Constituent Assembly set up a Drafting Committee to formulate a Draft Constitution of India.
- After 11 sessions and endless debates and amendments, the Constitution for the newly-independent nation was ready.
- Prime Minister Jawaharlal Nehru wanted it handwritten in a flowing italic style.

- Prem Behari Narain Raizada (Saxena), a noted calligraphist, was chosen for the task.

42. **Where was the only convention of Indian National Congress held under the chairmanship of Mahatma Gandhi?**

A Nagpur

B Appearance

C Bombay

D **Belgaum**

Solution

- It was the 39th session.
- It was held on 26 & 27 December 1924.
- Gandhiji visited Belagam three times.
- He attended the Bombay provincial conference of the Home Rule League in 1916.
- He spent 10 days in the Khadi and Village Industries Centre in Hudali village in 1937.

43. **What is the friction force employed between the two surfaces interacted in relative speed?**

A Rolling Friction

B **Dynamic Friction**

C Limited Friction

D Static Friction

Solution

- Friction is the force that opposes the relative motion of two surfaces in contact.
- Rolling friction is always less than static friction, limiting friction, and dynamic friction.
- When one object rolls over the surface of another object, the resistance to its motion is called rolling friction.
- Kinetic friction is also called dynamic friction.

44. **Which article is related to uniform civil code for all citizens of the country?**

A **Article 44**

B Article 46

C Article 50

D Article 48

Solution

- Article 44 corresponds with Directive Principles of State Policy stating that State shall endeavour to provide for its citizens a uniform civil code (UCC) throughout the territory of India.
- It is the common set of governing rules for all citizens of India which refers to replace the personal laws (based on religious scriptures and customs).
- These laws are famous from public law and cover marriage, divorce, inheritance, adoption and maintenance.

45. **What is the first part of the large intestine?**

A Villey

B **Blindness (Sekum)**

C Medulla

D Klebsiella

Solution

- The cecum is the first part of the large intestine.
- It is a pouch that is attached to the end of the small intestine.
- The cecum is about 5 inches long and 3 inches wide.
- It is located in the lower right abdomen.
- The cecum's main function is to store undigested food and water.
- It also helps to absorb nutrients and electrolytes.
- The cecum is connected to the ascending colon, which is the next part of the large intestine.

46. **Where annual rainfall is greater than \(\textit{_____}\), there are tropical evergreen forests.**

A 150 cm

B 100 cm

C 300 cm

D 200 cm

Solution

- Tropical evergreen forests are found in areas that receive more than 200 cm of rainfall per year.
- These forests are characterized by their dense canopy of trees, which helps to keep the forest floor cool and moist.
- Tropical evergreen forests are home to a wide variety of plants and animals, including many species that are found nowhere else in the world.

47. **Which state has the highest number of national parks in India?**

A **Madhya Pradesh**

B Punjab

C Tripura

D Tamilnadu

Solution

- The correct option is 2 i.e., Madhya Pradesh.
- Madhya Pradesh has the largest number of National Parks in India.
- Madhya Pradesh and Andaman & Nicobar Islands have the maximum number of National Parks.

48. **Which of the following states of India has summer and winter capital?**

A Sikkim

B **Jammu and Kashmir**

C Uttarakhand

D Rajasthan

Solution

- The summer capital of Jammu and Kashmir is Srinagar and the winter capital is Jammu.
- The summer capital of Jammu and Kashmir is Srinagar.
- It is located in the Kashmir Valley, which is a beautiful and fertile valley.
- Srinagar is a popular tourist destination, known for its lakes, gardens, and mosques.
- The winter capital of Jammu and Kashmir is Jammu.
- It is located in the Jammu region, which is a hilly region.
- Jammu is a major commercial centre and is home to a number of educational institutions.
- The reason why Jammu and Kashmir have two capitals is because of the different climates in the two regions.

- The Kashmir Valley is a much warmer region than the Jammu region, so the government decided to have two capitals so that the government could function even during the winter months when the Kashmir Valley is inaccessible.

49. **Who are the parents of immunology?**

A **Edward Genner**

B Antoni van Leuvenhoek

C Robert Coach

D Karl Linyenius

Solution

- Edward Jenner is considered the "father of immunology" for his development of the smallpox vaccine in 1796.
- He developed the smallpox vaccine by inoculating a young boy with cowpox, a mild disease that confers immunity to smallpox.
- This was the first vaccine ever developed, and it is credited with saving millions of lives.

50. **Internet Café, ATM booth and call center are examples of which?**

A **Tertiary Sector**

B Auking Sector

C Secondary Sector

D Primary sector

Solution

- The primary sector is concerned with the extraction of raw materials from the Earth, such as agriculture, forestry, fishing, and mining.
- The secondary sector is concerned with the processing of raw materials into finished goods, such as manufacturing, construction, and energy.
- The tertiary sector is concerned with the provision of services, such as transportation, communication, education, and healthcare.
- Internet cafes, ATM booths, and call centres are all examples of businesses that provide services.
- Therefore, they are all part of the tertiary sector.

51. **Find the next number in this series.**
56, 54, 51, 46, 39,?

A 28

B 36

C 30

D 40

Solution

- The series is decreasing by 2, then by 3, then by 5, then by 7, and so on.
- The differences between the numbers are 2, 3, 5, 7, 11, and so on (prime numbers).
- Therefore, the next number in the series should be 39 - 11 = 28.

  \(56 - 2 = 54 \\ 54 - 3 = 51 \\ 51 - 5 = 46 \\ 46 - 7 = 39 \\ 39 - 11 = 28 \)

52. **On the basis of the logic used in the first pair, select from the substitute alternate question mark in the second pair. Parrot: beak :: Elephant: ??**

A Small

B Chair

C **Tusk**

D Book

Solution

- The first term "Parrot" is related to its characteristic feature "beak", which is a physical attribute of the parrot.
- Similarly, the second term "Elephant" should be related to a physical attribute of the elephant.
- Elephants are known for their long, curved tusks made of ivory, which they use for various purposes such as digging, defense, and foraging.

53. **In this question, a statement and related two conclusions have been given in the form of i and ii.**

You have to consider both the conclusions as truths in the statements together and to decide which conclusions regarding the statements Rational beyond any reasonable doubt.

Statement: Government is supplying free medicines from 2014 and till now 75 thousand sick people have taken advantage of it, although the size of affected population is 100 times this number.

Conclusion:
i) Every affected person has taken advantage of the free medicines given by the government.
ii) The scheme implemented by the Government of India for giving free medicines to the affected people is very good.

Select the one most suitable in the following options:
A. The only conclusion i is logical is
B. only the conclusions ii is logical
C. Either the conclusions i or ii is rational
D. Neither conclusion ii nor rational is
E. i and ii both conclusions are rational.

A **D**

B A

C C

D B

Solution

- The given statement mentions that the government has been supplying free medicines since 2014, and 75 thousand sick people have taken advantage of it. However, the size of the affected population is 100 times this number, which means that only a small fraction of the affected people have taken advantage of the free medicines.
- Conclusion i) Every affected person has taken advantage of the free medicines given by the government is not logical as the statement clearly states that only 75 thousand sick people have taken advantage of the free medicines, whereas the size of the affected population is much larger. Therefore, this conclusion is not rational.
- Conclusion ii) The scheme implemented by the Government of India for giving free medicines to the affected people is very good is not directly supported by the given statement. While the statement mentions that the government is supplying free medicines, it does not provide any information about the quality or effectiveness of the scheme. Therefore, this conclusion is also not entirely rational.

- Thus, neither conclusion i nor conclusion ii can be considered completely rational beyond any reasonable doubt based on the given statement.

54. **Find the next number in this series.**
15, 36, 67, 88, 119,?

A 120

B 150

C 130

D **140**

Solution

The pattern of the series is,

\(15 + 21 = 36 \\ 36 + 31 = 67 \\ 67 + 21 = 88 \\ 88 + 31 = 119 \\ 119 + 21 = 140 \)

55. **Read the following statements and then answer the given question.**
A4B means A is the mother of A, B is
A3B meaning A, B is father
A, B is A, A is the sister of A, B is
A7B, A is the brother of A,

in the equation P3Q5R7S, what is the relation of P to S is ?

A Brother

B Aunt

C **Father**

D Uncle

Solution

As per given relation P3Q5R7S, P is father of S.

56. **A of Niece C has a Mummy Aunt. What is the relationship of C to Mother of A?**

A Daughter

B Granddaughter

C Cage

D **Niece**

Solution

C is Niece of Mother of A.

57. **In this question two statements and related two findings have been given in the form of i and ii. You should consider the things given in the statements as true and together with both the conclusions, it is to decide what conclusions regarding the statements Reasonable beyond reasonable doubt.**

Statement: All parrots are pigeons. There is no parrot bird.

Conclusion:
i). Some dove pigeons.
ii). There is no pigeon.

Select the one most appropriate in the following options:
A. The only conclusion i is logical is
B. The only conclusion ii is logical is
C. either the conclusions i or ii is logical
D. Neither the conclusion ii nor the rational
E. i and i ii Both conclusions are logical.

A A

B C

C B

D E

Solution

As per the given statement, some dove are pigeons, so conclusion i follows.

58. **In a fixed code language, GREY is coded as 718525. How will SPOT be coded in that same language?**

A 18161520

B 19151619

C **19161520**

D 18161519

Solution

Here each letter coded to it's corresponding position in alphabet series if A-Z numbered as 1-26.

So SPOT will be coded as, 19161520

59. **In this question the relation between different elements has been given in the statement.**
Two conclusions related to the statement have been given.
Statement: C < L > I = E ≥ N> T
Conclusion:
i) I> T
ii) T < C
Select the appropriate of the following options.
A. The only conclusion i is logical is
B. only the conclusions ii is logical
C. Either the conclusions i or ii is rational
D. Neither conclusion ii nor rational is
E. i and ii both conclusions are rational.

A D

B C

C **A**

D B

Solution

As per given statement I > T, so only i follows.

60. **On the basis of the logic used in the first pair, select from the substitute alternate question mark in the second pair.**
Postman: Letters :: Student: ??

A Weather

B Rainbow

C Carpenter

D **Books**

Solution

Postman carry letters, whereas strudents carry books.

61. **Find the next number in this series.**
6, 31, 56, 81, 106,?

A 120

B 130

C **131**

D 135

Solution

Here difference between each term is 25, so last term will be 131.

62. **Please read the given information carefully and then answer the questions given.**

6 friends Mahesh, Nisha, Oliver, Prakash, Kasim and Ratish were sitting in the center of a center around a hexagonal table in a coffee shop.

i) Nisha is sitting at the right hand side of Mahesh.
ii) Oliver is not sitting in front of Nisha.
iii) Ratish and Prakash are sitting in the corner in front of each other.
iv) Mahesh is not a neighbor of Prakash.

How many people are sitting between the light and Qasim on counting from the right of Qasim?

A **3**

B 1

C 4

D 2

Solution

3 people are sitting right of Qasim.

63. **Please read the given information carefully and then answer the questions given.**

6 friends Mahesh, Nisha, Oliver, Prakash, Kasim and Ratish were sitting in the center of a center around a hexagonal table in a coffee shop.

i) Nisha is sitting at the right hand side of Mahesh.
ii) Oliver is not sitting in front of Nisha.
iii) Ratish and Prakash are sitting in the corner in front of each other.
iv) Mahesh is not a neighbor of Prakash.

Who is sitting between Ratish and Nisha right?

A Qasim

B Lighting

C **Mahesh**

D Oliver

Solution

Mahesh is sitting between Ratish and Nisha right.

64. **A question has been given in this question and a statement related to it. Read the passage carefully and review the statement based on it.**

Amazon has acknowledged the data violation of user names and email ids of some users without giving details of its nature or scope. Although the company has not disclosed the total number of users affected by this violation, it has sent information to all affected users about the technical problem. And now this e-commerce major company is offering Gift Cards as compensation to customers who are victims of their data violation. This e-commerce company headquartered in Seattle is offering Gift Cards between $ 5 to $ 100 for users affected by some of their data violations.

A publication mentioning email communications between Amazon and a customer Paul Gagnon has reported that when he asked the customer service desk to ask the company how his information was leaked, then the company gave him a promotion of $ 100 Certificate offered. When Gagan got no response for the reason of this violation, he was offered $ 100 as an apology. After this violation, many affected users had filed a complaint with the service desk. Many people affected by this violation complained to the company, but none of them got so far. It is being speculated that Amazon Customer Service Supervisors have been instructed not to offer any comments or any kind of compensation to affected Amazon users.

Statement: The company has not told the fixed number of people affected by data violation.
Select the most suitable option below.
A-statement is definitely true.

B-Query is probably true.
C-statement can not be determined.
D-statement is completely false.

A **A**

B D

C B

D C

Solution

As per given information the statement is definitely true.

65. **On the basis of the logic used in the first pair, select from the substitute alternate question mark in the second pair.**
72301: 715 :: 31790: ??

A 974

B 977

C 978

D 976

Solution

As 72301 is related to 715, 974 is related to 31790.

66. **On the basis of the logic used in the first pair, select from the substitute alternate question mark in the second pair.**
R: Y :: G: ??

A O

B M

C **N**

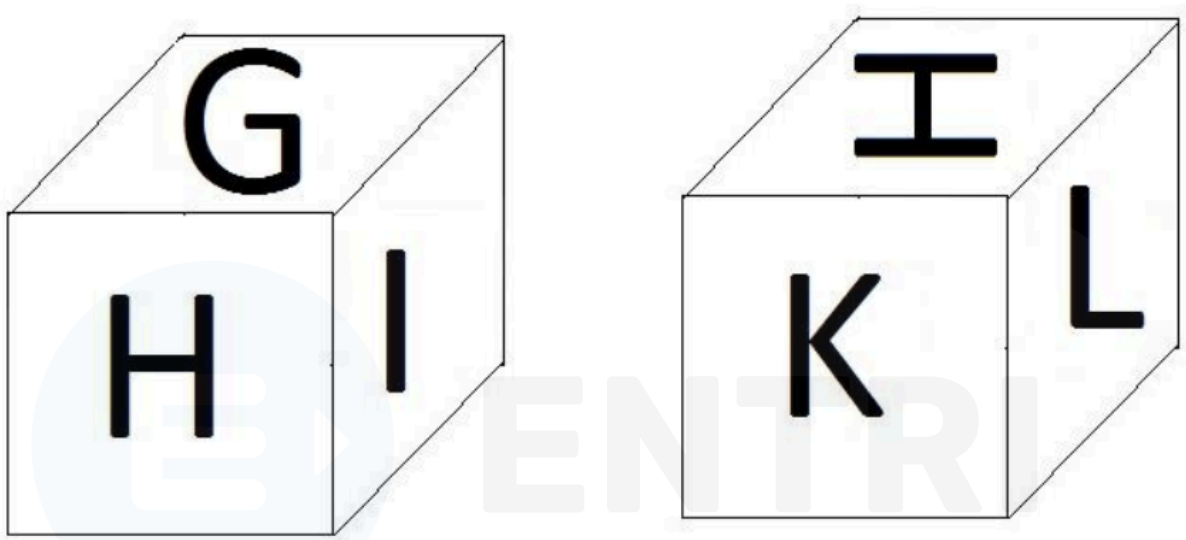
D P

Solution

- The logic used in the first pair is that R is related to Y through the order of the letters in the English alphabet.
- R is the 18th letter in the alphabet, and Y is the 25th letter, which is 7 letters away from R.

  R + 7 = Y
- Based on this logic, we need to find the letter that is 7 letters away from G in the English alphabet.
- G is the 7th letter in the alphabet. So, we count 7 letters forward from G to get the answer, which is N.

67. **According to the diagram shown on the sides of a single dice, the letters are G, H, I, J, K and L. What is the letter on the opposite surface of the letter K?**



A I

B J

C G

D L

Solution

- From the given two different cubes the adjacent sides are as shown below: As H is common on both the dice, it is

clear that G, I, L and K are adjacent to it and remaining number i.e. J will be opposite to it.

- Letter 'I' will be on the opposite surface of the letter K.

68. **Please read the given information carefully and then answer the questions given.**

6 friends Mahesh, Nisha, Oliver, Prakash, Kasim and Ratish were sitting in the center of a center around a hexagonal table in a coffee shop.

i) Nisha is sitting at the right hand side of Mahesh.
ii) Oliver is not sitting in front of Nisha.
iii) Ratish and Prakash are sitting in the corner in front of each other.
iv) Mahesh is not a neighbor of Prakash.

Who is sitting on the left side of Oliver's second person on the right?

A **Nisha**

B Ratish

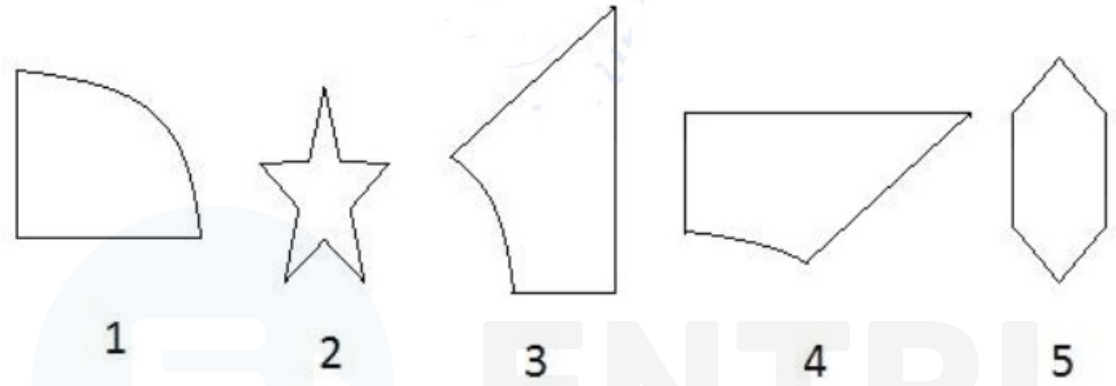
C Lighting

D Qasim

Solution

Nisha is sitting on the left side of Oliver's second person on the right.

69. **From the following options, select the correct option that creates a perfect square (three of the five images below).**



A 2,3 and 5

B 1,4 and 5

C **1,3 and 4**

D 2,3 and 4

Solution

Figures 1, 3 and 4 will create perfect square.

70. **There are three statements showing the relation in this question. Three findings related to them are given i, ii, and iii.**
Assuming the statements as true, decide which conclusions / statements are true in relation to the statements?

Statement: C <L ≤ O; O < T > H; H = E ≥ S
Conclusion:
i) O < E
ii) S < O
iiii) C < H

A I only) and ii)

B Only ii) and iii)

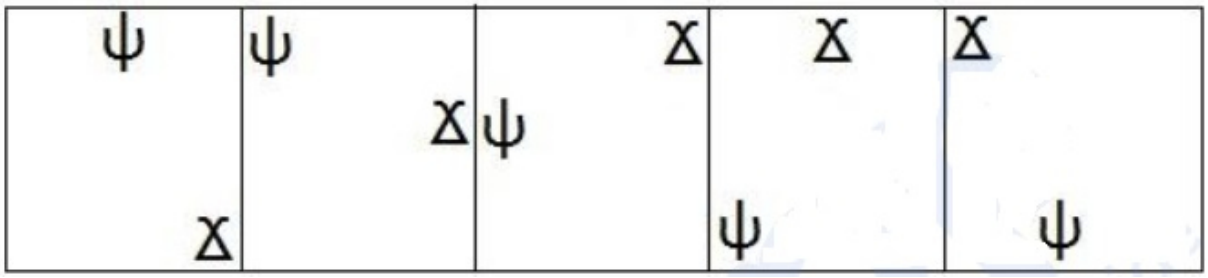
C Only ii) -

D **No rational**

Solution

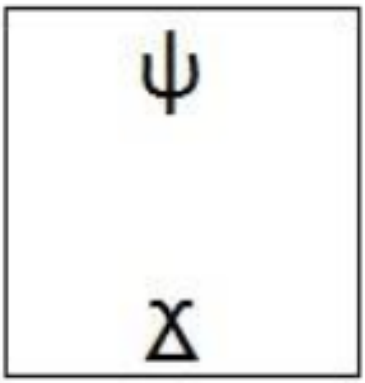
As per given statement, none of the conclusion follow.

71. **Which of the options given for the given series is the next figure?**

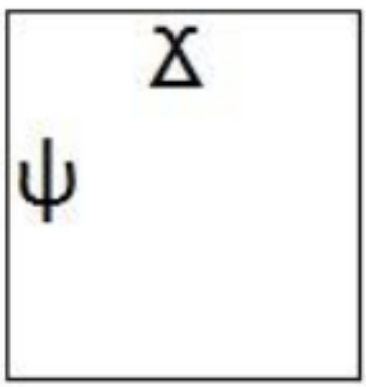


A

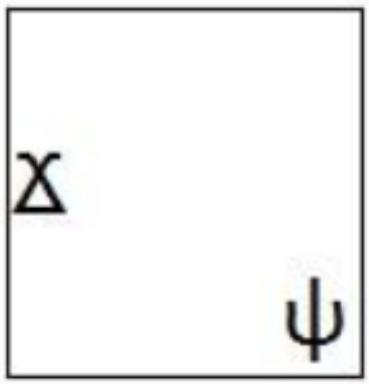
B



C



D



Solution

The next figure will the image in option D.

72. **A boy pointing to a woman said, "She is the only daughter of my mother's wife-in-law's wife."**
What does that woman have to do with that boy?

A **Mother**

B Niece

C Aunt

D Sister

Solution

As per given information, the woman is the mother of boy.

73. **How many right angled triangles can be made from the given shape?**

A 5

B 6

C 9

D **8**

Solution

There are 8 right angled triangles can be made from the given shape.

74. **Four of the following five are in some way similar and they create a group among themselves.**
Which of these is not related to this group?
S, T, V, O, P

A P

B T

C S

D V

Solution

S is not related to this group.

75. **How many straight lines are in given shape?**

A 12

B 8

C 10

D **9**

Solution

There are 9 straight lines in the given shape.

76. **Four of the following five are in some way similar and they create a group among themselves.**
Which of these is not related to this group?

Great, Excellent, Fierce, Joyful, Excellent

A Brilliant

B Blissful

C Outstanding

D **Fierce**

Solution

Except word 'Firece' all are positive words.

77. **In this question three statements and three related conclusions have been given. You have to consider the things given in the statements as truth and to decide together on the conclusions and to determine which conclusions regarding the statements, beyond any reasonable doubt Is it rational?**

Statement: Some girls are women. All women are women Some women are females.
Conclusion:
i. Some women are girls.
ii. Some women are females.
iii. Some girls are females.

A **Only i)**

B Only i) and iii)

C Only ii) and iii)

D All are rational

Solution

As per the statement, some women are girls, so i follows.

78. **Four of the following five are in some way similar and they create a group among themselves.**
Which of these is not related to this group?
UV, PQ, LM, NJ, AB

A NJ

B LM

C UV

D PQ

Solution

NJ is not related to this group.

79. **JUDGE is code as a MXYJX in a fixed code language. How will OUGHT be coded in that same language?**

A RXBKV

B RXJKV

C **RXBKW**

D RXJKW

Solution

As per the coding logic used OUGHT is coded as RXBKW.

80. **Find the next number in this series.**
6, 30, 60, 300, 600,?

A **3000**

B 2400

C 3200

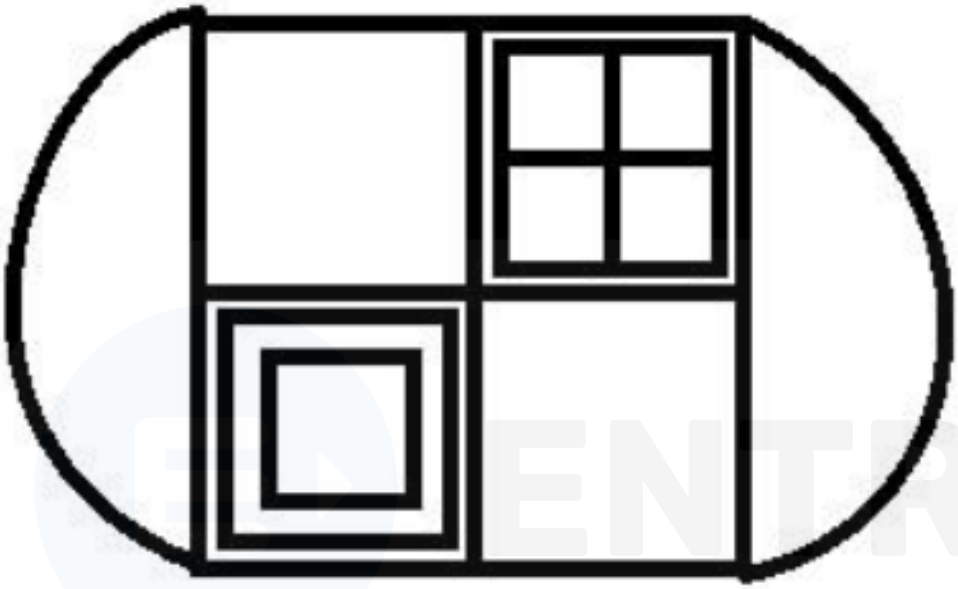
D 3600

Solution

The pattern of the series is,

\(6 \times 5 = 30 \\ 30 \times 2 = 60 \\ 60 \times 5 = 300 \\ 300 \times 2 = 600 \\ 600 \times 5 = 3000 \)

81. **How many classes are there in given figure?**



A 11

B **12**

C 8

D 13

Solution

There are 12 classes in the given figure.

82. **A question has been given in this question and a statement related to it. Read the passage carefully and review the statement based on it.**

Amazon has acknowledged the data violation of the user name and email id of some of its users, without giving details of its nature or scope. Although the company has not disclosed the total number of users affected by this violation, it has sent information to all affected users about the technical problem. And now this e-commerce major company is offering Gift Cards as compensation to customers who are victims of their data violation. This e-commerce company headquartered in Seattle is offering Gift Cards between $ 5 to $ 100 for users affected by some of their data violations.

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Statement: Amazon has not instructed its supervisors to not provide any comments or offers of compensation to the affected users.

Select the most suitable option below.

A-statement is definitely true.
B-Query is probably true.
C-statement can not be determined.
D-statement is completely false.

A **B**

B D

C C

D A

Solution

As per the given information, the statament is ture.

83. **If the mirror is placed on the shaded line, then what will be the correct image of the given figure from the following options?**

A 

B 

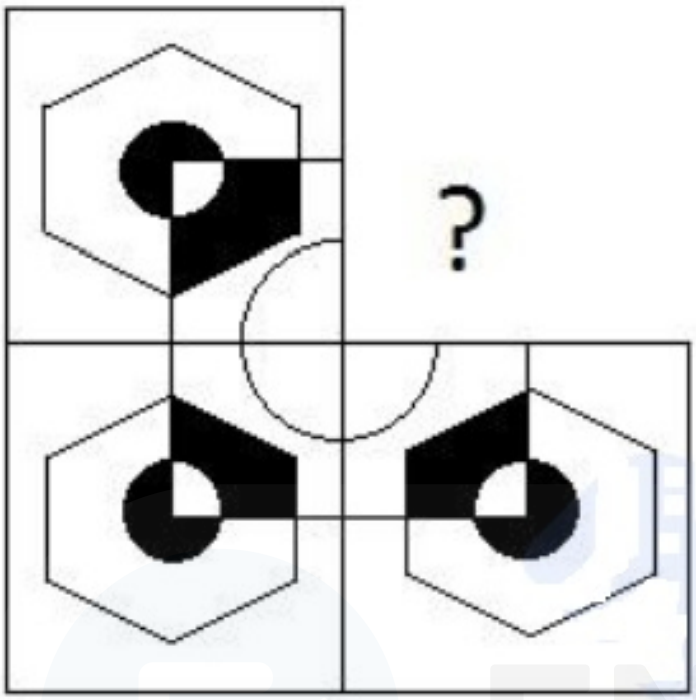
C 

D 

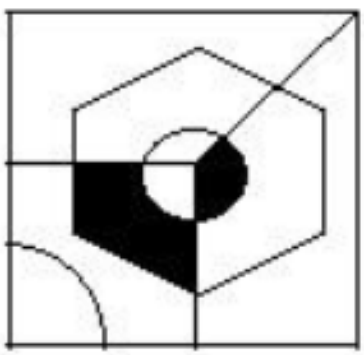
Solution

The mirror image will be the image in option D.

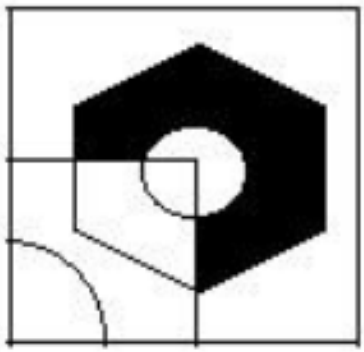
84. **Choose from the selection of the right figure that meets the picture pattern of the given picture.**



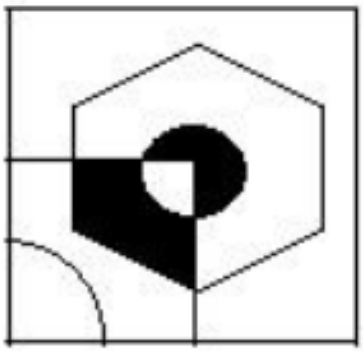
A 

B 

C



D



Solution

The missing image will be the image in option D

85. **Select the water reflection of the given text with the options.**

BABOON

A 

B 

C 

D 

Solution

The reflection of the text BABOON is as per option A.

86. **Find the value of x:**

$\sqrt{60-x} = \sqrt{(21+\sqrt{225})}$

A **24**

B 42

C 39

D 26

Solution

$\sqrt{60-x} = \sqrt{(21+\sqrt{225})}$

$\sqrt{60-x} = \sqrt{(21+15)}$

$60-x = 36$

$x = 24$

87. **Find the area of the equilateral triangle whose side is 96 cm. (in \(cm^2\))**

A 2344√3

B 2314√3

C **2304√3**

D 2324√3

Solution

- Area of an equilateral triangle \(=\frac{\sqrt{3}}{4} a^{2}\)
- Given:

  a = 96 cm
- A = \(\frac{\sqrt{3}}{4} \times 96 \times 96 \)
- A \(=2304 \sqrt{3}\)

88. **A train takes 36 seconds to cross the signal located at one end of the 473 meter long bridge. If the train takes 79 seconds to cross the bridge, then know the length of the train. (In meters)**

A **396**

B 376

C 366

D 386

Solution

- Time taken to cross the bridge \(=79 s\)
- Length of the bridge \(=473 m\)
- Speed = \(\frac{Distance}{time}\)
- Distance \(=\) length of the train \(+\) length of the bridge
- Let the length of the train be \(x\).

  \(\Rightarrow \frac{(x+473)}{79}= \frac{x}{36}\)

  \(\Rightarrow 36 x+17028=79 x\)

  \(\Rightarrow 43 x=17028\)

$\Rightarrow x = \frac{17028}{43}$

$\Rightarrow x = 396 \ m$

- $\therefore$ Length of the train is $396\ m$.

89. **LPG cylinder costs Rs. 664 to Rs. 830 has been done. What percentage of consumption should be reduced so that the amount spent on LPG cylinders remains the same? (% In)**

A 30

B **20**

C 35

D 25

Solution

- The difference in Price = Current Price - Initial Price

= 830 - 664 = 166

- Percentage Increase = (Difference in Price \(\div \) Current Price) × 100

= \((\frac{166}{830}) ×100 = 20 \)

- Hence, to keep the amount spent on LPG cylinders the same, consumption should be reduced by 20%.

90. **A shopkeeper has an item worth Rs. Bought in 216 and it cost Rs. Sold in 270. Find the Profit Percentage (% In)**

A 25

B 20

C 30

D 35

Solution

The required percentage = \(\frac{270-216}{216}\times 100 = 25\%\)

91. **The width of a rectangle is 200 cm and its diagonal is 520 cm. Find out its circumference (in cm)**

A **1360**

B 1160

C 1260

D 1060

Solution

The circumference is, \(2 (l + w) \)

- The length of a rectangle (l) can be found using the Pythagorean theorem:

\(l^2 + w^2 = d^2\)

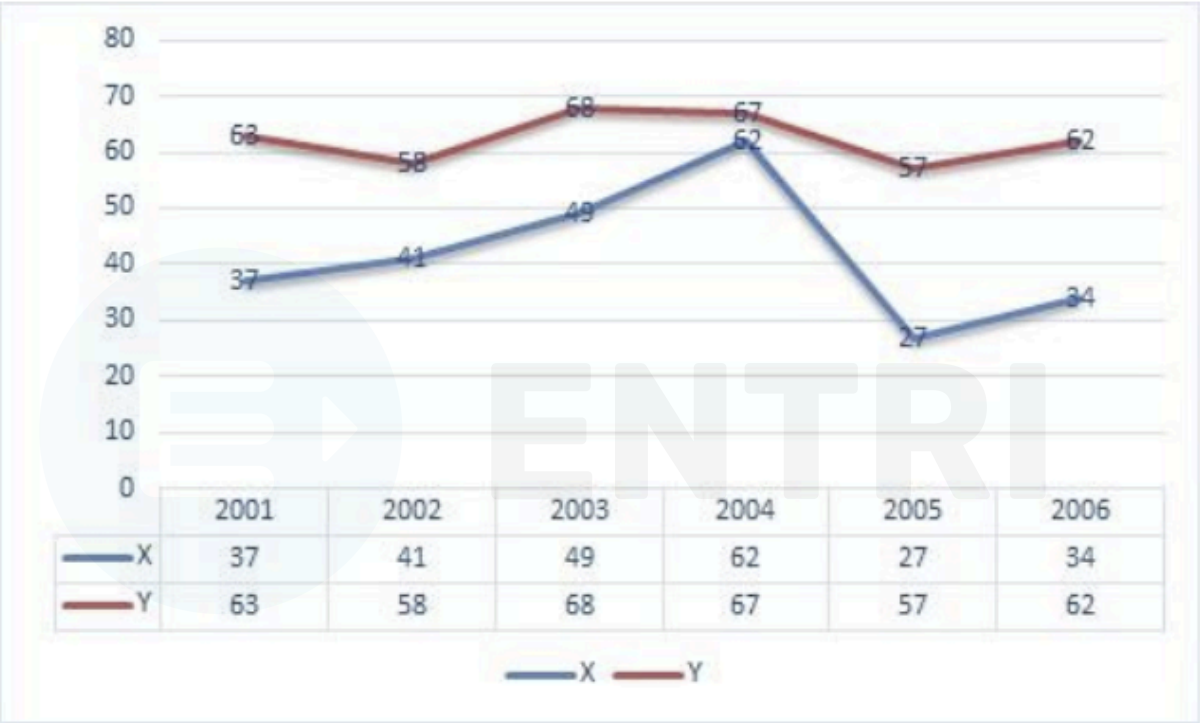
- Where "l" is the length of the rectangle and "d" is the diagonal.
- We can use the Pythagorean theorem to find the length of the rectangle:
- \(l^2 + w^2 = d^2\)
- \(l^2 = 520^2 - 200^2\)

$l^{2} = 230400$

- $l = \sqrt{230400}$
- $l = 480$ cm.
- Therefore, circumference will be, $2 (200 + 480) = 1360$ cm

92. **Instructions: Study the following graphs and answer the questions based on this.**

The number of vehicles manufactured by X and Y companies in the years 2001 to 2006 (in thousand)



	2001	2002	2003	2004	2005	2006
X	37	41	49	62	27	34
Y	63	58	68	67	57	62

Which of the following years was the difference between the production of X and Y in the given years is minimum?

A 2005

B 2003

C **2004**

D 2002

Solution

The difference between production of X and Y is minimum in 2004.

93. **Franklin completes the first part of the race at a speed of 570 mph and the second part completes at a speed of 855 mph. Find the average speed of the first two parts. (mph in-mile per hour)**

A 692

B 688

C 686

D **684**

Solution

- Average Speed = \(\frac{ 2\times S_{1}\times S_{2} }{S_{1} + S_{2}} \)
- \(\frac{ 2\times 570\times 855 }{570 + 855} \) = 2 × (342)= 684.
- The correct answer is Option D.

94. **The average of 7 numbers is 146. After removing any number, the average remains the same. Find out the number deleted.**

A 140

B 144

C 142

D **146**

Solution

- According to question,

146 = (sum of 7 numbers) \(\div\) 7

- Multiplying both sides by 7:

  Sum of 7 numbers = 1022

- Again, when 1 number is removed

  146 = (sum of 6 numbers) \(\div\) 6

- Multiplying both sides by 6:

Sum of 6 numbers = 876

- We can now set up an equation to solve for x, the number that was removed:

Sum of 6 numbers + x = Sum of 7 numbers

- Substituting the values we found earlier:

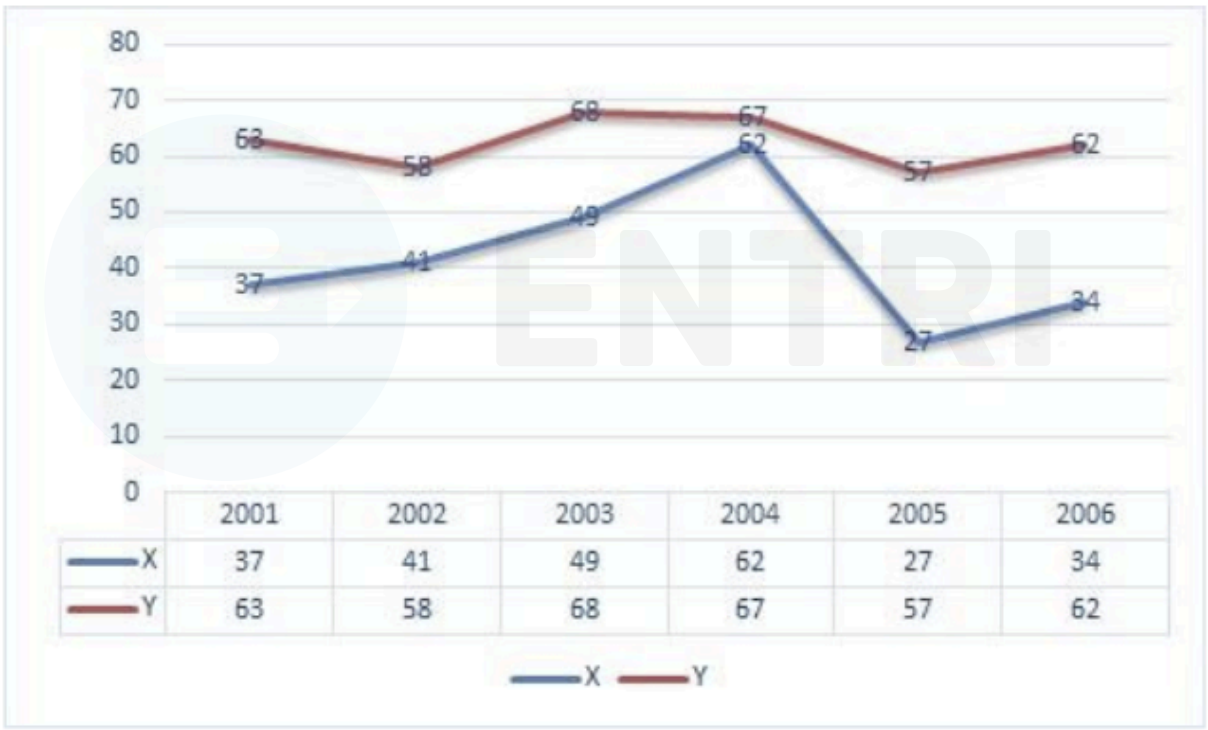
876 + x = 1022

- Subtracting 876 from both sides:

x = 146.

95. **Instructions: Study the following graphs and answer the questions based on this.**

Find out the difference between the total production of the two companies in the years given by the X and Y companies in the years from 2001 to 2006 (number of vehicles) produced by X and Y companies .



A 127

B 131

C **125**

D 129

Solution

Total production by X = \(37 + 41 + 49 +62 + 27 + 34 = 250\)

Total production by Y = \(63 + 58 + 68 +67 + 57 + 62 = 375\)

Therefore, difference will be, Y - X = 125.

96. **The ratio of the alpha and beta to age is 2: 5. If the sum of his age is 252, then find the difference in his age.**

A 104

B **108**

C 106

D 102

Solution

- Let the ratio be 2x and 5x.
- According to the question:

2x + 5x = 252

7x = 252

x = 36

- The difference is 5x - 2x = 3x.

3x = 3 × 36 = 108

- Therefore, the difference between their age is 108.

97. **A shopkeeper has an item worth Rs. 405 and bought it Sold in 324. Find out the percentage of losses. (% In)**

A 35

B 30

C **20**

D 25

Solution

The required percentage = \(\frac{405-324}{405}\times 100 = 20\%\)

98. **A certain amount is divided into 2 parts in the ratio of 6: 5. If the first part is Rs. 246, then find out the total amount. (In rupees)**

A **451**

B 457

C 453

D 455

Solution

- Let's call the total amount as "T". We can find the total amount as follows:
- $T = \frac{(6x + 5x)}{(6 + 5)} \times x$
- Where "x" is a value that can be used to find the total amount, and "6x" and "5x" are the values for the first and second parts, respectively.
- We can use the formula to find the total amount:

$T = \frac{(6x + 5x)}{(6 + 5)} \times x$

$T = 11x$

- Since the first part is 246 rupees, we can use this value to find "x":

6x = 246

x = 41

- The total amount is 11x = 11 × 41 = 451 rupees.

99. **The sides of a quadrangular plain are in the ratio 2: 3: 4: 5 and the perimeter is 574 cm. Find out the smallest arm. (in cm)**

A 80

B 84

C 86

D 82

Solution

- Let the sides be 2x, 3x, 4x and 5x.
- Circumference = 2x + 3x + 4x + 5x

⇒ 14x = 574

⇒ x = 41

- Smaller side = 2x = 2 × 41

⇒ 82 cm.

100. **Instructions: Study the following graphs and answer the questions based on this.**

In the years 2001 to 2006, the number of vehicles manufactured by X and Y companies (in thousand)

	2001	2002	2003	2004	2005	2006
X	37	41	49	62	27	34
Y	63	58	68	67	57	62

What is the difference between the number of vehicles manufactured in 2001 and 2002 by Company X?

A 6

B 5

C **4**

D 3

Solution

Required difference = 41 - 37 = 4.

101. **The value of a piece of metal has been increased from Rs.375 to Rs.450. What percentage increase in this? (% In)**

A 25

B 15

C 30

D **20**

Solution

- Percentage Increase = \(\frac{ (450 - 375)}{375} × 100 \)

= \(\frac{75}{375} \) × 100 = 20%

- Hence, the percentage increase in the value of the piece of metal is 20%.

102. **25% of 66.67% of 75% of 80% of a number is 6349. Find 40% of this number.**

A 25796

B 25196

C **25396**

D 25296

Solution

- Let the number be x.
- According to the question:

  25% of 66.67% of 75% of 80% of x = 6349

  \(\frac14 × \frac23 × \frac34 × \frac45 × x= 6349\)

  \(x = 63490\)
- So, 40% of x is:

  \(x = 63490× \frac25\)

  x = 25396
- Therefore, 40% of the number is 25396.

103. **Solve:**

\(57 \times 18 \times 57 \times 18 \div (2\sqrt{324}\div2)^2\)

A 3688

B 3789

C 2401

D **3249**

Solution

\(57 \times 18 \times 57 \times 18 \div (2\sqrt{324}\div2)^2\)

\(57 \times 18 \times 57 \times 18 \div (4 \times 18^2 \div 4) \)

\(57 \times 18 \times 57 \times 18 \div (18^2) \)

\(57 \times 57 = 32 49\)

104. **The face value of a book is Rs. 4,000 A book seller offers a discount of 10% on this. If he still earns 20% profit then what will be the cost of the book? (In rupees)**

A 3,200

B **3,000**

C 3,300

D 3,100

Solution

- Selling Price (SP) = Printed Value of the book - (Printed Value of the book × Discount \(\div\) 100)

= 4000 - \(\frac{4000 × 10}{100} \)

= 4000 - 400

= 3600

- Cost Price (CP) = Selling Price (SP)\(\div \) (1 + Profit Percentage \(\div \) 100)

= \(\frac{3600}{(1 +\frac{20}{100})} \) = 3000.

- The correct answer is Option B.

105. **Find the area of a square of 92 cm diagonal. (in \(cm^2\))**

A **4232**

B 4086

C 4286

D 3986

Solution

If diagonal d is given ,<p> Then the area = \(\frac{d^2}{2}\)<p>
So, \(\frac{92^2}{2}\) = \(42 32 \ cm^2\).

106. **At the compound interest rate of 10% pa every year. Find the amount to be received after 2 years if Rs 16,900 is the principal amount. (In rupees)**

A 22,449

B **20,449**

C 23,449

D 21,449

Solution

The amount to be received after a year will be, \(Amount = 16900(1+\frac{10}{100})^2\)

\(Amount = 16900 \times 1.21 = Rs. 20 449\)

107. **When 4069 is divided by 9, what will be the remainder?**

A 1

B 2

C 3

D 0

Solution

Formula:

- When a number is divided by a divisor, the remainder is given by (Dividend - Divisor × Quotient)
- We need to find the remainder when 4069 is divided by 9.
- 4069 ÷ 9 = 452 with remainder 1.
- The remainder when 4069 is divided by 9 is 1.

108. **In one box there are 125 detergent soaps, 80 of which have been utilized. How many percent detergent soap remains in the box? (% In)**

A 40

B **36**

C 44

D 42

Solution

Remaining percentage of soap = \(\frac{125-80}{125} \times 100 = \frac{45}{125}\times 100 = 36\%\)

109. **The average weight of eleven players in the state-level cricket team is 103 kg. When the coach was added, the average weight increased by 1 kg. How much is the weight of the coach? (In Kg)**

A 114

B 117

C 116

D **115**

Solution

- We can use the formulas to find the total weight of 11 players and the weight of the coach:
- $\frac{w_{1}}{11} = 103$

$W_{1} = 103 \times 11$

$W_{1} = 1133$

- $\frac{W_{2}}{12} = 104$

  $W_{2} = 104 \times 12$

$W_{2} = 1248$

- The difference between the total weight of 11 players and the total weight of 11 players and the coach is the weight of the coach:
- Weight of the coach =\(W_{2} - W_{1} \) = 1248 - 1133 = 115 kg.

110. **Rs. 4800 nvested at a simple interest rate of 13% per annum. Find the amount to be received after 4 years. (In rupees)**

A 7496

B **7296**

C 7396

D 7596

Solution

Amount to be received after 4 years = $4800 + 4800 \times \frac{4\times 13}{100} = 4800 + 2496 = Rs. 7296$

111. **After investing an amount of 12% per annum on the simple interest rate, after 5 years 5,700 interest is received. Find out the amount invested. (In rupees)**

A 9,450

B 9,500

C 9,550

D 9,400

Solution

Let the amount be x.

Therefore, interest after 5 years will be,

\(x\times \frac{5\times 12}{100} = 5700\)

x =\(5700 \times \frac{100}{60} = Rs. 9500\)

112. **When an item is sold in Rs.442, it is a loss of 15%. Find the cost value of that item. (In rupees)**

A 460

B **520**

C 480

D 500

Solution

- Cost Price (CP) = $\frac{442}{1 - \frac{15}{100}}$

= $\frac{442}{1 - 0.15}$

= $\frac{442}{0.85}$

= 520

- Hence, the purchase price of the item is Rs. 520.

113. **The smallest number of two numbers (LCM) is 132 and their greatest consolator (HCF) is 11. If a number is 11 then what is the second number?**

A **132**

B 155

C 121

D 136

Solution

- Let's call the two numbers as "a" and "b". We know that their LCM is 132 and their HCF is 11. Therefore, we can write:

  a × b = 132 × 11

  a × b = 1452

- Now that we have the product of the two numbers, we can use the HCF of 11 to find the two numbers:

  a = \(\frac{1452}{11} \)

  a = 132

b = $\frac{1452}{132}$

b = 11.

114. **Which of the following can be divided by 15?**

A 73445

B **38445**

C 39445

D 64345

Solution

For a number to be divisible by 15, the number must end with 0 or 5 and the sum of its digits must be divisible by 3. So 38445 is divisible by 15.

115. **In a box there are pen, pencil and rubber in the ratio of 3: 2: 1. If the value of pen, pencil and rubber is Rs. 3, Rs. 2 and Rs. 2 and the amount spent on the box is Rs.585 so find the number of pens in the box**

A 118

B 120

C **117**

D 119

Solution

- Let's assume that the number of pens in the box is '3X'. Then, the number of pencils in the box would be 2x and the number of erasers in the box would be x.
- The total cost of pens, pencils, and erasers would be 3(3x) + 2(2x) + x(2) = 15x.
- We know that the amount spent on the box is Rs. 585, so we can set the equation:

585 = 15x

x = 39

- The number of pens are = 3x = 3 × 39 = 117
- Hence, there are 117 pens in the box.

116. **A train running at a speed of 51 m / s crosses a signal in 13 seconds. Find out the length of the train. (In meters)**

A 683

B 673

C 653

D **663**

Solution

- The formula for finding the distance traveled by an object moving at a constant speed is given by:

d = v × t

- Where "d" is the distance traveled by the object and "v" is the speed of the object.
- We can use the formula for finding the distance traveled by an object to find the length of the train:
- d = v × t

d = 51 × 13

- d = 663 meters.

117. **Find a different X, X = 0.43838383838 ... ..**

A \(\frac{431}{900} \)

B \(\frac{434}{990} \)

C \(\frac{421}{900} \)

D \(\frac{434}{900} \)

Solution

The fraction 0.4383838383,,,, is equivalent to \(\frac{434}{990} \)

118. **Solve:**

\(\sqrt{(248 + \sqrt{(50 + \sqrt{(215 - \sqrt{361})})})} \)

A 12

B **16**

C 13

D 14

Solution

- Given:

  \(\sqrt{(248 + \sqrt{(50 + \sqrt{(215 - \sqrt{19^2})})})} \)

  \(\sqrt{(248 + \sqrt{(50 + \sqrt{215 -19})})} \)

  \(\sqrt{(248 + \sqrt{(50 + \sqrt{196})})} \)

  \(\sqrt{(248 + \sqrt{50 +14})} \)

  \(\sqrt{248 + 8} \)

  \(\sqrt{256} = 16\)

- Hence, option B is the correct answer.

119. **Solve:**

\(12 - [24 -(72\div 3- (30-50\div 5)\div20)]\)

A **11**

B 13

C 10

D 12

Solution

- Given:

  \(12 - [24 -(72\div 3- (30-50\div 5)\div20)]\)

  \(12 - [24 -(72\div 3- (30-10)\div20)]\)

\(12 - [24 -(24- 20\div20)]\)

\(12 - [24 -23]\)

\(12 - 1 = 11\)

- Hence, option A is the correct answer.

120. **To succeed in a competition, Jermilin requires an average score of 75 in four exams. His score in the first three exams is 78, 74 and 70. How many scores should he get in the fourth test to succeed in the competition?**

A 76

B 77

C 75

D **78**

Solution

- Average Score = Total Score \(\div \) Number of exams
- Total Score of the first three exams = 78 + 74 + 70 = 222
- Total Score required to succeed in the competition = Average Score \(\times \) Number of exams = 75 × 4

= 300

- The score required in the fourth exam = Total Score required to succeed in the competition - Total Score of the first three exams = 300 - 222 = 78 .

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