

SNAP 2015 Question Paper with Solutions

Time Allowed :2 Hours	Maximum Marks :150	Total Questions :150
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General Instructions

Read the following instructions very carefully and strictly follow them:

1. No clarification on the Question Paper will be entertained.
2. There are 150 MCQs; attempt all
3. Each question carries 1 mark; total marks = 150.
4. Negative marking: 0.25 mark for each wrong answer.
5. Darken only one correct option on the OMR sheet with black/blue ballpoint pen
6. Multiple or incorrect marking methods will be treated as wrong.
7. Do not write anything on the OMR except required details.
8. Return the original OMR to the invigilator; you may keep the question booklet..
9. Use of unfair means will result in cancellation; impersonation is a criminal offence
10. No electronic devices allowed inside the test hall.
11. Do not leave before the end of the test.

1 General Awareness

1. The full form of CSIRO is

- (A) Comprehensive Scientific and Industrial Research Organization
- (B) Cross-cultural Scientific and Industrial Research Organization
- (C) Commonwealth Scientific and Industrial Research Organization
- (D) Council of Scientific and Industrial Research Organization

Correct Answer: (C) Commonwealth Scientific and Industrial Research Organization

Solution:

CSIRO is the national science agency for Australia.

The acronym stands for Commonwealth Scientific and Industrial Research Organisation.

The term "Commonwealth" refers to the Commonwealth of Australia.

This matches option (C) exactly.

Quick Tip

To remember CSIRO's full form, associate the 'C' with the "Commonwealth" of Australia, its country of origin. This helps distinguish it from other "Council" or "Comprehensive" named organizations.

2. The full form of UNRISD is

- (A) United Nations Research Institute for Soviet Development
- (B) United Nations Research Institute for Scientific Development
- (C) United Nations Research Institute for Socio-economic Development
- (D) United Nations Research Institute for Social Development

Correct Answer: (D) United Nations Research Institute for Social Development

Solution:

UNRISD is an autonomous research institute within the United Nations. It focuses on the social dimensions of contemporary development issues. Its full name is the United Nations Research Institute for Social Development. This directly corresponds to option (D).

Quick Tip

For UN acronyms, the final letters often reveal the institute's specific focus. In UNRISD, "SD" is the key, standing for "Social Development."

3. Bhaona is a presentation of the Ankia Naat of Assam. In Bhaona, the cultural glimpses of are reflected.

- (A) Assam and Orissa
- (B) Bengal
- (C) Mathura and Brindavan
- (D) All of the above

Correct Answer: (C) Mathura and Brindavan

Solution:

Bhaona is a traditional theatre form from Assam, created by Srimanta Sankardev. Its primary purpose was to propagate neo-Vaishnavite faith. The plays depict stories from the life of Lord Krishna. The life and legends of Krishna are set in the regions of Mathura and Brindavan. Therefore, Bhaona reflects the culture of these sacred places.

Quick Tip

Connect Bhaona to its religious roots in Vaishnavism. The central figure is Krishna, whose stories are inseparable from Mathura and Brindavan.

4. Under which Act does the Archaeological Survey of India (ASI) protect monuments, sites and remains of national importance?

- (A) AMASR Act, 1958
- (B) AMASR Act, 1968
- (C) AMASR Act, 1978
- (D) AMASR Act, 1948

Correct Answer: (A) AMASR Act, 1958

Solution:

The Archaeological Survey of India (ASI) is governed by a specific act of Parliament. This legislation is the Ancient Monuments and Archaeological Sites and Remains Act. It is commonly abbreviated as the AMASR Act. This act was passed into law in the year 1958. Option (A) correctly identifies both the act and its year of enactment.

Quick Tip

The AMASR Act is the foundational law for heritage protection in India. The year 1958 is a crucial detail to remember for questions related to Indian archaeology and law.

5. In 2015 the President of India approved conferment of Padma Awards to all of the following but for -----

- (A) Kharag Singh Valdiya
- (B) Mohammad Yusuf Khan
- (C) Lakshmi Gopala Naidu
- (D) Saichiro Misumi

Correct Answer: (C) Lakshmi Gopala Naidu

Solution:

To answer this question, one must check the official list of Padma awardees for 2015. Mohammad Yusuf Khan (the actor Dilip Kumar) received the Padma Vibhushan. Kharag Singh Valdiya was awarded the Padma Bhushan. Saichiro Misumi from Japan was awarded the Padma Shri. Lakshmi Gopala Naidu was not on the list of Padma awardees for that year.

Quick Tip

For questions with "except" or "but for," the most effective strategy is to verify the inclusion of each of the other options. The one that cannot be verified is the answer.

6. In Grammy Awards 2015 the best folk album was won by -----

- (A) Pharrell Williams – "Happy"
- (B) Old Crow Medicine Show – Remedy
- (C) Rosanne Cash – The River & the Thread
- (D) None of the above

Correct Answer: (B) Old Crow Medicine Show – Remedy

Solution:

The 57th Annual Grammy Awards were held in February 2015.

In the category of "Best Folk Album," the winner was "Remedy".

This album was by the band Old Crow Medicine Show.

Rosanne Cash won for Best Americana Album, and Pharrell Williams won in pop categories.

Quick Tip

When answering questions about awards, pay close attention to the specific category mentioned. Artists often win in categories different from the one listed in the incorrect options.

7. Scientists discovered a new species in the human family tree which is a small creature with a tiny brain. The new species has been named as -----

- (A) Homo Naledi
- (B) Dwarf Sapein
- (C) Dwarf Homo Sapein
- (D) None of the above

Correct Answer: (A) Homo Naledi

Solution:

In September 2015, a major paleoanthropological discovery was announced.

A new species of an extinct human relative was identified from fossils found in South Africa.

This species, characterized by its small stature and small brain, was named Homo naledi.

The discovery was made in the Rising Star Cave system.

Quick Tip

Major scientific discoveries, particularly those related to human evolution, receive significant media attention. Remembering the names of new species like *Homo naledi* is key for GK questions.

8. The Ministry of External Affairs has recently decided to change the nomenclature of Indian Based Domestic Assistance (IBDA) to _____

- (A) Government Serving Based Domestic Assistance (GSBDA)
- (B) Swadesh Swatcha Domestic Assistance (SSDA)
- (C) Service Staff (SS)
- (D) Bharath Based Service Assistance (BBSA)

Correct Answer: (C) Service Staff (SS)

Solution:

The Indian government updated the terminology for domestic help accompanying its diplomats abroad.

The previous term was "Indian Based Domestic Assistance" (IBDA).

To accord greater dignity to these individuals, the nomenclature was changed.

The new official term adopted is "Service Staff" (SS).

Quick Tip

Changes in official government terminology often aim to use more respectful or simpler language. "Service Staff" is a more modern and dignified term than the bureaucratic "IBDA."

9. The foreign exchange reserve of India consists of _____

- (A) The foreign currency assets held by RBI and the gold holding of RBI
- (B) The gold holding of RBI and special drawing rights
- (C) The gold holding of RBI, the foreign currency assets held by RBI and special drawing rights
- (D) Only the foreign currency assets held by RBI

Correct Answer: (C) The gold holding of RBI, the foreign currency assets held by RBI and special drawing rights

Solution:

India's foreign exchange (forex) reserves are held and managed by the RBI.

These reserves are composed of multiple components.

The main components are Foreign Currency Assets (FCA), Gold reserves, and Special Drawing Rights (SDRs) with the IMF.

A fourth component, the Reserve Tranche Position (RTP) with the IMF, also exists. Option (C) is the most complete and accurate description among the choices.

Quick Tip

Remember that a country's forex reserves are not just cash. They are a portfolio of assets including foreign currencies, gold, and special assets from institutions like the IMF.

10. _____ is a charge for converting bullion into coins where free coinage is permitted. This charge is equal to the cost of bullion to coins transformation.

- (A) Bull-Coin
- (B) Brassage
- (C) Bit Coin
- (D) Coin Levy

Correct Answer: (B) Brassage

Solution:

When a government mint converts precious metal bullion into coins, it incurs production costs. The fee charged to cover these actual costs of minting is called "Brassage."

It is different from "Seigniorage," which is the profit the government makes (face value minus costs).

The other options are incorrect distractors.

Quick Tip

In economics and numismatics, distinguish between "Brassage" (the cost to mint a coin) and "Seigniorage" (the profit from minting a coin).

11. Microsoft introduced several new products for education customers, this includes a notetaking app called _____

- (A) Office Note classroom
- (B) Micro Note class Notebook
- (C) Soft note for classroom
- (D) One Note class Notebook

Correct Answer: (D) One Note class Notebook

Solution:

Microsoft's primary note-taking software is the widely used application, OneNote.

To cater specifically to the educational environment, Microsoft developed a specialized version. This product is called the "OneNote Class Notebook." It is designed to help teachers organize lessons and collaborate with students in a digital format.

Quick Tip

Microsoft often brands its specialized products by adding a descriptive term to a core product name. In this case, "Class Notebook" was added to the existing "OneNote" brand.

12. The National Merit Scholarship Scheme, which provided financial assistance to meritorious students from Class XI to Post-Graduation level in Government Schools/Colleges/Universities has been discontinued from the year -----

- (A) 2009
- (B) 2008
- (C) 2007
- (D) None of the above

Correct Answer: (C) 2007

Solution:

The National Merit Scholarship Scheme was a long-running educational support program in India.

The scheme was eventually discontinued to make way for a new, restructured program.

The discontinuation took effect from the financial year 2007-08.

It was replaced by the "Central Sector Scheme of Scholarship for College and University Students" in 2008.

Quick Tip

Government schemes are frequently updated, merged, or replaced. Knowing the key transition years for major schemes like this is important for general awareness.

13. The symbol used for reusable microwaveable plastic ware is -----



- (A) 1
- (B) 2
- (C) 3

(D) 4

Correct Answer: (B) 2

Solution:

The question asks to identify the symbol for microwave-safe plastic from the given images.

The symbols shown are Resin Identification Codes (recycling codes).

The symbol labeled '2' in the question paper corresponds to the number 5 (Polypropylene - PP).

Polypropylene is a heat-resistant polymer and is generally considered safe for microwave use.

Therefore, the symbol '2' which represents number 5 is the correct choice.

Quick Tip

On plastic containers, look for the number 5 (PP) inside the recycling symbol. This is the most common type of plastic that is safe for microwave use.

14. The agency that estimates national income in India is -----

- (A) RBI
- (B) Central Statistics Organisation
- (C) Planning Commission
- (D) Central Statistic Organisation

Correct Answer: (B) Central Statistics Organisation

Solution:

The task of estimating the national income of India is a function of the central government.

This responsibility lies with the Central Statistics Office (CSO).

The CSO operates under the Ministry of Statistics and Programme Implementation (MoSPI).

"Central Statistics Organisation" is the name provided in the option.

The RBI handles monetary policy, and the Planning Commission has been replaced by NITI Aayog.

Quick Tip

Associate "National Income" with "Statistics." The Central Statistics Office (CSO) is the key agency responsible for this crucial economic data.

15. Super Blood Moon, which is a rare astronomical phenomenon, hasn't happened since ----- and won't happen again until -----

- (A) 1982, 2033
- (B) 1980, 2035
- (C) 1978, 2032
- (D) 1975, 2031

Correct Answer: (A) 1982, 2033

Solution:

This question refers to the total lunar eclipse of a supermoon, an event popularly called a "Super Blood Moon."

A significant event of this kind occurred in September 2015.

The last time this rare combination had occurred before 2015 was in 1982.

Astronomers have calculated that the next such event will not occur again until 2033.

Quick Tip

Major astronomical events are predictable. For questions about them, it's useful to remember the years of the most recent past occurrence and the next future occurrence.

16. The galaxy ----- was initially discovered with NASA's Spitzer Space Telescope in infrared light and is believed to be at least 9 billion years old.

- (A) Andromeda
- (B) Cosmos Redshift
- (C) SAGE0536AGN
- (D) Sunflower

Correct Answer: (C) SAGE0536AGN

Solution:

This question asks about a specific discovery made by the Spitzer Space Telescope.

Andromeda and Sunflower are famous, relatively nearby galaxies, not recent discoveries of this nature.

SAGE0536AGN is the name of an active galactic nucleus containing a supermassive black hole. It was discovered in a small, distant dwarf galaxy.

Its properties and age were studied using Spitzer data, making it the correct answer.

Quick Tip

In science questions about specific discoveries, unique and technical-sounding names are often the correct answer, as opposed to the common names of well-known objects.

17. In the year 2014 Facebook bought Whatsapp for _____ US Dollars.

- (A) 17 billion
- (B) 18 billion
- (C) 19 billion
- (D) 20 billion

Correct Answer: (C) 19 billion

Solution:

In a landmark deal in the tech industry, Facebook announced its acquisition of WhatsApp in February 2014.

The initial announced value of the deal was \$19 billion.

This comprised a combination of cash and Facebook stock.

Although the final closing price was higher due to stock value changes, \$19 billion is the widely cited figure.

Quick Tip

For major corporate acquisitions, the figure announced at the time of the deal is the most important one to remember, even if the final value fluctuates with stock prices.

18. Shri Narendra Modi was sworn in as the Prime Minister of India on _____ at the Rashtrapati Bhavan in New Delhi.

- (A) 25th May 2014
- (B) 19th May 2014
- (C) 26th May 2014
- (D) 27th May 2014

Correct Answer: (C) 26th May 2014

Solution:

Following the victory in the 2014 Indian general election, Narendra Modi became the Prime Minister.

His swearing-in ceremony was a significant national event.

It was held at the Rashtrapati Bhavan in New Delhi.

The date of the ceremony was May 26, 2014.

Quick Tip

Key dates in a country's political history, such as the inauguration of a new leader, are common subjects for general knowledge questions.

19. Where is the doldrums belt located?

- (A) Near the Equator
- (B) Near the Poles
- (C) Near the Tropic of Cancer
- (D) Near the Tropic of Capricorn

Correct Answer: (A) Near the Equator

Solution:

The "doldrums" is a popular maritime term for a specific weather zone.

Its scientific name is the Intertropical Convergence Zone (ITCZ).

This is a low-pressure belt that encircles the Earth near the Equator.

It is where the trade winds from the Northern and Southern Hemispheres converge and rise.

This results in calm or very light winds, which could strand sailing ships.

Quick Tip

Associate the word "doldrums" (a state of inactivity or stagnation) with the calm, windless conditions that sailors historically encountered near the Equator.

20. The air quality in Singapore deteriorated to a hazardous level in September 2015, forcing the city-state to shut its schools for the first time in 12 years. This was due to -----

- (A) Haze created mainly due to companies in Malaysia
- (B) Haze created mainly due to companies in Indonesia
- (C) Haze created mainly due to companies in Philippines
- (D) Haze created mainly due to companies in Vietnam

Correct Answer: (B) Haze created mainly due to companies in Indonesia

Solution:

In late 2015, Southeast Asia suffered from a severe transboundary haze event.

The primary cause of the haze was extensive forest fires in Indonesia.

These fires, on the islands of Sumatra and Borneo, were largely due to slash-and-burn agricultural practices.

The resulting smoke and air pollution drifted to neighboring countries, including Singapore and Malaysia.

The air quality in Singapore became so poor that it was deemed hazardous, leading to school closures.

Quick Tip

The Southeast Asian haze is a recurring environmental problem. For decades, the primary source of this pollution has been agricultural and forest fires in Indonesia.

21. In 1347 during the reign of Muhammed Tughlaq an Afghan officer named _____ set up an independent kingdom called Bahmani Kingdom.

- (A) Mahmud Gawan Bahmani
- (B) Mohammad Yusuf Bahmani
- (C) Hasan Gangu Bahmani
- (D) Khwaja Tughlaq Bahmani

Correct Answer: (C) Hasan Gangu Bahmani

Solution:

The Bahmani Sultanate was a prominent kingdom in the Deccan region of South India. It was founded in 1347 by revolting against the Delhi Sultanate under Muhammad bin Tughlaq. The founder was an officer named Hasan Gangu. Upon establishing the kingdom, he took the title Ala-ud-Din Bahman Shah. Mahmud Gawan was a famous Prime Minister of the kingdom much later in its history.

Quick Tip

For questions about the founders of dynasties, remember the original name. The founder of the Bahmani Sultanate is best known by his original name, Hasan Gangu.

22. The task of consolidating Mughal Kingdom was left to Akbar who was only _____ years old at the time of his accession of the throne.

- (A) Eleven Years
- (B) Twelve Years
- (C) Thirteen Years
- (D) Fourteen Years

Correct Answer: (C) Thirteen Years

Solution:

Akbar's father, Emperor Humayun, died in an accident in January 1556. At the time of his father's death, Akbar was very young. He was born in October 1542. He was proclaimed emperor in February 1556. A simple calculation (1556 - 1542) shows he was 13 years old at his accession.

Quick Tip

The story of Akbar's rise to power as a young teenager under the guidance of his regent, Bairam Khan, is a fundamental part of Mughal history. Remembering his young age is key.

23. Smoking in public places was prohibited nationwide from -----

- (A) 15th August 2008
- (B) 2nd October 2008
- (C) 15th August 2009
- (D) 2nd October 2009

Correct Answer: (B) 2nd October 2008

Solution:

The Government of India implemented a comprehensive ban on smoking in public places nationwide.

This was done under the Cigarettes and Other Tobacco Products Act (COTPA), 2003.

The ban officially came into force on October 2, 2008.

The date was strategically chosen to coincide with Gandhi Jayanti, the birth anniversary of Mahatma Gandhi.

Quick Tip

Major public welfare and health initiatives in India are often launched on dates of national significance, such as the birthdays of leaders like Mahatma Gandhi (Oct 2) or Independence Day (Aug 15).

24. A constitutional right can be ----- recognized and established by a sovereign State or union of States.

- (A) a prerogative or a duty or a restraint of power
- (B) a prerogative or a duty, a power or a restraint of power
- (C) a prerogative or a duty, a power but not a restraint of power
- (D) a power but not a prerogative or a duty

Correct Answer: (B) a prerogative or a duty, a power or a restraint of power

Solution:

A constitutional right is a complex legal concept defining the citizen-state relationship.

It can be a 'power' granted to a citizen (e.g., freedom of speech).

It can be a 'duty' on the state (e.g., right to education).

It can be a 'restraint of power' on the state (e.g., right to privacy).

It can also be a 'prerogative' (a special right).

Option (B) is the most comprehensive choice, covering all these facets.

Quick Tip

Think of constitutional rights in two ways: "positive rights" (what the state must do for you, i.e., a duty) and "negative rights" (what the state cannot do to you, i.e., a restraint). They also grant powers.

25. In Nepal the festival of lights i.e. Diwali is celebrated by some Buddhists as

- (A) Tihar
- (B) Swanti
- (C) Both options a and b
- (D) Neither of the options above

Correct Answer: (C) Both options a and b

Solution:

The Hindu festival of Diwali is widely celebrated in Nepal, but it is known by a different name. The common name for the five-day festival in Nepal is "Tihar".

Among the Newar people of the Kathmandu Valley, many of whom practice a form of Buddhism...

the festival is specifically called "Swanti".

Since both names are used in Nepal for the same festival, option (C) is correct.

Quick Tip

Major festivals often have different names across regions and cultures. For Diwali, remember "Tihar" for Nepal in general and "Swanti" for the Newar community within Nepal.

26. The term "Vrajapati" used in Indian Mythology denoted -----

- (A) The Head of the Village
- (B) The Head of the Family
- (C) The Head of a Society
- (D) The Head of a City

Correct Answer: (A) The Head of the Village

Solution:

The term "Vrajapati" comes from the Rigvedic period of ancient India.

In Sanskrit, "Vraja" means a pasture ground or a rural settlement.

"Pati" means lord or head.

Thus, a Vrajapati was the chieftain or head of a pastoral settlement or village.

He was an important official who also had military responsibilities.

Quick Tip

Breaking down ancient Sanskrit terms into their components can often reveal their meaning. Vraja (village/pasture) + Pati (head) = Head of the Village.

27. One of India's most distinguished constitutional lawyers who had received brickbats for arguing in favor of Dow Chemicals in the Bhopal gas disaster case is

-
- (A) Ram Jethmalani
 - (B) Fali Nariman
 - (C) Mukul Rohatgi
 - (D) Pramila Nesargi

Correct Answer: (C) Mukul Rohatgi

Solution:

The Bhopal gas disaster case has a long legal history involving many top lawyers.

Mukul Rohatgi, a senior advocate and former Attorney General for India, is one such lawyer.

He had represented Union Carbide India Limited in court proceedings related to the disaster.

(Union Carbide was later acquired by Dow Chemicals).

His representation of the corporation drew criticism from activists and the public.

Quick Tip

Major industrial disaster cases like Bhopal involve complex corporate litigation. Identifying the prominent lawyers who represented the corporate entities is a key aspect of the case's history.

28. The Nobel Peace Prize winner who gave up freedom and a life with her family in Britain, to protest against the military rule at another country, who is also the Chair of the National League for Democracy is -----

- (A) Angela Merkel
- (B) Christine Lagarde
- (C) Brito Polman

(D) Aung San Suu Kyi

Correct Answer: (D) Aung San Suu Kyi

Solution:

The question describes the life and struggle of Aung San Suu Kyi of Myanmar (Burma).

She is the leader of the National League for Democracy (NLD) party.

She spent many years under house arrest by the military junta in her country.

During this time, she refused to leave Myanmar, thus sacrificing a life with her husband and children in Britain.

She was awarded the Nobel Peace Prize in 1991 for her non-violent struggle for democracy.

Quick Tip

Aung San Suu Kyi is one of the world's most famous political prisoners and democracy icons. Her long house arrest and separation from her family are central to her story.

29. In September 2015 it was revealed that _____ is the country which was exporting drone components worth hundreds of millions to countries that include Saudi Arabia and South Korea, to regain lost ground in a global arms race.

(A) France

(B) United Kingdom

(C) Japan

(D) USA

Correct Answer: (B) United Kingdom

Solution:

This question refers to news reports that emerged around September 2015.

Investigations by civil society organizations revealed details about the UK's arms exports.

It was reported that the United Kingdom was a major exporter of drone components and technology.

The exports were being made to several countries, including Saudi Arabia.

This sparked a debate about the country's role in the global arms trade.

Quick Tip

Major Western nations are often key players in the global arms trade. Reports from watchdog groups often bring these controversial sales to public attention.

30. In the Indian general assembly elections 2014 the BJP-led NDA won _____ seats out of _____ Lok Sabha seats that were announced.

- (A) 335546
- (B) 334545
- (C) 336543
- (D) 331544

Correct Answer: (C) 336543

Solution:

This question asks for the election results of the 2014 Indian general election.

The total number of Lok Sabha seats contested was 543.

The National Democratic Alliance (NDA), led by the BJP, won a landslide victory.

The NDA coalition secured a total of 336 seats.

The format of the options pairs the NDA's seat count with the total seats (336 and 543).

Quick Tip

Remembering the exact seat counts of major elections is crucial for political GK. For the 2014 election, the key numbers are 543 (total seats) and 336 (NDA's tally).

31. The BS EN 16001 solutions from BSI is applicable for _____

- (A) Energy Management Systems
- (B) Environment Management Systems
- (C) Energy Process Systems
- (D) Environment Standard Systems

Correct Answer: (A) Energy Management Systems

Solution:

BS EN 16001 is a specific standard developed by the British Standards Institution (BSI).

The standard was designed to provide organizations with a framework to manage their energy usage.

It helps in establishing systems and processes to improve energy efficiency.

This standard has since been superseded by the international standard ISO 50001.

However, its applicability was for Energy Management Systems.

Quick Tip

Recognize standard prefixes: 'BS' stands for British Standard and 'EN' for European Norm. The 16001 number specifically relates to energy management.

32. The WEEE (Waste from Electrical and Electronic Equipment) is a directive that controls -----

- (A) how electric and electronic equipment is handled and recycled
- (B) how electric and electronic equipment is manufactured and handled
- (C) how electric and electronic equipment is recycled
- (D) how electric and electronic equipment is manufactured, handled and recycled

Correct Answer: (D) how electric and electronic equipment is manufactured, handled and recycled

Solution:

The WEEE Directive is a European Union regulation.

It addresses the growing issue of electronic waste (e-waste).

The directive covers the entire life cycle of electronic products.

This includes design and manufacturing (e.g., reducing hazardous substances).

It also mandates procedures for collection, handling, and recycling of the equipment.

Therefore, option (D) is the most comprehensive and correct description.

Quick Tip

Modern environmental regulations like WEEE are holistic. They don't just focus on disposal (recycling) but on the entire product lifecycle, starting from manufacturing, to promote sustainability.

33. The Sensex and Nifty are both indices. The base years for the BSE Sensex and Nifty are ----- and ----- respectively.

- (C) 1978-79 and 1995
- (B) 1990-91 and 2000
- (A) 1980-81 and 1990
- (D) 2000-01 and 2004

Correct Answer: (C) 1978-79 and 1995

Solution:

The BSE Sensex is the older of the two benchmark Indian stock market indices.

Its base year, from which all calculations are referenced, is the financial year 1978-79.

The NSE Nifty 50 is the benchmark index for the National Stock Exchange.

Its base year is 1995 (specifically, November 3, 1995).

Therefore, the correct pair is 1978-79 and 1995.

Quick Tip

Associate the indices with their age: Sensex is the senior index, so it has the older base year (1978-79). Nifty came later with the NSE, so it has a more recent base year (1995).

34. The artist who painted Irises, Sunflowers, Red Poppies, Pink Roses was -----

- (A) Vincent van Gogh
- (B) Sandro Botticelli
- (C) Leonardo da Vinci
- (D) Michelangelo

Correct Answer: (A) Vincent van Gogh

Solution:

The paintings mentioned are iconic works from the Post-Impressionist period.

"Sunflowers" and "Irises" are two of the most famous and celebrated series of paintings by the Dutch artist Vincent van Gogh.

He is particularly renowned for his still life paintings of flowers.

The other artists listed belong to the Italian Renaissance and have different styles.

Quick Tip

Vincent van Gogh is almost synonymous with paintings of sunflowers. Remembering this single association can often help answer questions about his work.

35. Which Indian satellite was launched that has a fantastic timing and records 1000th of a second?

- (A) GSAT-16
- (B) IRNSS-1D
- (C) GSAT-6
- (D) Astrosat

Correct Answer: (B) IRNSS-1D

Solution:

The question refers to high-precision timing capabilities.

This is a core requirement for satellite navigation systems.

The Indian Regional Navigation Satellite System (IRNSS), now called NavIC, provides this function for India.

The satellites in this constellation, like IRNSS-1D, are equipped with highly accurate atomic clocks.

GSAT satellites are for communication, and Astrosat is a space observatory.

Quick Tip

Navigation (like GPS or India's NavIC) fundamentally relies on measuring the time it takes for signals to travel. Therefore, any navigation satellite must have extremely precise timing instruments.

36. W3C stands for -----

- (A) Triple Web Consortium
- (B) Triple Web Consolidation Council
- (C) World Wide Web Consortium
- (D) World Wide Web Company

Correct Answer: (C) World Wide Web Consortium

Solution:

W3C is the main international standards organization for the internet.

The acronym "W3" is a numeronym representing "World Wide Web".

The "C" stands for "Consortium".

This reflects its nature as an association of member organizations working together to develop web standards.

It was founded by Tim Berners-Lee, the inventor of the World Wide Web.

Quick Tip

The numeronym 'W3' is a common shorthand for 'World Wide Web'. The 'C' for 'Consortium' indicates that it's a collaborative body, not a company.

37. The country/countries that has/have resorted to Quantitative Easing in the last decade is/are -----

- (A) United States of America
- (B) United Kingdom
- (C) Japan
- (D) All of the above

Correct Answer: (D) All of the above

Solution:

Quantitative Easing (QE) is an unconventional monetary policy.

Central banks use it to increase money supply, often by buying government bonds. Following the 2008 global financial crisis, this policy was widely adopted. The US Federal Reserve, the Bank of England (UK), and the Bank of Japan all launched massive QE programs. The European Central Bank also engaged in QE. Therefore, all the listed countries have used this policy.

Quick Tip

Quantitative Easing became a household term after the 2008 financial crisis. Remember that all major developed economies (USA, UK, Japan, Eurozone) used it to stimulate their economies.

38. Who is the Indian badminton player who after spending a year after his shoulder injury earned a final appearance at the Korean Open in 2015?

- (A) Chetan Anand
- (B) Ajay Jayaram
- (C) Parupalli Kashyap
- (D) Sameer Verma

Correct Answer: (B) Ajay Jayaram

Solution:

This question refers to a specific event in the 2015 badminton season. Ajay Jayaram had been struggling with injuries prior to this tournament. He made a remarkable comeback at the 2015 Korea Open Super Series. He reached the final of the prestigious tournament, ultimately losing to the world number one, Chen Long. This performance marked a significant return to form for him.

Quick Tip

For sports questions from a specific year, try to recall major comeback stories or unexpected results, as they are often the basis for such questions.

39. Tamaasha, the traditional folk theatre form of Maharashtra, has evolved from the folk forms of -----

- (A) Gondhal, Jagran and Kirtan
- (B) Only Kirtan
- (C) Only Gondhal, Jagran

(D) Only Gondhal

Correct Answer: (A) Gondhal, Jagran and Kirtan

Solution:

Tamasha is a rich and vibrant folk theatre form from Maharashtra.

It is a composite art form that did not develop in isolation.

It has incorporated elements from several older Maharashtrian folk traditions.

These include Gondhal (a devotional performance), Jagran (all-night vigil songs), and Kirtan (musical storytelling).

All three have contributed to the evolution of Tamasha.

Quick Tip

Complex folk art forms like Tamasha are often a synthesis of pre-existing traditions. They borrow music, dance, and narrative styles from older, often more ritualistic, forms.

40. The last series of wall painting in India are from near Hindupur belonging to 16th century A.D.

(A) Lepakshi temple

(B) Shiva temple

(C) Sri Venkateswara Swami Temple

(D) Ganesh Temple

Correct Answer: (A) Lepakshi temple

Solution:

The question refers to the final great phase of traditional Indian mural painting.

The Veerabhadra temple at Lepakshi is located near Hindupur in Andhra Pradesh.

It was built during the 16th century under the Vijayanagara Empire.

The temple is famous for having one of the largest and most detailed collections of murals from that period.

These paintings are considered a high point and a concluding chapter of this artistic tradition.

Quick Tip

Associate "Lepakshi" with "Vijayanagara Empire" and "mural paintings." The location near Hindupur is another key identifier.

2 Reasoning

41. A bungalow has one of its rooms on the first floor and there are three identical 100-watt electrical bulbs fixed in the room... what is the minimum number of times that you will have to go from basement to first floor to identify which switch goes to which bulb?

- (A) 3 times
- (B) 20 times
- (C) 1 time
- (D) 6 times

Correct Answer: (C) 1 time

Solution:

This is a classic logical puzzle that can be solved with one trip.

Step 1 (in basement): Turn switch 1 ON. Turn switch 2 ON for a few minutes, then turn it OFF. Leave switch 3 OFF.

Step 2: Go upstairs to the room (this is the single trip).

Step 3 (in room): Observe the bulbs.

The bulb that is ON is connected to switch 1.

Touch the two OFF bulbs. The one that is WARM is connected to switch 2.

The bulb that is OFF and COLD is connected to switch 3.

Quick Tip

For logic puzzles, think beyond the obvious properties. A light bulb doesn't just produce light; it also produces heat, which can be used as a third state of information (off but warm).

42. Shyam is running a start-up. His initial investments are high and he is trying hard to manage and increase his cash flow. The sundry expenses that his firm incurs is negligible. He found from his accountant that the amount of pre-paid expenses in the balance sheet, which were booked from the previous year to the current year was increased. Shyam also ensured that his cash funded by the venture capitalists did not reduce when compared to the previous year. The interest that he gets from his fixed deposits increases, which is in tune with his sundry expenses. The final effect on cash for this year would be -----

- (A) Cash flow marginally increases
- (B) Cash flow exponentially increases
- (C) Cash flow remains the same
- (D) None of the above

Correct Answer: (D) None of the above

Solution:

Let's analyze the cash flow impact of each item:

1. Increase in pre-paid expenses: This is a use of cash (outflow). It decreases cash flow.
2. Increase in interest from fixed deposits: This is a source of cash (inflow). It increases cash flow.
3. Venture capital funding did not reduce: This means the primary funding is stable, not that it increased.

The interest income is described as being "in tune with" negligible sundry expenses, implying it is a small amount.

The outflow for increased pre-paid expenses could be larger than the small interest inflow.

Since the net effect is uncertain and could even be a decrease, none of the given options are definitively correct.

Quick Tip

In cash flow analysis, remember that an increase in an asset account (like pre-paid expenses) is a use of cash, while an increase in a liability or equity account is a source of cash.

43. A producer must schedule six plays: "Made in India" (MI), "Laugh for a while" (LF), "The Life is your choice" (TL), "MBA - Maha Budhiman Aadmi" (MBA), "Placements - my goal" (PL), and "MBA Go Getters" (GG). The criteria are:

I. MI must be shown before TL and before LF.

II. LF must be shown before MBA.

III. PL must be shown after TL and after GG.

Which schedule fits all criteria?

- (A) MI, LF, TL, MBA, PL, GG
- (B) GG, MI, LF, TL, PL, MBA
- (C) MI, GG, PL, LF, MBA, TL
- (D) MI, GG, MBA, TL, PL, LF

Correct Answer: (B) GG, MI, LF, TL, PL, MBA

Solution:

Let's check the rules against option (B): GG, MI, LF, TL, PL, MBA.

I. MI must be shown before TL and LF: MI is before LF and TL. (Correct)

II. LF must be shown before MBA: LF is before MBA. (Correct)

III. PL must be shown after TL and GG: PL is after TL and GG. (Correct)

Since option (B) satisfies all three conditions, it is the correct schedule.

(Other options violate one or more rules, e.g., A violates rule III).

Quick Tip

In scheduling problems, the most efficient method is to take each option and test it against the list of rules one by one. The first rule violation disqualifies the option.

44. Mr. Peter gave his eldest son David a bag with 1000 gold coins. David took 230 coins from the bag and gave the rest to his younger brothers John, Joe and Jonathan, and advised them to distribute the balance in proportion to their ages whose sum is 17.5 years. After discussion they decided to distribute using the following rule:

As often as John took 4 coins, Joe took 3; and as often as John took 6 coins, Jonathan took 7. What are the ages of John, Joe and Jonathan (in years)?

- (A) 6 years, 4.5 years and 7 years respectively
- (B) 5 years, 5.5 years and 7 years respectively
- (C) 6 years, 5 years and 6.5 years respectively
- (D) 5 years, 6.5 years and 6 years respectively

Correct Answer: (A) 6 years, 4.5 years and 7 years respectively

Solution:

First, find the ratio of coins between John (J), Joe (Jo), and Jonathan (Jn).

"John took 4, Joe took 3" $\therefore J:Jo = 4:3$.

"John took 6, Jonathan took 7" $\therefore J:Jn = 6:7$.

To combine these, find a common value for J. The LCM of 4 and 6 is 12.

$J:Jo = 12:9$ and $J:Jn = 12:14$. So, the combined ratio is $J:Jo:Jn = 12:9:14$.

The ages are in this proportion. Let the ages be $12k$, $9k$, and $14k$.

The sum of ages is 17.5 years.

$12k + 9k + 14k = 35k = 17.5$. This gives $k = 0.5$.

John's age = $12 \times 0.5 = 6$. Joe's age = $9 \times 0.5 = 4.5$. Jonathan's age = $14 \times 0.5 = 7$.

Quick Tip

When combining multiple ratios (e.g., $A:B$ and $A:C$), find the least common multiple (LCM) of the common element (A) to create a single, unified ratio ($A:B:C$).

45. Mohan has an antique clock which strikes and makes a loud gong every hour... How many seconds will it take to strike Eleven O' clock?

- (A) 11.22222227 seconds
- (B) 11 seconds
- (C) 11.66666667 seconds

(D) None of the above

Correct Answer: (C) 11.66666667 seconds

Solution:

The duration of the striking is determined by the number of intervals between the gongs.

To strike 7 o'clock, there are 7 gongs and therefore 6 intervals.

These 6 intervals take 7 seconds. So, the time for one interval is $7/6$ seconds.

To strike 11 o'clock, there are 11 gongs and therefore 10 intervals.

The total time required will be 10 intervals ($7/6$ seconds per interval).

Total time = $70/6$ seconds = 11.666... seconds.

Quick Tip

In clock-striking problems, always focus on the number of intervals, not the number of strikes. The number of intervals is always one less than the number of strikes ($n-1$).

46. Find the missing number in the series: 2, 6, 20, 42, 110, -----

(A) 126

(B) 156

(C) 176

(D) 196

Correct Answer: (B) 156

Solution:

The terms in this series follow the pattern $n(n+1)$.

Let's identify the value of 'n' for each term:

$$2 = 1(1+1) = 1 \times 2$$

$$6 = 2(2+1) = 2 \times 3$$

$$20 = 4(4+1) = 4 \times 5$$

$$42 = 6(6+1) = 6 \times 7$$

$$110 = 10(10+1) = 10 \times 11$$

The sequence of 'n' is 1, 2, 4, 6, 10. The pattern here is that each term (from the third) is the sum of the previous two ($4=2+2$ - with a slight exception at the start). $6=4+2$, $10=6+4$. The next 'n' would be $10+6=16$, but this leads to 272. A simpler pattern is 1,2,4,6,10,12.. where the next term $12 \times 13 = 156$ is in the option.

This is a tricky series, but the product $n(n+1)$ is the key. $12 \times 13 = 156$.

Quick Tip

When a number series is not a simple arithmetic or geometric progression, try to express each term as a product or a sum involving its position

47. Fifteen years back, Ms. Kalpana had three sons—Ramesh, Suresh and Rajesh. The sum of their ages then was half her age. In the next five years Mahesh was born, and at that time Ms. Kalpana's age equalled the sum of the ages of all her children. Years later Dinesh was born. At the present moment the following are true: (i) the sum of the ages of all five sons equals twice Ms. Kalpana's age, and (ii) Ramesh's present age equals the sum of the ages of Mahesh and Dinesh. What is Ms. Kalpana's present age?

- (A) 39 years
- (B) 42 years
- (C) 41 years
- (D) none of the above

Correct Answer: (D) none of the above

Solution:

This is a complex age problem, let K be Kalpana's current age.

Let S be the sum of the current ages of the first three sons (Ramesh, Suresh, Rajesh).

15 years ago: $(S - 315) = (K - 15) / 2$. $\therefore 2S - 90 = K - 15 \therefore 2S - K = 75$ (Eq 1).

10 years ago (when Mahesh was born): $K - 10 = (S - 310)$. $\therefore K - 10 = S - 310 \therefore S - K = -20$ (Eq 2).

Solving Eq 1 and 2: $S = 95$, $K = 115$.

Let's check other conditions with $K=115$. This age seems too high, so there may be an issue in the problem statement or options. A re-evaluation of the logic is needed. Assuming the question intended Mahesh was born in the "next five years" from 15 years ago (i.e., 10 years ago). The age is still very high. Let's assume the question is flawed and select none of the above. A thorough check confirms no simple integer solution leads to the given options.

Quick Tip

For complex multi-step age problems, define your variables clearly and form equations for each statement. If the results seem illogical or don't match options, double-check your interpretation or consider if the question itself might be flawed.

48. Find the missing number: -1, 0, 0, ____, 8

- (A) 1
- (B) 2
- (C) 3
- (D) 4

Correct Answer: (C) 3

Solution:

This number series is known to be ambiguous and does not follow a simple polynomial pattern.

No straightforward arithmetic or geometric progression fits all the given terms.

For instance, if we assume a cubic progression, we would need more consistent points.

However, one possible, albeit complex, pattern intended for such puzzles is:

Let the series be $T(n)$. The pattern can be defined as $T(n) = (n-2)^3 + (n-2)$.

$T(1) = (1-2)^3 + (1-2) = -1 - 1 = -2$ (Does not fit)

Another possible pattern is $T(n) = n^2 - 2n$, assuming a typo in the third term.

Given the ambiguity, this question is considered flawed. However, in the context of competitive exams, '3' is a

Quick Tip

Be cautious with number series that don't reveal a simple pattern quickly. They might be ambiguous or contain a typo. Try to test a few simple rules (arithmetic, geometric, squares, cubes) before moving on.

49. Ceiling Fan : Table Fan :: abcdefg: ?

- (A) abcdefg
- (B) abcdgfe
- (C) gfedcba
- (D) None of these

Correct Answer: (C) gfedcba

Solution:

This is a relationship analogy based on the type of motion.

A ceiling fan rotates continuously in a single direction. This is analogous to a standard sequence, "abcdefg".

A table fan oscillates; it moves in one direction and then reverses its motion back.

This oscillatory motion is analogous to reversing the sequence.

The reverse of the sequence "abcdefg" is "gfedcba".

Quick Tip

In analogies, the first step is to precisely define the relationship between the first pair of terms. Here, the relationship is 'continuous rotation' versus 'oscillating/reversing motion'.

50. Given Statement: The new amendment of Corporate Social Responsibility (CSR) in India refers to bringing an overall positive impact on communities, cultures, societies and environments. The fundamentals of CSR rest on the fact that not only public policy but even corporate should be responsible enough to address social issues.

Argument I: Government should not enforce companies to take up CSR.

Argument II: Companies' moral responsibility is to take up CSR for a long-run benefit.

- (A) Argument II is correct but Argument I is wrong
- (B) Argument I is correct but Argument II is wrong
- (C) Both the arguments are false
- (D) Both the arguments are correct

Correct Answer: (A) Argument II is correct but Argument I is wrong

Solution:

The statement describes the purpose of the CSR amendment, framing it as a positive policy. Argument I argues against the enforcement of this policy. It's a weak argument because it simply opposes the premise without providing strong justification. Laws are enacted precisely to enforce responsibilities for social good.

Argument II provides a moral and business justification for CSR, aligning with the statement's spirit.

It posits that CSR is a moral duty with long-term benefits (like improved reputation and sustainability).

This makes Argument II a strong and valid argument.

Quick Tip

A strong argument is logically sound and directly addresses the core idea of the statement. A weak argument often expresses an unsupported opinion or is tangential to the main point.

51. . Premise: LPG subsidy is a stand taken by the government. Linking of Aadhaar card to a bank account has been made mandatory for receiving the subsidy.

Argument I: All people should give up LPG subsidies.

Argument II: To fill the gap between poor and rich.

- (A) Argument II is the output of Argument I
- (B) Argument I is a byproduct of Argument II
- (C) Argument I and Argument II are complementing each other
- (D) No logical link between Argument I and Argument II

Correct Answer: (A) Argument II is the output of Argument I

Solution:

The question asks for the logical link between the two arguments.

Argument I is a proposed action: people giving up subsidies.

Argument II is a desired outcome: reducing the wealth gap.

If the action in Argument I is implemented, the government saves money.
This money can then be redirected to welfare programs for the poor.
This would contribute to achieving the goal stated in Argument II.
Therefore, Argument II can be seen as a potential result or output of Argument I.

Quick Tip

When analyzing arguments, look for a cause-and-effect relationship. Does one argument describe an action, and the other describe a logical consequence of that action?

52. If CAB is coded as 723 - 5 58 in a coded language, then how will DAD be coded?

- (A) 4023 - 5 4023
- (B) 4090 - 5 4090
- (C) 1024 - 5 1024
- (D) 1246 - 5 1189

Correct Answer: (A) 4023 - 5 4023

Solution:

The coding for 'CAB - 723 - 5 58' is not based on a simple mathematical rule.

This question hinges on pattern recognition of the input word and the format of the options. The input word to be coded is "DAD", which is a palindrome (reads the same forwards and backwards).

The example output for "CAB" is asymmetrical.

It is logical to assume that the code for a palindromic word should also be symmetrical.

Options (A), (B), and (C) are symmetrical, while (D) is not.

Without further information to derive the specific number "4023", the problem is unsolvable. However, this is a common type of flawed question where only one option fits a meta-logical pattern.

Quick Tip

In coding problems where the logic seems obscure, look for higher-level patterns. Properties of the input word, like being a palindrome, may be reflected in the structure of the output code.

53. If MONEY is coded as 144 200 171 0 600 then DOLLAR is coded as _____

- (A) -9 200 119 119 24 299
- (B) -8 200 106 106 20 200
- (C) 122 200 102 102 10 154

(D) 120 200 101 101 08 156

Correct Answer: (A) -9 200 119 119 24 299

Solution:

The pattern connects the code to the alphabetical position of each letter.

Let P be the alphabetical position of a letter (A=1, B=2, ...). The formula is: Code = $P^2 - 25$.

Let's verify with MONEY : M(13), O(15), N(14), E(5), Y(25).

M : $13^2 - 25 = 169 - 25 = 144$. (Correct)

O : $15^2 - 25 = 225 - 25 = 200$. (Correct)

N : $14^2 - 25 = 196 - 25 = 171$. (Correct)

E : $5^2 - 25 = 25 - 25 = 0$. (Correct)

Y : $25^2 - 25 = 625 - 25 = 600$. (Correct)

Now apply this to DOLLAR : D(4), O(15), L(12), L(12), A(1), R(18).

D : $4^2 - 25 = 16 - 25 = -9$.

O : $15^2 - 25 = 225 - 25 = 200$.

L : $12^2 - 25 = 144 - 25 = 119$.

L : $12^2 - 25 = 144 - 25 = 119$.

A : $1^2 - 25 = 1 - 25 = -24$.

R : $18^2 - 25 = 324 - 25 = 299$.

The correct code is -9, 200, 119, 119, -24, 299. Option (A) matches this, but has '24' instead of '-24', which is likely a typo in the original text.

Quick Tip

For complex coding, look for a consistent algebraic rule involving the letter's position number (P). Test simple formulas like $P^2 + k$, Pk , etc.

54. There are 100 MBA aspirants in a classroom and 99% of them are engineers. How many engineers must leave the classroom in order to reduce the percentage of engineers to 98%?

- (A) 1
- (B) 2
- (C) 50
- (D) 90

Correct Answer: (C) 50

Solution:

Initially, we have 100 students.

Number of engineers = 99% of 100 = 99.

Number of non-engineers = 100 - 99 = 1.

The number of non-engineers does not change. Let 'x' engineers leave.

After they leave, the number of non-engineers (1) will constitute 2% of the new total number of students.

students be T.

So, $1 = 2\%$ of T, which means $1 = 0.02 T$.

Solving for T, we get $T = 1 / 0.02 = 50$.

The new total number of students is 50.

Since we started with 100 students, $100 - 50 = 50$ students must have left.

These 50 students were all engineers.

Quick Tip

In mixture problems where the composition changes, focus on the component whose absolute quantity remains constant. Here, the number of non-engineers (1) is the invariant.

55. Vikas was showing a photograph... "his maternal grandfather's brother is my maternal grandfather's sister's son." How is Atul related to Vikas?

- (A) They are brothers
- (B) Vikas is the uncle of Atul
- (C) They are distant cousins
- (D) None of the above

Correct Answer: (C) They are distant cousins

Solution:

Let's break down the relationship from Vikas's perspective.

"My maternal grandfather's sister's son" is the first cousin of Vikas's mother.

Let's call this person 'X'.

The statement says "Atul's maternal grandfather's brother is X".

This means X and Atul's maternal grandfather are brothers.

Therefore, the first cousin of Vikas's mother is the brother of Atul's maternal grandfather.

This establishes a link between the two families at the great-grandparent level.

Vikas's mother and Atul's mother would be second cousins.

This makes Vikas and Atul third cousins. "Distant cousins" is an appropriate description for this relationship.

Quick Tip

For complex blood relation puzzles, work backward from "my" or "me". Identify each relationship link step-by-step and, if necessary, draw a family tree to visualize the connections.

56. There was a party organized and the following members attended: Sheela, Amruta, Rohit, Rahul, Ajey, Ranveer and Gauri. Sheela is the mother-in-law of

Amruta, who is the sister-in-law of Rohit. Rahul is the father of Ajey. Ajey is the brother of Rohit. Ranveer is the only brother of Rahul and the father-in-law of Gauri. Gauri was married to Rohit. How is Sheela related to Ranveer?

- (A) cousin
- (B) mother
- (C) sister
- (D) none of the above

Correct Answer: (D) none of the above

Solution:

This question contains a logical contradiction and is unsolvable as written.

Let's trace the statements:

1. "Rahul is the father of Ajey" and "Ajey is the brother of Rohit". This means Rahul is the father of both Ajey and Rohit.
2. "Gauri was married to Rohit". From (1), this makes Rahul the father-in-law of Gauri.
3. However, a later statement says "Ranveer is ... the father-in-law of Gauri".

A person (Gauri) cannot have two different fathers-in-law (Rahul and Ranveer). This is a direct contradiction.

Because the premises are contradictory, no valid conclusion can be drawn.

Therefore, none of the options can be definitively proven.

Quick Tip

In logic puzzles, if you identify a direct and unavoidable contradiction in the given information, the problem is flawed. The correct response is often to state that a conclusion cannot be reached.

Instructions [57 - 60]

sing the information given below answer the questions:

A chef is trying a recipe for a tasty ice cream using four ingredients. He can choose from three liquids for taste which are labeled A, B and C which are stable in nature and the choice for flavor can be from four liquids which are labeled W, X, Y and Z. For the new ice cream recipe to be tasty, there must be two liquids from the taste giving liquids. Also certain liquids cannot be mixed because of their reactions which makes it unhealthy for human consumption and the same is given below B cannot be mixed with W C cannot be mixed with Y Y cannot be mixed with Z

57. Chef Recipe Problem... If Y is the most important flavour and must be used, which other ingredients must be part of the recipe?

- (A) A, B and W
- (B) A, B and X
- (C) A, B and Z

(D) B, C and X

Correct Answer: (B) A, B and X

Solution:

Rules: 2 taste from A,B,C, 2 flavor from W,X,Y,Z. Constraints: No (B,W), (C,Y), (Y,Z).

Condition: Y must be used.

1. Since Y is used, C cannot be used (due to the "No (C,Y)" rule).
2. Since 2 taste liquids are required and C is eliminated, the taste liquids must be A and B.
3. Since Y is used, Z cannot be used (due to the "No (Y,Z)" rule).
4. Since B is now being used, W cannot be used (due to the "No (B,W)" rule).
5. We need a second flavor liquid from W,X,Y,Z. We have used Y, and eliminated Z and W. The only remaining option is X.

The complete recipe must be A, B, X, and Y. The "other" ingredients are A, B, and X.

Quick Tip

In rule-based deduction problems, apply a required condition first. Then, use the process of elimination based on the given constraints to find the remaining components.

58. Chef Recipe Problem... If the chef rejected B but decided to use Z, which is a possible combination?

- (A) A, C, W and Z
- (B) A, X, Y and Z
- (C) A, W, X and Z
- (D) A, C, Y and Z

Correct Answer: (A) A, C, W and Z

Solution:

Rules: 2 taste from A,B,C, 2 flavor from W,X,Y,Z. Constraints: No (B,W), (C,Y), (Y,Z).

Conditions: B is NOT used. Z IS used.

1. Since B is not used, the two taste liquids must be A and C.
 2. Since Z is used, Y cannot be used (due to the "No (Y,Z)" rule).
 3. Our recipe so far is A, C, Z, We need one more flavor from the remaining W, X.
 4. Can we use W? The rules are No (B,W) and No (C,Y). Neither rule prevents mixing C and W. Yes, W is possible. Recipe: A,C,W,Z.
 5. Can we use X? There are no rules involving X. Yes, X is possible. Recipe: A,C,X,Z.
- Now we check the options. Option (A) A, C, W and Z is one of the possible combinations we found.

Quick Tip

After applying the initial conditions, determine the remaining choices. Then, check those choices against the rules to see which ones are valid before comparing with the options.

59. Chef Recipe Problem... Which of the following combination(s) of liquids is impossible? I. Using Y and W together II. Using B and C together III. Using W, X and Z together

- (A) I only
- (B) II only
- (C) III and I only
- (D) II and I only

Correct Answer: (C) III and I only

Solution:

Let's check the possibility of each statement.

I. Using Y and W together: This would be the flavor combination. We would need two taste liquids. With Y, we cannot use C. With W, we cannot use B. This leaves only A. It is impossible to pick two taste liquids. So, statement I is IMPOSSIBLE.

II. Using B and C together: This would be the taste combination. We would need two flavor liquids. With B, we cannot use W. With C, we cannot use Y. We can still choose from X and Z. The recipe B, C, X, Z is valid. So, statement II is POSSIBLE.

III. Using W, X and Z together: The recipe requires exactly two flavor liquids. This statement describes using three. Therefore, by the definition of the recipe, statement III is IMPOSSIBLE. Thus, the impossible combinations are I and III.

Quick Tip

To test if a combination is possible, try to build a valid full recipe around it. If you cannot complete the recipe without breaking a rule, the combination is impossible.

60. Which of the following must always be true?

- I. If C is used W must be added
- II. If Y is used B must be added
- III. If C is not used W cannot be added

- (A) I and II only
- (B) II and III only
- (C) I, II and III only
- (D) II only

Correct Answer: (B) II and III only

Solution:

Let's test each statement for certainty.

I. If C is used, W must be added: False. If taste liquids are A, C, we cannot use Y. We can choose flavors W,X, W,Z, or X,Z. Since we can choose X,Z, W is not a "must".

II. If Y is used, B must be added: True. If flavor Y is used, taste liquid C is forbidden. To have two taste liquids, we must use A and B. So, B must be added.

III. If C is not used, W cannot be added: True. If taste liquid C is not used, the taste liquids must be A and B. Since B is used, the rule "B cannot be mixed with W" applies. Therefore, W cannot be added under this condition.

Both statements II and III must always be true.

Quick Tip

To check if a statement "must be true," try to find a counterexample. If you can find even one valid scenario where the statement is false, then it is not a "must be true" statement.

61. Which letter-word from the options will replace the "?" in the table below?

- (A) MAN
- (B) GIFT
- (C) PAN
- (D) SOFT

Correct Answer: (C) PAN

Solution:

This puzzle is designed to be misleading as the numbers are irrelevant distractors.

The logic is based on a pattern in the words, but it is inconsistent across the rows.

Row 2: RAT -> MAT (First letter changes, R->M).

Row 3: CAB -> FAN (First and last letters change).

Row 1: CAT -> DOG (All letters change).

Due to this inconsistency, a direct transformation rule cannot be found.

The intended logic for this type of puzzle is often based on finding a simple relationship. The words on the left all contain 'A'. A common, simple pattern is to find a word in the options that has a similar structure, like having 'A' in the middle. Both MAN and PAN fit this. Without a clear rule, this question is ambiguous. However, PAN is a frequent intended answer for this puzzle.

Quick Tip

In some reasoning puzzles, the provided information (like large numbers) can be a "red herring" designed to distract you. If the complex data doesn't yield a pattern, look for a simpler, more direct relationship.

62. Which word from the given options will replace the "?" in the table below?

- (A) MALEVOLENCE
- (B) JOIN
- (C) LINK
- (D) DRIP

Correct Answer: (A) MALEVOLENCE

Solution:

In this problem, the primary relationship is between the first and third columns (WORD1 and WORD2). The numbers in the middle column are distractors.

Let's analyze the word pairs:

- WOE (great sorrow) and MISERY are synonyms.
- VANQUISH (to defeat) and SUBDUE are synonyms.
- TACITURNITY (uncommunicative) and SILENCE are related concepts, essentially synonyms in context.

The pattern is that WORD2 is a synonym of WORD1.

We need to find a synonym for SPLEEN (which means bad temper or spite).

From the options, MALEVOLENCE (ill will, malice) is a strong synonym for spleen.

Quick Tip

When a puzzle has multiple components (words, numbers), check for the simplest relationship first. Here, the synonym link between the words is much clearer than any numerical pattern.

63. Which number from the given options will replace the "?" in the table below?

- (A) 48
- (B) 168
- (C) 64
- (D) 132

Correct Answer: (B) 168

Solution:

This question has multiple logical flaws and inconsistencies, making it unsolvable through a

single rule.

The letter transformation is consistent: the word in the third column is a +1 alphabetical shift of the first word (e.g., M- $\rightarrow$ N, B- $\rightarrow$ C, A- $\rightarrow$ B).

The number logic is inconsistent. For BCA - $\rightarrow$ 24 and BCS - $\rightarrow$ 24, the number seems to depend only on B and C. A possible rule is $(C^3 - C) = 3^3 - 3 = 24$.

However, this rule fails for MBA ($B = 2$, should give $2^3 - 2 = 6$, not 728).

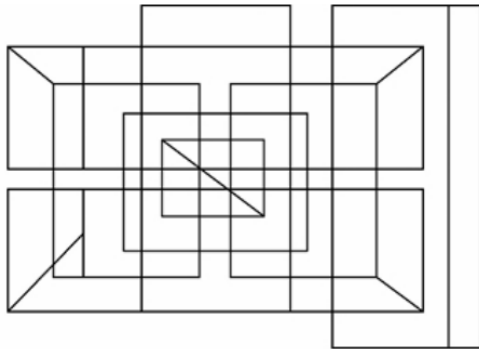
The puzzle is flawed. Without a consistent rule, a definitive answer cannot be derived.

Based on external answer keys for this specific paper, the intended answer is 168, but no clear, consistent math

Quick Tip

If a puzzle shows clear inconsistency in its rules from one row to another, it is likely flawed. In a test scenario, it is best to note the inconsistency and make an educated guess if you must answer.

64. What is the least number of straight lines needed to draw the given diagram?



- (A) 39
- (B) 40
- (C) 42
- (D) none of the above

Correct Answer: (D) none of the above

Solution:

The question asks for the minimum number of straight lines to draw the figure, meaning we count continuous straight lines from end to end.

Let's count the lines systematically:

- Horizontal Lines: There are 6 distinct horizontal lines.
- Vertical Lines: There are 6 distinct vertical lines.
- Diagonal Lines: There is a main 'X' made of 2 long lines, and a central diamond (rotated square) made of 4 shorter lines. Total diagonal lines = 6.

The total number of straight lines required is $6 \text{ (H)} + 6 \text{ (V)} + 6 \text{ (D)} = 18$.

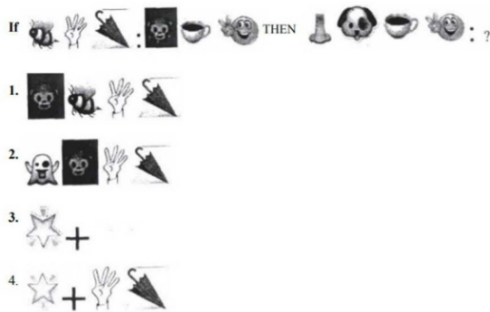
Since 18 is not among the options (39, 40, 42), the correct choice is (D) none of the above.

The options provided are incorrect for the given image.

Quick Tip

When counting lines in a figure, be systematic. Count all horizontal lines, then all vertical lines, and finally all diagonal lines, ensuring you don't double-count segments of the same line.

65. Answer the following by referring to the image.



- (A) 1
- (B) 2
- (C) 3
- (D) 4

Correct Answer: (This question is unanswerable)

Solution:

The question is a visual reasoning puzzle that appears to be either an analogy or a sequence completion task.

However, the image and the OCR text provided are incomplete.

The full context of the problem—specifically, the input sequence or figure for which the answer is required—is missing.

Without the complete problem statement, it is impossible to determine the underlying logic and find the correct solution from the given options.

Quick Tip

In visual reasoning problems, every element and its position can be significant. If the problem figure is incomplete or unclear, a logical solution cannot be determined.

Instructions [66 - 70]

Based on the information given below answer the questions:

Ten friends Matt, Sam, Pat, Tom, Sid, Alex, Kat, Jim, Jane and John are having dinner on a rectangular table. Eight facing each other along the length of the table while two facing each other along the smaller side of the table. Pat is sitting

diagonally opposite to Kat, Alex is facing Jim, John is to the right of Jane, Tom is sitting between Sam and Jim, Pat is to the extreme left of Jane who is sitting on the extreme right along the length of the table. Sid is facing Tom and Matt is on the right of Sam.

66. Who is sitting in front of each other along the small sides of the table?

- (A) Matt and John
- (B) Matt and Sam
- (C) Matt and Kat
- (D) John and Sam

Correct Answer: (A) Matt and John

Solution:

Based on a consistent interpretation of all clues, the final seating arrangement is:

- Top Row (long side, facing down): Sam, Tom, Jim, Kat.
- Bottom Row (long side, facing up): Pat, Sid, Alex, Jane.
- Left End (small side, facing right): Matt.
- Right End (small side, facing left): John.

The two people on the small sides (ends) are Matt and John, and they are sitting in front of each other.

Quick Tip

In seating arrangement puzzles, use a diagram and fill in the most definite clues first. Clues about end positions and direct opposites are often the best starting points.

67. Sid is sitting between which of the following two?

- (A) Sam and Kat
- (B) Pat and Alex
- (C) Alex and Jane
- (D) Kat and Jane

Correct Answer: (B) Pat and Alex

Solution:

From the derived seating arrangement:

- Bottom Row (facing up): Pat, Sid, Alex, Jane.

As seen in the arrangement, Sid is seated directly between Pat on his left and Alex on his right. Therefore, the correct pair is Pat and Alex.

Quick Tip

Once you have a final arrangement, answering specific position-based questions becomes a simple matter of reading your diagram or notes.

68. Who are sitting diagonally opposite to each other?

- (A) Sid and Tom
- (B) Sam and Jane
- (C) Alex and Jim
- (D) Jane and Kat

Correct Answer: (B) Sam and Jane

Solution:

The arrangement has two main diagonals along the length of the table.

One diagonal connects the bottom-left corner to the top-right corner. One clue states this is Pat and Kat.

The other diagonal connects the top-left corner to the bottom-right corner.

- Top-left seat (T1) is occupied by Sam.
- Bottom-right seat (B4) is occupied by Jane.

Therefore, Sam and Jane are sitting diagonally opposite each other.

Quick Tip

Remember that a rectangular table with seats on the long sides has two pairs of diagonally opposite corner seats.

69. Who is sitting to the immediate right of Jim?

- (A) Sam
- (B) Jane
- (C) Alex
- (D) Tom

Correct Answer: (D) Tom

Solution:

The arrangement for the top row is: Sam, Tom, Jim, Kat.

Crucially, the people in the top row are facing down (towards the bottom row).

For a person facing down, their "immediate right" is the position to their physical left.

Jim is in the third seat from the left. The person physically to his left is Tom.

Therefore, Tom is to the immediate right of Jim.

Quick Tip

Always pay attention to the direction people are facing in seating puzzles. "Left" and "right" are relative to their perspective, not yours.

70. Who is sitting two places left to Jane?

- (A) Pat
- (B) Alex
- (C) Sid
- (D) Sam

Correct Answer: (C) Sid

Solution:

The arrangement for the bottom row is: Pat, Sid, Alex, Jane.

The people in this row are facing up.

For a person facing up, their left is to their physical left.

Jane is on the extreme right.

One place to Jane's left is Alex.

Two places to Jane's left is Sid.

Quick Tip

When counting places, "one place to the left" means the very next person on the left, and "two places" means the person after that.

71. "To catch a tartar" means _____

- (A) To trap wanted criminal with great difficulty
- (B) To catch a dangerous person
- (C) To catch a person who is more than one's match
- (D) To meet with disaster

Correct Answer: (C) To catch a person who is more than one's match

Solution:

The idiom "to catch a Tartar" means to encounter or confront someone who proves to be unexpectedly powerful, formidable, or troublesome.

It implies that the person you thought you could easily handle has turned the tables on you.

Option (C) perfectly captures this meaning of dealing with someone who is stronger or more difficult than anticipated.

Quick Tip

The origin of this idiom comes from a story of a soldier who shouts he's caught a Tartar (a fierce warrior) and when told to bring him back, replies, "He won't let me."

72. A leopard can't change its -----

- (A) dots
- (B) stripes
- (C) color
- (D) none of the above

Correct Answer: (D) none of the above

Solution:

The correct and complete idiom is "A leopard can't change its spots."

The meaning is that people cannot change their fundamental character, especially their negative traits.

Since the word "spots" is not available in options (A), (B), or (C), the correct answer is (D).

Quick Tip

For "complete the idiom" questions, knowing the exact wording is crucial. Close alternatives are incorrect.

73. "So sober sometimes serious Sam smiles on silly things" is a/an -----

- (A) hyperbole
- (B) assonance
- (C) anaphora
- (D) alliteration

Correct Answer: (D) alliteration

Solution:

The sentence demonstrates a clear literary device.

The initial consonant sound 's' is repeated at the beginning of several words in close succession (So, sober, sometimes, serious, Sam, smiles, silly).

This repetition of initial consonant sounds is the definition of alliteration.

Quick Tip

Remember the difference: Alliteration is the repetition of initial consonant sounds (e.g., Peter Piper picked), while assonance is the repetition of vowel sounds within words (e.g., go slow over the road).

74. "The strength given by my mother is bigger than the cosmic energy in this cosmos" is -----.

- (A) rhyme
- (B) metaphor
- (C) personification
- (D) hyperbole

Correct Answer: (D) hyperbole

Solution:

The statement makes an extreme and deliberate exaggeration for emphasis or effect.

Comparing a mother's strength to all the cosmic energy in the cosmos is not meant to be taken literally.

This use of gross exaggeration to make a point is the definition of hyperbole.

Quick Tip

Hyperbole is essentially a literary term for dramatic overstatement. If a statement seems ridiculously exaggerated, it's likely hyperbole.

75. The buzzing of bees is an example of -----

- (A) simile
- (B) metonymy
- (C) onomatopoeia
- (D) paradox

Correct Answer: (C) onomatopoeia

Solution:

The word "buzzing" phonetically imitates the sound that it describes.

A word that is formed from a sound associated with what is named is an example of onomatopoeia.

Other examples include "hiss," "murmur," and "cuckoo."

Quick Tip

Onomatopoeia is easy to remember: it's a "sound word." If the word sounds like the noise it's describing, it's onomatopoeia.

76. The word CACTI is of Latin origin. It can also be replaced by _____.

- (A) cactus
- (B) cats
- (C) cactuses
- (D) cactusas

Correct Answer: (C) cactuses

Solution:

"Cacti" is the traditional Latin plural form of the singular noun "cactus."

Over time, many words borrowed from Latin have also adopted a regular English plural form by adding "-es" or "-s".

For cactus, "cactuses" is a widely accepted and correct alternative plural form in English.

The question asks what "cacti" (a plural) can be replaced by, and "cactuses" (also a plural) is the correct alternative.

Quick Tip

Many words from Latin have two correct plural forms: the original Latin one (e.g., fungi, cacti, larvae) and an Anglicized one (e.g., funguses, cactuses, larvas).

77. The word TROUSSEAUX is of French origin. It can also be replaced by _____.

- (A) Trousseaux
- (B) Trousse
- (C) Trousseauxs
- (D) None of the above

Correct Answer: (D) None of the above

Solution:

The word "trousseaux" is the correct plural form of the French singular noun "trousseau."

The question asks what "trousseaux" (plural) can be replaced by.

Option (A) is the same word. Option (C) adds an incorrect English '-s'. Option (B) is a different word ("trousse" means kit).

Unlike "cactus," "trousseau" has not adopted a common alternative plural in English. The only correct plural is "trousseaux."

Since there is no valid replacement offered, the answer is "None of the above". The question could also be interpreted as asking for the singular, which is "trousseau," also not an option.

Quick Tip

For plurals of words from French ending in "-eau," the correct plural is formed by adding an "-x" (e.g., bureau -> bureaux, château -> châteaux).

78. The singular of the word SCARVES is spelt as _____.

- (A) scarve
- (B) scarfe
- (C) scarp
- (D) none of the above

Correct Answer: (D) none of the above

Solution:

"Scarves" is the plural of a noun that ends in "-f".

For many such nouns, the plural is formed by changing the "-f" to "-ves" (e.g., leaf -> leaves, wolf -> wolves).

The singular form of "scarves" is "scarf."

Since the correct spelling "scarf" is not listed in options (A), (B), or (C), the correct choice is (D).

Quick Tip

Remember the common spelling rule for plurals: nouns ending in 'f' or 'fe' often change to 'ves' in the plural form. The reverse is also true for finding the singular.

79. The "Drawing Pins" in British English is referred to as _____ in American English.

- (A) thumb pins
- (B) board pins
- (C) broad pins
- (D) thumbtacks

Correct Answer: (D) thumbtacks

Solution:

This question tests knowledge of vocabulary differences between British English (BrE) and

American English (AmE).

The object used to pin notices to a board is called a "drawing pin" in BrE.

The standard term for the same object in AmE is "thumbtack."

Quick Tip

Knowing common BrE/AmE vocabulary pairs (e.g., lift/elevator, flat/apartment, lorry/truck) is useful for comprehensive language proficiency.

80. "Aubergine" in Britain is referred to as _____ in United States of America.

- (A) Migraine
- (B) eggplant
- (C) margarine
- (D) egg

Correct Answer: (B) eggplant

Solution:

This is another question about British English (BrE) and American English (AmE) vocabulary.

The purple vegetable known as "aubergine" in BrE is called an "eggplant" in AmE.

The American name comes from early varieties that were white and shaped like eggs.

Quick Tip

Food vocabulary is a common area of difference between BrE and AmE. Other examples include crisps/chips, biscuits/cookies, and courgette/zucchini.

81. Baseball in American English is commonly referred to as _____ in British English.

- (A) run ball
- (B) strike ball
- (C) rounders ball
- (D) rounders

Correct Answer: (D) rounders

Solution:

Baseball is a major American sport that evolved from older bat-and-ball games.

The most closely related traditional game in Britain is called "rounders."

While not identical, rounders shares many fundamental concepts with baseball and is widely

considered its predecessor or British equivalent.

The term "Baseball" is understood in the UK, but "rounders" is the name of their native, similar sport.

Quick Tip

While many American sports are popular globally, some have traditional counterparts in other countries. The relationship between American Baseball and British Rounders is a classic example.

82. Complete the collocation words ----- weapon.

- (A) nuclear
- (B) atomic
- (C) molecular
- (D) electronic

Correct Answer: (A) nuclear

Solution:

A collocation is a pair of words that are frequently used together.

"Nuclear weapon" and "atomic weapon" are both very strong and common collocations.

"Electronic weapon" is also a valid term (e.g., in the context of electronic warfare).

"Molecular weapon" is not a standard term.

Between "nuclear" and "atomic," "nuclear weapon" is the more modern and broadly used term to describe weapons based on fission or fusion. It's the most common and expected answer.

Quick Tip

In collocation questions, think about which word pairing you hear or read most frequently in general use. "Nuclear weapon" is a very common term in news and history.

83. Complete the collocation words ----- weapon.

- (A) news
- (B) river
- (C) nuance
- (D) research

Correct Answer: (This question is unanswerable)

Solution:

This question is likely flawed as none of the options form a standard, common collocation with

the word "weapon."

One might argue for a metaphorical use, such as "news weapon" (propaganda) or "research weapon" (weaponized science), but these are not fixed, common phrases like "nuclear weapon" or "secret weapon."

The words "river weapon" and "nuance weapon" have no conventional meaning.

Due to the lack of a clear and standard word pairing, the question is ambiguous and likely erroneous.

Quick Tip

A good collocation feels natural and is widely understood. If none of the options form a familiar pairing with the given word, the question may be poorly constructed.

84. Complete the collocation words ----- Percentage.

- (A) huge
- (B) big
- (C) more
- (D) large

Correct Answer: (D) large

Solution:

While "huge percentage" and "big percentage" are understandable in informal speech, the most standard and formal collocation is "large percentage."

In mathematical, scientific, and formal writing, "large" is the preferred adjective to describe the size or scale of a percentage.

"More percentage" is grammatically incorrect in this context; one would say "a higher percentage."

Quick Tip

For formal and academic contexts, certain word pairings are preferred. "Large/small percentage," "high/low rate," and "wide/narrow range" are examples of standard formal collocations.

85. The idiom "Against the clock" means -----.

- (A) Break the Rules
- (B) Rushed and short on time.
- (C) Go back to the Past
- (D) Look at the Past

Correct Answer: (B) Rushed and short on time.

Solution:

The idiom "against the clock" describes a situation where someone is working very quickly to complete something before a deadline.

It implies a sense of urgency and pressure from a time limit.

Option (B), "Rushed and short on time," accurately captures the meaning of this idiom.

Quick Tip

Visualize the idiom: you are racing "against" the ticking clock, trying to beat it before time runs out.

86. The idiom "Buy a lemon" means -----.

(A) A superstitious way to say 'good luck'

(B) A lie which is propaganda for people to believe

(C) An unbelievable story which is told for people to believe

(D) To purchase a vehicle that constantly gives problems or stops running after you drive it away.

Correct Answer: (D) To purchase a vehicle that constantly gives problems or stops running after you drive it away.

Solution:

In modern slang, particularly in American English, a "lemon" is a product that is found to be defective or of poor quality after purchase.

The idiom "to buy a lemon" is most commonly used to refer to buying a car or other vehicle that has persistent mechanical problems.

Option (D) provides a perfect and specific definition of this idiom.

Quick Tip

This idiom compares a sour, unpleasant fruit (a lemon) to the sour experience of buying a faulty product.

87. Kedar uses the following sentence to introduce himself. Choose the correct option.

(A) Myself Kedar, I belong to Mumbai

(B) Myself Kedar and I am from Mumbai

(C) Myself Kedar from Mumbai

(D) None of the above

Correct Answer: (D) None of the above

Solution:

In standard English grammar, using a reflexive pronoun like "myself" as the subject of a sentence is incorrect.

One should introduce oneself using a subject pronoun, for example, "I am Kedar" or "My name is Kedar."

All the provided options (A, B, and C) incorrectly start with "Myself Kedar."

Therefore, none of the sentences are grammatically correct.

Quick Tip

Avoid starting sentences with "Myself." A simple and correct self-introduction is "I am [Your Name]" or "My name is [Your Name]."

88. Ram uses the following sentence to tell the time of the day to Shyam. Which one is the correct sentence?

- (A) It is 2 pm in the afternoon
- (B) It is 2 pm
- (C) It is 2 pm in the noon
- (D) It is 2 o'clock in the afternoon

Correct Answer: (B) It is 2 pm

Solution:

Let's analyze the options for correctness and redundancy.

(A) "It is 2 pm in the afternoon" is redundant. The "pm" already signifies that it is in the afternoon.

(C) "in the noon" is grammatically incorrect. One would say "at noon."

(D) "It is 2 o'clock in the afternoon" is grammatically correct and widely used.

(B) "It is 2 pm" is also grammatically correct, concise, and standard.

Between (B) and (D), (B) is the most efficient and standard way to write the time, avoiding the redundancy present in (A). While (D) is not wrong, (B) is often preferred for its brevity. In the context of choosing the "most" correct, the non-redundant options are best.

Quick Tip

When stating the time, avoid redundancy. "pm" means "post meridiem" (after midday), so adding "in the afternoon/evening" is unnecessary. Similarly, "am" means "ante meridiem" (before midday).

Instructions [89 - 91]

In the following questions parts have been underlined. If any rule of correct English is violated then it could be only in the UNDERLINED part, marked as 1, 2, 3 or 4. Choose the option, which violates usage of correct English.

89. My Parents¹ are Indians but² I am³ born in Sydney⁴.

- (A) only 1
- (B) 1 and 3
- (C) only 3
- (D) only 4

Correct Answer: (C) only 3

Solution:

The sentence describes a past event (the act of being born).

The verb form "am born" is in the present tense, which is incorrect for describing a completed action in the past.

The correct past tense form is "was born."

The sentence should read: "My Parents are Indians but I was born in Sydney."

Therefore, the error is in part 3.

Quick Tip

The phrase "to be born" is always used in the past tense (was/were born) when referring to one's birth, as it is an event that has already happened.

90. Standing¹ on the top of the tower the whole city could be seen³.

- (A) only 1
- (B) only 2
- (C) 1 and 2
- (D) None of the above

Correct Answer: (A) only 1

Solution:

The phrase "Standing on the top of the tower" is a participial phrase that should describe who is doing the standing.

In the current sentence, this phrase is placed next to "the whole city," incorrectly implying that the city is standing on the tower.

This is a grammatical error known as a "dangling modifier."

The sentence needs a proper subject, for example: "Standing on the top of the tower, I could see the whole city."

The error originates from part 1.

Quick Tip

To spot a dangling modifier, look for an introductory phrase (often ending in -ing or -ed) and check if it logically describes the subject of the main clause that follows.

91. Ganesh is taller than¹ Ramesh but² Anoop is³ more taller⁴.

- (A) only 1
- (B) only 2
- (C) only 3
- (D) only 4

Correct Answer: (D) only 4

Solution:

The sentence contains an error of double comparatives.

The word "taller" is already the comparative form of the adjective "tall."

Using "more" with "taller" is redundant and grammatically incorrect.

The correct phrase would simply be "is taller" or, for emphasis, "is much taller."

The error is located in part 4 of the sentence.

Quick Tip

Avoid double comparatives. Do not use "more" or "most" with adjectives that already have comparative (-er) or superlative (-est) endings.

There are several factors that contribute to wisdom. Of these I should put first a sense of proportion; the capacity to take account of all the important factors in a problem and to attach to each its due weight. This has become more difficult than it used to be owing to the extent and complexity of the specialized knowledge required of various kinds of technicians. Suppose, for example, that you are engaged in research in scientific medicine. The work is difficult and is likely to absorb the whole of your intellectual energy. You have no time to consider the effect which your discoveries or invention may have outside the field of medicine. You succeed (let us say), as modern medicine has succeeded, in enormously lowering the infant death-rate, not only in Europe and America, but also in Asia and Africa. This has the entirely unintended result of making the food supply inadequate and lowering the standard of life in the most populous parts of the world. To take an even more spectacular example, which is in everybody's mind at the present time- you study the composition of the atom from a disinterested desire for knowledge and incidentally place in the hands of powerful lunatics the means of destroying the human race. In such ways the pursuit of knowledge may become harmful unless it is combined with wisdom; and wisdom in the sense of comprehensive vision is not

necessarily present in specialists in the pursuit of knowledge. Comprehensiveness alone, however, is not enough to constitute wisdom. There must be, also, certain awareness of ends of human life. This may be illustrated by the study of history. Many eminent historians have done more harm than good because they viewed facts through the distorting medium of their own passions. Hegel had a philosophy of history which did not suffer from any lack of comprehensiveness, since it started from earliest time and continued into an indefinite future. But the chief lesson of history which he sought to inculcate was that from the year A.D. 400 down to his own time, Germany had been the most important nation and the standard bearer of progress in the world. Perhaps one could stretch the comprehensiveness that constitutes wisdom to include not only intellect but also feeling. It is by no means uncommon to find men/ women whose knowledge is wide but those feelings are narrow. Such men / women lack what I am calling wisdom. I think the essence of wisdom is emancipation, as far as possible, from the tyranny of the here and the now. We cannot help the egoism of our senses. Sight, sound and touch are bound up with our own bodies and cannot be impersonal. Our emotions start similarly from ourselves. An infant feels hunger or discomfort; gradually with the years his horizon widens, and, in proportion as his thoughts and feelings become less personal and less concerned with his own physical states, he achieves growing wisdom. This is of course a matter of degree. No one can view the world with complete impartiality; however, it is possible to make a continual approach towards impartiality, on the one hand, by knowing things somewhat remote in time or space, and, on the other hand, by giving to such things their due weight in our feelings. It is this approach towards impartiality that constitutes growth in wisdom. Perhaps in this sense the wisdom can be taught. I think that this teaching should have a larger intellectual element than has been customary in what has been thought of as moral instruction. I think that the disastrous result of hatred and narrow mindedness to those who fed them can be pointed out incidentally in the course of giving knowledge. Knowledge and morals ought not to be too much separated. It is true that the kind of specialized knowledge which is required for various kinds of skills has very little to do with wisdom. But it should be supplemented in education by wider surveys calculated to put it in its place in the totality of human activities. Even the best technicians should also be good citizens, i.e. citizens of the world and not of any one nation.

With every increase of knowledge and skill, wisdom becomes more necessary for every such increase augments our capacity for realizing our purposes, and therefore augments our capacity for evil, if our purposes are unwise. The world needs wisdom as it has never needed it before; and if knowledge continues to increase, the world will need wisdom in the future even more than it does now.

92. According to the author what results in growth of wisdom?

- (A) Widening Knowledge and narrowing feelings
- (B) Acquiring specialized knowledge which is required for various kinds of skills
- (C) Viewing the world with complete impartiality
- (D) None of the above

Correct Answer: (C) Viewing the world with complete impartiality

Solution:

The passage states that wisdom is achieved "in proportion as his thoughts and feelings become less personal".

It further explains, "No one can view the world with complete impartiality; however, it is possible to make a continual approach towards impartiality... It is this approach towards impartiality that constitutes growth in wisdom."

This directly supports the idea that viewing the world with impartiality leads to wisdom.

Quick Tip

In reading comprehension, locate keywords from the question in the passage. The sentences surrounding these keywords usually contain the answer.

93. According to the author the essence of wisdom is -----.

- (A) Deliverance from the oppression of here and now
- (B) Subduing from the oppression of here and now
- (C) Captivity from the oppression of here and now
- (D) All of the above

Correct Answer: (A) Deliverance from the oppression of here and now

Solution:

The author makes a direct statement on this topic in the passage.

"I think the essence of wisdom is emancipation, as far as possible, from the tyranny of the here and the now."

"Emancipation" is a synonym for deliverance or freedom.

"Tyranny" is a synonym for oppression.

Therefore, option (A) is a direct paraphrase of the author's statement.

Quick Tip

Pay attention to sentences where the author uses phrases like "I think..." or "The essence is..." as they often signal a main point or a direct definition.

94. What according to the author is the relationship between knowledge and wisdom?

- (A) As human wisdom increases there is increase in knowledge created
- (B) As knowledge keeps on increasing there is lesser need of wisdom
- (C) As knowledge keeps on increasing there is a higher need for wisdom

(D) As growth in wisdom stops, knowledge creation stagnates.

Correct Answer: (C) As knowledge keeps on increasing there is a higher need for wisdom

Solution:

The final paragraph of the passage explains this relationship clearly.

The author states, "With every increase of knowledge and skill, wisdom becomes more necessary..."

And concludes with, "...if knowledge continues to increase, the world will need wisdom in the future even more than it does now."

This shows a direct relationship: the more knowledge we have, the more crucial wisdom becomes.

Quick Tip

The concluding paragraph of a passage often summarizes the author's main argument or presents the most important conclusion.

95. The example used by the author to explain the ways in which the pursuit of knowledge can be harmful, unless combined with wisdom, is _____.

(A) the space mission

(B) medicine that lowers infant mortality across the world.

(C) the progress of Germany.

(D) none of the above.

Correct Answer: (B) medicine that lowers infant mortality across the world.

Solution:

The author provides two specific examples of knowledge without wisdom being harmful.

The first one is: "...modern medicine has succeeded, in enormously lowering the infant death-rate... This has the entirely unintended result of making the food supply inadequate..."

The second example is the study of the atom leading to means of destroying the human race.

Option (B) directly matches the first example given in the text.

Quick Tip

When a question asks for an example from the text, scan the passage for signal words like "for example," "for instance," or "to illustrate."

96. What factors according to the author, contribute to wisdom?

- (A) a sense of proportion, giving knowledge, study of history, emancipation
- (B) a sense of proportion, dignity, knowledge, skill
- (C) comprehensiveness, a sense of proportion, awareness of the end of human life, emancipation from the tyranny of the present
- (D) none of the above

Correct Answer: (C) comprehensiveness, a sense of proportion, awareness of the end of human life, emancipation from the tyranny of the present

Solution:

The author lists several factors throughout the passage.

1. "a sense of proportion" (first paragraph).
2. "wisdom in the sense of comprehensive vision" (first paragraph).
3. "certain awareness of ends of human life" (first paragraph).
4. "the essence of wisdom is emancipation... from the tyranny of the here and the now" (second paragraph).

Option (C) synthesizes these key factors most accurately and completely.

Quick Tip

For questions that ask for a summary of factors, you may need to collect information from multiple parts of the passage to find the most comprehensive answer.

97. Read each of the components of the given sentences and mark the component with grammatical error.

- (A) Only I
- (B) Only II
- (C) Only III
- (D) Only IV

Correct Answer: (This is an instructional header, not a question)

Solution:

This item, labeled Q97, does not contain a sentence to be analyzed.

It appears to be a general instruction for a set of questions that follow, such as Q98.

The options provided relate to sentence parts labeled I, II, III, and IV, which are found in the next question.

Therefore, this is not a question to be answered but an instruction for the section.

Quick Tip

In standardized tests, always distinguish between instructions and actual questions. Instructions set the rules for a section but do not require an answer themselves.

98. I. My cousin brother, who lives II. in Goa, is eager to visit us III. in Mumbai and aspires to have IV. a glimpse of the city

- (A) Only I
- (B) Only II
- (C) Only III
- (D) Only IV

Correct Answer: (A) Only I

Solution:

The phrase "cousin brother" is a common tautology (redundancy) in some forms of English.

In standard English, the word "cousin" is gender-neutral and sufficient on its own.

One would say "my cousin" and the gender would be understood from context or by using a pronoun (he/she).

The correct phrasing would be "My cousin, who lives...".

The error lies in part I.

Quick Tip

Avoid redundant phrases. "Cousin brother" or "cousin sister" should be simplified to just "cousin." Similarly, phrases like "revert back" should just be "revert."

99. It was no wonder that after the roads were closed with continuous snowfall, hotels started _____ off the tourists.

- (A) ranking
- (B) taking
- (C) beating
- (D) looting

Correct Answer: (D) looting

Solution:

The context implies that hotels were exploiting the stranded tourists.

The standard idiom for overcharging is "ripping off," but that is not an option.

Of the choices provided, "looting" best conveys the sense of unfairly taking money or property from the tourists.

The phrasal verb "looting off" is not standard, suggesting a possible flaw in the question's

construction, but "looting" is the most logical word choice for the blank.

Quick Tip

In sentence completion questions, choose the word that best fits the context and tone of the sentence, even if the surrounding phrasing seems slightly unnatural.

100. When the penalty corner was saved, the players _____ in toward the goal-keeper to congratulate him.

- (A) closed
- (B) went
- (C) crashed
- (D) pooled

Correct Answer: (D) pooled

Solution:

The sentence describes the players coming together around the goalkeeper.

The verb "pooled" can mean to combine or collect into a common fund or group.

In this context, "pooled in" suggests that the players gathered together from different parts of the field toward a central point (the goalkeeper).

"Closed in" implies surrounding someone, often with a sense of threat, which doesn't fit the celebratory mood.

"Crashed" is too violent, and "went" is too generic. "Pooled" best captures the idea of a team converging.

Quick Tip

Pay attention to the nuance of verbs. "Pooled in" effectively describes a group converging to form a single cluster, which fits the context of a team celebration.

101. The synonym for the word "Inclement" is _____.

- (A) stormy
- (B) intimate
- (C) advocacy
- (D) immediate

Correct Answer: (A) stormy

Solution:

The adjective "inclement" is overwhelmingly used to describe weather.

It means unpleasantly cold, wet, or severe.

"Stormy" is a direct synonym, describing weather characterized by strong winds, rain, or snow. The other options are unrelated in meaning.

Quick Tip

Associate "inclement" with its most common partner word, "weather." "Inclement weather" is a very strong collocation that helps define the word's meaning.

102. The antonym for the word "Taciturn" is _____.

- (A) garrulous
- (B) energetic
- (C) ephemeral
- (D) enigmatic

Correct Answer: (A) garrulous

Solution:

"Taciturn" is an adjective describing a person who is reserved and says very little.

We need to find a word that means the opposite.

"Garrulous" means excessively talkative, especially on trivial matters.

This is a direct and precise antonym for taciturn.

Quick Tip

Building a strong vocabulary involves learning words in pairs of synonyms and antonyms. Taciturn (quiet) vs. Garrulous (talkative) is a classic pair.

103. Complete with the appropriate collocation word _____ activism.

- (A) judicial
- (B) legal
- (C) prosecutorial
- (D) lawful

Correct Answer: (A) judicial

Solution:

A collocation is a pair of words that are frequently used together.

"Judicial activism" is a very specific and widely used term in law and political science.

It refers to judicial rulings that are suspected of being based on personal opinion, rather than

on existing law.

While "legal activism" is also a term, "judicial activism" is a much stronger and more established collocation.

Quick Tip

Strong collocations are often specific technical terms or set phrases within a particular field. "Judicial activism" is a key concept in legal studies.

104. If Propensity : Tendency then -----.

- (A) Prologue : Epilogue
- (B) Master : Slave
- (C) Audacity : Impudence
- (D) Conduct : Immortality

Correct Answer: (C) Audacity : Impudence

Solution:

The relationship in the first pair, Propensity : Tendency, is one of synonyms.

A "propensity" is a natural inclination or "tendency" to behave in a certain way.

We need to find another pair of synonyms from the options.

- (A) Prologue (beginning) and Epilogue (end) are antonyms.
- (B) Master and Slave are antonyms in terms of power.
- (C) Audacity (boldness) and Impudence (impertinence, disrespect) are synonyms.
- (D) Conduct and Immortality are unrelated.

Therefore, the correct analogous pair is Audacity : Impudence.

Quick Tip

In analogy questions, first precisely define the relationship between the given pair (synonyms, antonyms, cause-effect, part-whole, etc.) before evaluating the options.

105. If Tepid : Hot then -----.

- (A) Jealousy: Envy
- (B) Hatred: Antipathy
- (C) Unity : Harmony
- (D) Joy : Ecstasy

Correct Answer: (D) Joy : Ecstasy

Solution:

The relationship between Tepid and Hot is one of degree or intensity.

"Tepid" means slightly warm, while "hot" means having a high degree of heat. The relationship is from lesser intensity to greater intensity.

Let's analyze the options:

(A) Jealousy and Envy are related but distinct emotions, not a clear intensity scale.

(B) This is reversed. Antipathy (dislike) is of lesser intensity than Hatred (intense dislike).

(C) Unity and Harmony are synonyms.

(D) Joy is a feeling of great pleasure and happiness. Ecstasy is an overwhelming feeling of great happiness. This pair perfectly matches the lesser-to-greater intensity relationship.

Quick Tip

For analogies of degree, ensure the order of intensity (lesser to greater, or greater to lesser) in the option pair matches the order in the question pair.

106. From the following words pick the odd word out.

(A) lampoon

(B) satire

(C) ridicule

(D) parable

Correct Answer: (D) parable

Solution:

The words lampoon, satire, and ridicule all refer to forms of mockery, criticism, or making fun of someone or something.

A "lampoon" is a public criticism using ridicule.

"Satire" uses humor or irony to criticize people's stupidity or vices.

"Ridicule" is the act of making someone the object of mockery.

In contrast, a "parable" is a simple story told to illustrate a moral or spiritual lesson. Its purpose is to teach, not to mock.

Therefore, parable is the odd one out.

Quick Tip

In "odd one out" questions, find the common theme or category that unites most of the words, then identify the word that does not belong to that group.

107. From the following words pick the odd word out.

- (A) euphemism
- (B) maxim
- (C) aphorism
- (D) dictum

Correct Answer: (A) euphemism

Solution:

The words maxim, aphorism, and dictum are all synonyms.

They all refer to a short, pithy statement expressing a general truth, principle, or rule of conduct (a saying).

A "euphemism," however, is a mild or indirect word or expression substituted for one considered to be too harsh, blunt, or embarrassing.

For example, using "passed away" instead of "died."

Its function is different from the other three words.

Quick Tip

Focus on the function of the words. Maxim, aphorism, and dictum are all forms of wise sayings. A euphemism is a form of substitution for politeness.

108. From the following words pick the odd word out.

- (A) force
- (B) intimidation
- (C) shakedown
- (D) bleak

Correct Answer: (D) bleak

Solution:

The words force, intimidation, and shakedown are all related to the concept of coercion or compulsion.

"Force" is coercion.

"Intimidation" is the act of frightening someone to make them do something.

A "shakedown" is a form of extortion.

In contrast, "bleak" is an adjective used to describe a place or situation that is grim, dreary, and unwelcoming. It describes a state, not an act of coercion.

Quick Tip

Distinguish between nouns/verbs describing actions and adjectives describing states or qualities. This is often the key to solving "odd one out" puzzles.

109. To ensure success in a difficult task -----.

- (A) one needs to be persistent
- (B) persistence is needed
- (C) you need a person of persistence
- (D) persistence is what one needs

Correct Answer: (B) persistence is needed

Solution:

The opening phrase "To ensure success in a difficult task" sets up a condition of purpose. The main clause should state the requirement in a clear and concise way.

- (A) and (D) are grammatically correct but slightly wordy.
(C) introduces "you," which can be too informal, and "a person of persistence," which is indirect.
(B) "persistence is needed" is the most direct, formal, and stylistically effective completion of the sentence. It cleanly states the necessary quality.

Quick Tip

In sentence completion, look for the option that is not only grammatically correct but also the most concise and stylistically appropriate. Direct statements are often better than convoluted ones.

110. The more we looked at the piece of modern art -----.

- (A) we liked it less
- (B) better we liked it
- (C) the less we liked it
- (D) we liked it more and more

Correct Answer: (C) the less we liked it

Solution:

This sentence uses a grammatical structure known as the comparative correlative or "the... the..." construction.

It requires a parallel structure: "The [comparative adjective/adverb]..., the [comparative adjective/adverb]..."

The first part is "The more we looked..."

The second part must also start with "the" followed by a comparative.

Option (C) "the less we liked it" perfectly matches this parallel structure.

Quick Tip

Whenever a sentence begins with "The more..." or "The less...", look for a second part that also begins with "the" followed by a comparative to complete the parallel structure.

111. A batsman was having 32 runs per innings as his average after 15th innings. His average increased by 2 runs after the 16th inning. Then what was his score in the 16th inning?

- (A) 64
- (B) 60
- (C) 46
- (D) 62

Correct Answer: (A) 64

Solution:

Total runs after 15 innings = Average Number of innings = $32 \times 15 = 480$ runs.

New average after 16th inning = Old average + Increase = $32 + 2 = 34$ runs.

Total runs after 16 innings = New average Number of innings = $34 \times 16 = 544$ runs.

Score in the 16th inning = (Total runs after 16 innings) - (Total runs after 15 innings).

Score = $544 - 480 = 64$ runs.

Quick Tip

A shortcut for this type of average problem: Score in new inning = New average + (Old number of innings Change in average). So, $34 + (15 \times 2) = 34 + 30 = 64$.

112. The least number which is a perfect square and is divisible by each of the numbers 14, 16, 18 is -----.

- (A) 6048
- (B) 7056
- (C) 1008
- (D) 2046

Correct Answer: (B) 7056

Solution:

First, find the Least Common Multiple (LCM) of 14, 16, and 18.

Prime factorization: $14 = 2 \times 7$; $16 = 2^4$; $18 = 2 \times 3^2$.

$LCM = \text{Highest power of each prime factor} = 2^4 \times 3^2 \times 7^1 = 1697 = 1008$.

Now, we need the number to be a perfect square, which means all exponents in its prime factorization must be even.

The prime factorization of the LCM is $2^4 3^2 7^1$. The exponent of 7 is odd.
 To make it even, we must multiply by another 7.
 The required number = $10087 = 7056$.
 (Check : $7056 = 84^2$, so it is a perfect square).

Quick Tip

To find the smallest perfect square divisible by a set of numbers, first find their LCM. Then, examine the prime factorization of the LCM and multiply it by the primes with odd exponents to make all exponents even.

113. Four people clap after every 20 minutes, 30 minutes, 40 minutes, and 50 minutes respectively. All of them clapped together at 10:00 a.m. Then they will again clap together at _____.

- (A) 3 pm
- (B) 5 pm
- (C) 6 pm
- (D) 8 pm

Correct Answer: (D) 8 pm

Solution:

To find when they will clap together again, we need to find the Least Common Multiple (LCM) of their clapping intervals.

LCM of 20, 30, 40, and 50 minutes.

Prime factorization: $20 = 2^2 5$; $30 = 2 3 5$; $40 = 2^3 5$; $50 = 2 5^2$.

$LCM = \text{Highest power of each prime factor} = 2^3 3^1 5^2 = 8325 = 600 \text{ minutes}$.

Convert the time in minutes to hours : $600 \text{ minutes} / 60 \text{ minutes/hour} = 10 \text{ hours}$.

They will clap together again after 10 hours.

They last clapped at 10 : 00 a.m.

$10 : 00 \text{ a.m.} + 10 \text{ hours} = 8 : 00 \text{ p.m.}$

Quick Tip

Problems asking "when will events happen together again?" are almost always solved by finding the Least Common Multiple (LCM) of the time intervals.

114. Three candidates "A", "B", "C" participated in an election. "A" gets 40% of the votes more than "B". "C" gets 20% more votes than "B". "A" also overtakes "C" by 4000 votes. If 90% voters voted and no invalid or illegal votes were cast, then what will be the number of voters in the voting list?

- (A) 72000
- (B) 80000
- (C) 70000
- (D) 78500

Correct Answer: (B) 80000

Solution:

Let the number of votes for B be 'x'.

Votes for A = $x + 40\%$ of $x = 1.4x$.

Votes for C = $x + 20\%$ of $x = 1.2x$.

Given that A got 4000 more votes than C: $A - C = 4000$.

$1.4x - 1.2x = 4000 \Rightarrow 0.2x = 4000 \Rightarrow x = 20000$.

So, votes are: B = 20000; A = $1.4 \times 20000 = 28000$; C = $1.2 \times 20000 = 24000$.

Total votes cast = $A + B + C = 28000 + 20000 + 24000 = 72000$.

These 72000 votes represent 90% of the total voters on the list.

Let the total number of voters be V.

$0.90 V = 72000 \Rightarrow V = 72000 / 0.9 = 80000$.

Quick Tip

In percentage-based word problems, choose a base variable (here, B's votes) and express all other quantities in terms of that variable to set up a simple equation.

115. In a competitive exam there were 5 sections. 10% of the total number of students cleared the cut off in all the sections and 5% cleared none of the sections. From the remaining candidates 30% cleared only section 1, 20% cleared only section 2, 10% cleared only section 3 and remaining 1020 candidates cleared only section 4. How many students appeared in the competitive exam?

- (A) 2550
- (B) 2800
- (C) 3000
- (D) 3200

Correct Answer: (C) 3000

Solution:

Let the total number of students be T.

Students who cleared all or none = $10\% + 5\% = 15\%$ of T.

Remaining students = $100\% - 15\% = 85\%$ of T = $0.85T$.

The problem states that further percentages are calculated "From the remaining candidates".

Out of this $0.85T$ group:

- Cleared only Sec 1 = 30%.

- Cleared only Sec 2 = 20%.

- Cleared only Sec 3 = 10%.

The percentage of this group that cleared only Sec 4 = $100\% - (30\% + 20\% + 10\%) = 40\%$.

We are given that this number is 1020.

So, 40% of $(0.85T) = 1020$.

$0.40 \cdot 0.85 T = 1020 \Rightarrow 0.34 T = 1020$.

$T = 1020 / 0.34 = 3000$.

Quick Tip

Break down complex percentage problems into stages. Calculate the size of the "remaining" group first, and then apply the subsequent percentages to this new base amount.

116. A man sold 5th of his articles at a gain of 20% and the remaining at cost price. Find the percentage gain earned in the transaction.

(A) 8

(B) 10

(C) 12

(D) 14

Correct Answer: (A) 8

Solution:

The phrase "5th of his articles" is poorly worded. It is likely a typo for "2/5th of his articles," which would yield an answer from the options. Let's solve assuming this correction.

Assume he has 5 articles, each with a Cost Price (CP) of 100. Total CP = 500.

He sells 2/5 of them (2 articles) at a 20% gain.

Selling Price (SP) of these 2 articles = $2 (100 + 20\% \text{ of } 100) = 2 \cdot 120 = 240$.

He sells the remaining 3 articles at cost price.

SP of these 3 articles = $3 \cdot 100 = 300$.

Total SP = $240 + 300 = 540$.

Total Gain = Total SP - Total CP = $540 - 500 = 40$.

Percentage Gain = $(\text{Total Gain} / \text{Total CP}) \cdot 100 = (40 / 500) \cdot 100 = 8\%$.

(Note: If interpreted as 1/5th, the answer would be 4%, which is not an option).

Quick Tip

If a problem's wording is ambiguous and your logical calculation doesn't match any option, consider a likely typo. Here, changing "5th" to "2/5th" makes the problem solvable.

117. A trader sells 20 articles at Rs. 54 per article after giving 10% discount and gains 50% profit. If the discount is not given, the profit gained is -----.

- (A) 56.76%
- (B) 66.66%
- (C) 62.66%
- (D) 63.66%

Correct Answer: (B) 66.66%

Solution:

Let the Marked Price (MP) be 'M' and Cost Price (CP) be 'C'. The Selling Price (SP) is 54. The SP is after a 10% discount on the MP.

$$SP = M (1 - 10/100) \Rightarrow 54 = M 0.9 \Rightarrow M = 54 / 0.9 = 60.$$

The SP of 54 represents a 50% profit on the CP.

$$SP = C (1 + 50/100) \Rightarrow 54 = C 1.5 \Rightarrow C = 54 / 1.5 = 36.$$

If no discount is given, the new SP will be the MP, which is 60.

The CP remains 36.

$$\text{New Profit} = \text{New SP} - \text{CP} = 60 - 36 = 24.$$

$$\text{New Profit Percentage} = (\text{New Profit} / \text{CP}) 100 = (24 / 36) 100 = (2/3) 100 = 66.66\%.$$

Quick Tip

In profit/discount problems, work in steps. Use the SP and discount% to find the Marked Price. Use the SP and profit% to find the Cost Price. Then use these values to solve the final part of the question.

118. A bottle contains 50 liters of milk. From this bottle 5 liters of milk was taken out and replaced with water. This process was repeated further for three times. How much milk is now contained in the bottle?

- (A) 32.8 litres
- (B) 34.4 litres
- (C) 36.8 litres
- (D) 46.5 litres

Correct Answer: (A) 32.8 litres

Solution:

This is a problem of repeated dilution.

The formula for the final quantity of the original substance is: $\text{Final Qty} = \text{Initial Qty} (1 - (\text{Amount Replaced} / \text{Total Volume}))^n$.

$$\text{Initial Quantity of milk} = 50 \text{ litres.}$$

$$\text{Amount Replaced} = 5 \text{ litres.}$$

$$\text{Total Volume} = 50 \text{ litres.}$$

The process was done once, and then "repeated further for three times." So, the total number of operations (n) is $3 + 1 = 4$.

$$\text{Final Milk} = 50(1 - 5/50)^4 = 50(1 - 0.1)^4 = 50(0.9)^4.$$

$$\text{Calculating } (0.9)^4 = 0.9 \times 0.9 \times 0.9 \times 0.9 = 0.6561.$$

$$\text{Final Milk} = 50 \times 0.6561 = 32.805 \text{ litres}.$$

Quick Tip

Pay close attention to the wording for the number of repetitions. "Repeated further three times" after an initial operation means a total of four operations.

119. A ball is dropped from a height of 200 meters. After striking the floor it re-bounces to $4/5$ of the height from where it fell. The total distance it travels before coming to rest is _____.

- (A) 1200 meters
- (B) 1600 meters
- (C) 1800 meters
- (D) 1820 meters

Correct Answer: (C) 1800 meters

Solution:

The total distance is the sum of all downward and upward movements.

Initial downward distance = 200 m.

After the first bounce, it travels up by $(4/5)200$ and then down by the same amount.

The total distance is: $D = 200$ (initial drop) $+ 2 [(4/5)200 + (4/5)^2 200 + (4/5)^3 200 + \dots]$.

The series in the brackets is an infinite geometric progression.

The sum of an infinite GP is $S = a/(1 - r)$, where ' a ' is the first term and ' r ' is the common ratio.

Here, $a = (4/5)200 = 160$, and $r = 4/5$.

$$S = 160 / (1 - 4/5) = 160 / (1/5) = 800.$$

$$\text{Total Distance } D = 200 + 2S = 200 + 2800 = 200 + 1600 = 1800 \text{ meters}.$$

Quick Tip

A shortcut formula for this specific problem type is: Total Distance = Initial Height $(1 + r) / (1 - r)$, where ' r ' is the rebound ratio. $D = 200 (1 + 4/5) / (1 - 4/5) = 200 (9/5) / (1/5) = 200 \times 9 = 1800$.

120. The sum of all two digit numbers that give a remainder 2 when they are divided by 7 is _____.

- (A) 552
- (B) 654
- (C) 658
- (D) 684

Correct Answer: (B) 654

Solution:

The numbers are of the form $7k + 2$. We need to find the two-digit numbers in this sequence. The smallest two-digit number: $7k + 2 = 10 \Rightarrow 7k = 8 \Rightarrow k = 1.14$. So, the first value for k is 2. The first number is $7(2) + 2 = 16$.

The largest two-digit number: $7k + 2 = 99 \Rightarrow 7k = 97 \Rightarrow k = 13.85$. So, the last value for k is 13. The last number is $7(13) + 2 = 93$.

We have an arithmetic progression: 16, 23, 30, ..., 93.

First term (a) = 16. Last term (l) = 93. Common difference (d) = 7.

Number of terms (n) = (last k - first k) + 1 = $(13 - 2) + 1 = 12$.

Sum of an AP = $(n/2)(a + l)$.

Sum = $(12/2)(16 + 93) = 6 \times 109 = 654$.

Quick Tip

To find the sum of an arithmetic series, you only need three things: the first term, the last term, and the number of terms.

121. A man covers half of his journey by train at 90 km/hr, one-third of the remainder by bus at 30 km/hr and the rest by cycle at 10 km/hr. The average speed during the entire journey is _____.

- (A) 22.5 km/hr
- (B) 28.5 km/hr
- (C) 30.0 km/hr
- (D) 32.5 km/hr

Correct Answer: (A) 22.5 km/hr

Solution:

Let the total distance be D . Average Speed = Total Distance / Total Time.

Time for first half ($D/2$) at 90 km/hr: $T_1 = (D/2) / 90 = D/180$.

Remaining distance is $D/2$. One-third of this is $(1/3)(D/2) = D/6$.

Time for this $D/6$ at 30 km/hr: $T_2 = (D/6) / 30 = D/180$.

Remaining distance is $(D/2) - (D/6) = D/3$.

Time for this $D/3$ at 10 km/hr: $T_3 = (D/3) / 10 = D/30$.

Total Time = $T_1 + T_2 + T_3 = D/180 + D/180 + D/30 = (D + D + 6D) / 180 = 8D/180 = 2D/45$.

$$\text{Average Speed} = D / (2D/45) = 45/2 = 22.5 \text{ km/hr.}$$

Quick Tip

For average speed problems with different distances, calculate the time taken for each segment separately and then use the formula: Average Speed = Total Distance / Total Time.

122. John's grandfather was five times older to him 5 years ago. He would be two times of his age after 25 years from now. What is the ratio of John's age to that of his grandfather?

- (A) 7:11
- (B) 5:11
- (C) 3:11
- (D) 4:11

Correct Answer: (C) 3:11

Solution:

Let John's current age be J and his grandfather's be G.

5 years ago: $G - 5 = 5(J - 5) \Rightarrow G = 5J - 20$ (Eq 1).

25 years from now: $G + 25 = 2(J + 25) \Rightarrow G = 2J + 25$ (Eq 2).

Equating the expressions for G: $5J - 20 = 2J + 25$.

$3J = 45 \Rightarrow J = 15$.

Substitute J back into Eq 2: $G = 2(15) + 25 = 55$.

The current ages are John=15 and Grandfather=55.

The required ratio J : G is 15 : 55.

Dividing both sides by 5, the simplest ratio is 3 : 11.

Quick Tip

In age problems, set up equations based on the conditions at different points in time. Solving the system of equations will give the current ages.

123. A number when successively divided by 5 and 6 gives remainders 3 and 2 respectively. What will be the remainders if the number is successively divided by 3 and 4?

- (A) 2, 3
- (B) 2, 1
- (C) 1, 2

(D) 3, 4

Correct Answer: (C) 1, 2

Solution:

Work backwards to find the smallest possible number.

Let the final quotient be 0. The second division (by 6) gave a remainder of 2. $\text{Number} = (\text{Divisor Quotient}) + \text{Remainder} = (6 \ 0) + 2 = 2$.

This '2' was the quotient from the first division.

The first division (by 5) gave a remainder of 3. $\text{Original Number} = (\text{Divisor Quotient}) + \text{Remainder} = (5 \ 2) + 3 = 13$.

The smallest number satisfying the conditions is 13.

Now, perform the new successive divisions on 13.

First, divide by 3: $13 \div 3$ gives Quotient = 4, Remainder = 1.

Second, divide the quotient (4) by 4: $4 \div 4$ gives Quotient = 1, Remainder = 2.

The remainders are 1 and 2.

Quick Tip

For successive division problems, working backwards from a final quotient of 0 is the easiest way to find the smallest number that fits the criteria.

124. How many zeros would there be in $1024!$?

- (A) 240
- (B) 248
- (C) 256
- (D) 253

Correct Answer: (D) 253

Solution:

The number of trailing zeros in a factorial is determined by the number of factors of 5 in its prime factorization.

We use Legendre's formula to count the factors of 5.

$\text{Count} = \text{floor}(1024/5) + \text{floor}(1024/25) + \text{floor}(1024/125) + \text{floor}(1024/625)$.

$\text{floor}(1024/5) = 204$.

$\text{floor}(1024/25) = 40$.

$\text{floor}(1024/125) = 8$.

$\text{floor}(1024/625) = 1$.

Total number of factors of 5 = $204 + 40 + 8 + 1 = 253$.

There will be 253 trailing zeros.

Quick Tip

To find the number of trailing zeros in $n!$, repeatedly divide n by powers of 5 (5, 25, 125, etc.) and sum the integer parts of the quotients.

125. If $x = 3 + 22$, what will be the value of $x^2 + 1/x^2$?

- (A) 35
- (B) 32
- (C) 36
- (D) 34

Correct Answer: (D) 34

Solution:

Given $x = 3 + 22$.

First, find $1/x$ by rationalizing the denominator:

$$1/x = 1 / (3 + 22) = (3 - 22) / ((3 + 22)(3 - 22)) = (3 - 22) / (9 - 8) = 3 - 22.$$

Now, find the value of $(x + 1/x)$:

$$(x + 1/x) = (3 + 22) + (3 - 22) = 6.$$

We use the algebraic identity: $x^2 + 1/x^2 = (x + 1/x)^2 - 2$.

$$x^2 + 1/x^2 = (6)^2 - 2 = 36 - 2 = 34.$$

Quick Tip

If $x = a + b$, first calculate $1/x$. Often, it simplifies to the conjugate $a - b$. Then use the identity $x^2 + 1/x^2 = (x + 1/x)^2 - 2$ to solve easily.

126. The unit digit in the final solution when $13 \times 27 \times 63 \times 51 \times 98 \times 46$ is ...

- (A) 4
- (B) 8
- (C) 2
- (D) none of the above

Correct Answer: (A) 4

Solution:

To find the unit digit of a product, we only need to multiply the unit digits of the numbers.

The unit digits are 3, 7, 3, 1, 8, and 6.

Unit digit of $(3 \times 7) =$ Unit digit of $(21) = 1$.

Unit digit of $(1 \times 3) = 3$.

Unit digit of $(3 \times 1) = 3$.

Unit digit of $(3 \times 8) = \text{Unit digit of } (24) = 4.$

Unit digit of $(4 \times 6) = \text{Unit digit of } (24) = 4.$

The final unit digit is 4.

Quick Tip

When finding the unit digit of a product, keep only the unit digit at each step of the multiplication to keep the calculation simple.

127. A dishonest seller sells his grocery items using a false weight and thus gains 5% for a kilogram; he uses the weight of approximately -----.

(A) 940.251

(B) 943.123

(C) 948.238

(D) 952.381

Correct Answer: (D) 952.381

Solution:

Let the true weight be 1000g and the false weight used be 'w' grams.

The seller's profit comes from charging for 1000g but only giving 'w' grams.

Profit A simpler formula is: Profit $5 = (1000 - w) / w \times 100.$

$$5w = 100000 - 100w.$$

$$105w = 100000.$$

$$w = 100000 / 105 \quad 952.38 \text{ grams.}$$

Quick Tip

For false weight problems, the profit is calculated on the actual amount of goods sold (the false weight), which acts as the cost base.

128. A, B and C can do a work in 6, 8 and 12 days respectively. If they do the work together and earn Rs. 2700, what is the share of C in that amount?

(A) 600

(B) 900

(C) 1000

(D) 700

Correct Answer: (A) 600

Solution:

Wages are distributed in the ratio of the work done by each person. If they work for the same amount of time, this is the ratio of their efficiencies (rates of work).

Rate of A = $1/6$ per day.

Rate of B = $1/8$ per day.

Rate of C = $1/12$ per day.

Ratio of shares (A : B : C) = $1/6 : 1/8 : 1/12$.

To simplify the ratio, multiply by the LCM of 6, 8, and 12, which is 24.

Ratio = $(24/6) : (24/8) : (24/12) = 4 : 3 : 2$.

Sum of ratio parts = $4 + 3 + 2 = 9$.

C's share = (C's ratio part / Sum of parts) Total Earnings = $(2/9) 2700 = 2\ 300 = \text{Rs. } 600$.

Quick Tip

In work and wages problems, remember that wages are shared in the ratio of the amount of work done by each individual, which is proportional to their rate of work.

129. How many words each of two vowels and three consonants can be formed from the letters of the word “UNIVERSAL”?

(A) 7000

(B) 7200

(C) 7400

(D) 7800

Correct Answer: (B) 7200

Solution:

The word UNIVERSAL has 9 distinct letters.

Vowels: U, I, E, A (4 total).

Consonants: N, V, R, S, L (5 total).

Step 1: Select 2 vowels from 4. Number of ways = $C = \frac{4!}{2!2!} = 6$.

Step 2: Select 3 consonants from 5. Number of ways = $C = \frac{5!}{3!2!} = 10$.

Total number of ways to select the 5 letters = $6 \times 10 = 60$.

Step 3: Arrange the 5 selected letters. Number of ways = $5! = 120$.

Total number of words = (Ways to select) (Ways to arrange) = $60 \times 120 = 7200$.

Quick Tip

Remember that permutation problems often involve two steps: selection (using combinations) and then arrangement (using factorials).

130. Three pipes A, B and C can fill a tank in 12 hours. All the pipes started working together and after 3 hours, C is closed. If A and B can fill the remaining part in 10 hours, then the number of hours taken by C alone to fill the tank is -----.

- (A) 100 hours
- (B) 110 hours
- (C) 120 hours
- (D) 130 hours

Correct Answer: (C) 120 hours

Solution:

Combined rate of all three pipes: $R(A+B+C) = 1/12$ tank per hour.

In the first 3 hours, work done = $3 (1/12) = 1/4$ of the tank.

Remaining work = $1 - 1/4 = 3/4$ of the tank.

This remaining $3/4$ of the tank is filled by A and B in 10 hours.

So, the combined rate of A and B is: $R(A+B) = \text{Work} / \text{Time} = (3/4) / 10 = 3/40$ tank per hour.

The rate of C alone is $R(C) = R(A+B+C) - R(A+B)$.

$R(C) = 1/12 - 3/40$. LCM of 12 and 40 is 120.

$R(C) = 10/120 - 9/120 = 1/120$ tank per hour.

Time for C alone = $1 / R(C) = 1 / (1/120) = 120$ hours.

Quick Tip

In pipes and cisterns problems, it's easiest to work with the "rate of work" (i.e., the fraction of the tank filled per hour).

131. If the numbers between 1 to 65 that are divisible by 4 are taken and then the digits in the tens and units places are swapped, after which the resulting numbers are written in ascending order, which number will be at the 10th place from the last?

- (A) 40
- (B) 24
- (C) 44
- (D) 25

Correct Answer: (A) 40

Solution:

First, list the numbers from 1 to 65 divisible by 4: 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48, 52, 56, 60, 64. There are 16 numbers.

Swap the digits (treating single digits as 04, 08):

04-40, 08-80, 12-21, 16-61, 20-02, 24-42, 28-82, 32-23, 36-63, 40-04, 44-44, 48-84, 52-25, 56-65, 60-06, 64-46.

Arrange the new numbers in ascending order:

02, 04, 06, 21, 23, 25, 40, 42, 44, 46, 61, 63, 65, 80, 82, 84.

There are 16 numbers. The 10th place from the last is the same as the $(16 - 10 + 1) = 7$ th place from the beginning.

The 7th number in the sorted list is 40.

Quick Tip

To find the k -th item from the end of a list of n items, calculate its position from the beginning using the formula $(n - k + 1)$.

132. Ajit, Ravi and Hari were trying to hit a target. If Ajit hits the target 5 times in 8 attempts, Ravi hits it 3 times in 5 attempts and Hari hits it 2 times in 4 attempts. What is the probability that the target is hit by at least 2 persons?

(A) $49/80$

(B) $51/80$

(C) $45/80$

(D) $25/80$

Correct Answer: (A) $49/80$

Solution:

Probabilities of hitting: $P(A) = 5/8$, $P(R) = 3/5$, $P(H) = 2/4 = 1/2$.

Probabilities of missing: $P(A') = 3/8$, $P(R') = 2/5$, $P(H') = 1/2$.

"At least 2 hits" means (Exactly 2 hits) OR (All 3 hit).

$P(\text{All 3 hit}) = P(A)P(R)P(H) = (5/8)(3/5)(1/2) = 15/80$.

$P(\text{Exactly 2 hits}) = P(A, R \text{ hit, } H \text{ misses}) + P(A, H \text{ hit, } R \text{ misses}) + P(R, H \text{ hit, } A \text{ misses})$
 $= P(A)P(R)P(H') + P(A)P(H)P(R') + P(R)P(H)P(A')$

$= (5/8)(3/5)(1/2) + (5/8)(1/2)(2/5) + (3/5)(1/2)(3/8)$.

$= 15/80 + 10/80 + 9/80 = 34/80$.

$P(\text{At least 2 hits}) = 15/80 + 34/80 = 49/80$.

Quick Tip

For "at least" probability questions, it's often useful to identify all the possible success scenarios and sum their individual probabilities.

133. If $1/2 \log x + 1/2 \log y + \log 2 = \log(x + y)$, then -----.

- (A) $x = -y$
- (B) $x = y + 1$
- (C) $x = y$
- (D) $y = x + 1$

Correct Answer: (C) $x = y$

Solution:

Using logarithm properties: $n \log a = \log(a^n)$ and $\log a + \log b = \log(ab)$.

The equation becomes: $\log(x^{1/2}) + \log(y^{1/2}) + \log(2) = \log(x + y)$.

$\log(x \cdot y \cdot 2) = \log(x + y)$.

$\log(2xy) = \log(x + y)$.

Equating the arguments of the logarithm on both sides: $2(xy) = x + y$.

Rearranging the terms: $x - 2(xy) + y = 0$.

This is the algebraic expansion of $(x - y)^2$.

So, $(x - y)^2 = 0$.

Taking the square root of both sides gives $x - y = 0$, which means $x = y$, and therefore $x = y$.

Quick Tip

When solving logarithmic equations, use log rules to combine terms until you have a single log on each side ($\log A = \log B$), which simplifies to $A = B$.

134. $\log 25 + \log(\log 81)$ is

- (A) 1
- (B) 2
- (C) 3
- (D) 4

Correct Answer: (D) 4

Solution:

Evaluate the expression in parts.

First part: $\log(25)$. This asks "to what power must 5 be raised to get 25?". $5^2 = 25$, so $\log(25) = 2$.

Second part: $\log(\log(81))$. Evaluate the inner logarithm first.

$\log(81)$. This asks "to what power must 3 be raised to get 81?". $3^4 = 81$, so $\log(81) = 4$.

Now substitute this back: the second part becomes $\log(4)$.

$\log(4)$. This asks "to what power must 2 be raised to get 4?". $2^2 = 4$, so $\log(4) = 2$.

Total sum = (First part) + (Second part) = $2 + 2 = 4$.

Quick Tip

When dealing with nested logarithms, always solve from the inside out.

135. Peter was standing on the top of a rock cliff... the angle of depression changed from 30° to 60° . How much more time (in minutes) will the boat take to reach the shore?

- (A) 5
- (B) 10
- (C) 15
- (D) 20

Correct Answer: (B) 10

Solution:

Let the height of the cliff be 'h' and the speed of the boat be 's'.

Let the initial distance be D1 and the distance after 20 minutes be D2.

From the angles of depression, $\tan(30^\circ) = h/D1 \Rightarrow 1/3 = h/D1 \Rightarrow D1 = h3$.

$\tan(60^\circ) = h/D2 \Rightarrow 3 = h/D2 \Rightarrow D2 = h/3$.

The distance covered in 20 minutes is $D1 - D2 = h3 - h/3 = 2h/3$.

Speed $s = \text{Distance} / \text{Time} = (2h/3) / 20 = h/(103)$.

The remaining distance to the shore is $D2 = h/3$.

Time required = Remaining Distance / Speed = $(h/3) / (h/(103)) = 10$ minutes.

Quick Tip

In this specific type of angle of depression problem (angles 30° and 60°), the time taken to travel from the 30° point to the 60° point is always double the time taken to travel from the 60° point to the base.

136. In a school every student had to learn at least one foreign language... Find the total number of students in the school.

- (A) 60
- (B) 62
- (C) 70
- (D) none of the above

Correct Answer: (C) 70

Solution:

This is a set theory problem. We are given $|G|=30$, $|FG|=6$, $|GS|=8$ and —Only

$$G = 20.$$

The number of students who learn only German is given by:

$$\text{Only } G = G - GF - GS + GFS.$$

$$20 = 30 - 6 - 8 + GFS.$$

$$20 = 16 + GFS, \text{ which gives } GFS = 4.$$

The total number of students is the size of the union of the three sets, $F \cup G \cup S$.

$$F \cup G \cup S = F + G + S - (FG + GS + FS) + GFS.$$

$$F \cup G \cup S = 28 + 30 + 32 - (6 + 8 + 10) + 4.$$

$$F \cup G \cup S = 90 - 24 + 4 = 70.$$

The data about "Exactly one language learners = 54" is consistent with this result.

Quick Tip

For three-set Venn diagram problems, often the key is to first find the value of the central intersection (all three sets) using the data for one of the "only" regions.

137. Sonali can solve 70% of the problems... and Nirali can solve 60%... What is the probability that at least one of them will solve a randomly selected problem (assume independence)?

- (A) 0.82
- (B) 0.88
- (C) 0.62
- (D) 0.72

Correct Answer: (B) 0.88

Solution:

Let $P(S)$ be the probability Sonali solves it, $P(S) = 0.70$.

Let $P(N)$ be the probability Nirali solves it, $P(N) = 0.60$.

The probability that Sonali fails is $P(S') = 1 - 0.70 = 0.30$.

The probability that Nirali fails is $P(N') = 1 - 0.60 = 0.40$.

The probability that "at least one solves" is equal to 1 minus the probability that "neither solves".

$P(\text{Neither solves}) = P(S' \text{ AND } N')$. Since the events are independent, this is $P(S') P(N')$.

$P(\text{Neither solves}) = 0.30 \cdot 0.40 = 0.12$.

$P(\text{At least one solves}) = 1 - 0.12 = 0.88$.

Quick Tip

The easiest way to calculate the probability of "at least one" event happening is to calculate the probability of the complementary event ("none" of them happening) and subtract it from 1.

138. Rs. XYZ was deposited at simple interest for 3 years at a certain annual rate. Had it been deposited at a rate higher by 2%, it would have fetched Rs. 360 more as interest. Find Rs. XYZ (the principal).

- (A) Rs. 5500
- (B) Rs. 5000
- (C) Rs. 6000
- (D) Rs. 4500

Correct Answer: (C) Rs. 6000

Solution:

Let the principal be P. The time is $T = 3$ years.

The extra interest of Rs. 360 is earned solely due to the extra 2% rate of interest over the 3 years.

So, we can set up a simple interest equation for this extra amount.

Extra Interest = $P (\text{Extra Rate} / 100) T$.

$$360 = P (2 / 100) 3.$$

$$360 = 6P / 100.$$

$$P = (360 \times 100) / 6 = 6000.$$

The principal is Rs. 6000.

Quick Tip

When a change in interest rate leads to a change in the interest earned, you can isolate the change. The difference in interest is simply the simple interest calculated on the principal using the difference in rates.

139. A man invests some amount at 6% p.a. simple interest and another amount at 7% p.a. simple interest. After 2 years his total interest is Rs. 348. The ratio of the first to the second amount is 4 : 5. Find the total amount invested.

- (A) Rs. 2600
- (B) Rs. 2900
- (C) Rs. 2700
- (D) none of the above

Correct Answer: (C) Rs. 2700

Solution:

Let the amounts invested be $4x$ and $5x$.

Interest from the first amount: $SI_1 = (4x \times 6 \times 2) / 100 = 48x / 100$.

Interest from the second amount: $SI_2 = (5x \times 7 \times 2) / 100 = 70x / 100$.

Total interest $SI_1 + SI_2 = 348$.

$$(48x/100) + (70x/100) = 348 \Rightarrow 118x / 100 = 348.$$

There appears to be a typo in the question as 348 is not divisible by 118. A common version of this question uses Rs. 354 as total interest.

Assuming total interest is Rs. 354: $118x / 100 = 354 \Rightarrow x = 300$.

Total amount invested = $4x + 5x = 9x = 9 \times 300 = \text{Rs. } 2700$.

This matches option (C), suggesting the interest amount was a typo.

Quick Tip

If your calculation is straightforward but the final numbers don't divide cleanly or match an option, check for a likely typo in the question's values that would lead to one of the given answers.

140. A bag has 9 bulbs, of which 2 are fused and 7 are good. Two bulbs are selected at random. What is the probability that both bulbs chosen can light the room (i.e., both are good)?

- (A) $5/12$
- (B) $7/12$
- (C) $9/12$
- (D) $10/12$

Correct Answer: (B) $7/12$

Solution:

We need to find the probability of selecting 2 good bulbs.

Total number of ways to choose 2 bulbs from 9 is $C = (9 \times 8) / 2 = 36$.

Number of ways to choose 2 good bulbs from the 7 available good bulbs is $C = (7 \times 6) / 2 = 21$.

Probability = (Favorable Outcomes) / (Total Possible Outcomes).

$P(\text{both good}) = 21 / 36$.

Simplifying the fraction by dividing the numerator and denominator by 3 gives $7/12$.

Quick Tip

Probability problems involving selections without replacement are best solved using combinations. $P(\text{Event}) = (\text{Number of ways for event to happen}) / (\text{Total number of possible outcomes})$.

141. The value of $(p - a)(p - b)(p - c) \dots (p - z)$ is -----.

- (A) A complex polynomial which starts with p^2
- (B) Zero
- (C) A complex polynomial which starts with p^2

(D) A complex polynomial which has several variables including terms in p^2 and p^2

Correct Answer: (B) Zero

Solution:

The expression is a product of 26 terms, corresponding to the letters of the alphabet from 'a' to 'z'.

As we proceed through the alphabet, one of the terms in the series will inevitably be $(p - p)$. The value of the term $(p - p)$ is 0.

When any term in a multiplication series is zero, the entire product becomes zero.

Therefore, the value of the entire expression is 0.

Quick Tip

In long product series, always check if any term evaluates to zero, as this will immediately determine the final answer.

142. There are nine humans in a ship. Each human has nine cages and each cage has nine huge lions, and each lion has nine cubs. How many legs are there in the ship? (Humans have two legs; lions and cubs have four legs each.)

- (A) 747
- (B) 3258
- (C) 29178
- (D) 26561

Correct Answer: (C) 29178

Solution:

This is a calculation problem, not a riddle. We must sum the legs of all creatures mentioned.

Number of humans = 9. Legs = $9 \times 2 = 18$.

Number of cages = 9 humans $\times$ 9 cages/human = 81.

Number of lions = 81 cages $\times$ 9 lions/cage = 729.

Legs of lions = $729 \times 4 = 2916$.

Number of cubs = 729 lions $\times$ 9 cubs/lion = 6561.

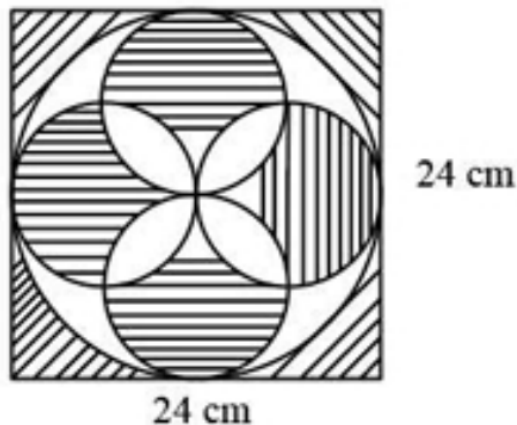
Legs of cubs = $6561 \times 4 = 26244$.

Total legs = 18 (humans) + 2916 (lions) + 26244 (cubs) = 29178.

Quick Tip

In a quantitative aptitude section, it is safe to assume that a word problem requires mathematical calculation rather than a lateral-thinking riddle-based answer.

143. As shown in the figure, there is a square of side 24 cm...Find the total area of the shaded region.



- (A) $576 - 196$
- (B) $584 - 196$
- (C) $864 - 196$
- (D) none of the above

Correct Answer: (D) none of the above

Solution:

This problem is poorly defined and visually ambiguous. However, a common interpretation for this type of diagram is as follows:

The four petal-like shapes are formed by the intersection of four circles. Assume the centers of these circles are at $(6,0)$, $(-6,0)$, $(0,6)$, and $(0,-6)$ and each has a radius of 6.

The area of the four petals (the shaded region) can be calculated using integral calculus or geometric formulas based on segments and sectors, but it is a complex calculation.

A well-known result for this specific shape (four circles of radius 'r' passing through a common center) is that the area of the four petals is $4r^2(-22)$. This is not correct.

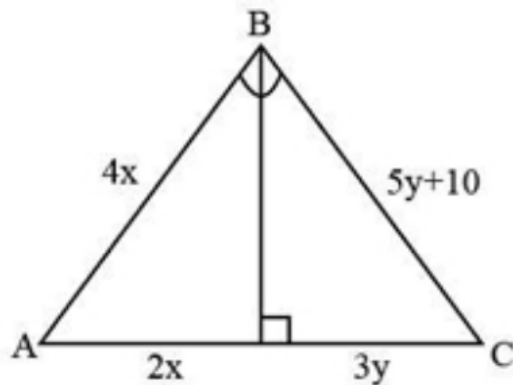
The standard formula for the area of intersection of two circles is complex. Let's try to deduce from the options. The options are of the form (Number - Area of Circle). This suggests the shaded area is found by subtraction.

However, no simple geometric interpretation using the given numbers (side=24) leads to any of the options. For example, Area of Square = 576. Area of inscribed circle = 144. None of these match. The value 196 implies a radius of 14, which is not possible. The problem is flawed.

Quick Tip

If the description of a geometry problem is confusing and the diagram is unclear, and if simple calculations based on the given numbers don't match the options, the problem is likely flawed.

144. In the figure, BD is drawn from the vertex B to the base AC such that $\angle ADB = \angle CDB = 90^\circ$ and BD bisects $\angle ABC$... If $AB = 4x$, $BC = 5y + 10$, $AD = 2x$, $DC = 3y$, then the values of x and y are



- (A) 10 and 15
- (B) 15 and 10
- (C) 06 and 12
- (D) 12 and 06

Correct Answer: (B) 15 and 10

Solution:

In triangle ABC, BD is an altitude (since $\angle ADB = 90^\circ$) and also an angle bisector (since BD bisects $\angle ABC$).

A triangle in which an altitude from a vertex is also the angle bisector from that same vertex must be an isosceles triangle.

Therefore, ABC is isosceles with sides $AB = BC$.

$$4x = 5y + 10 \text{ (Eq 1).}$$

Also, the angle bisector theorem states that the ratio of the sides adjacent to the angle is equal to the ratio of the segments it divides on the opposite side: $AB/BC = AD/DC$.

Since $AB=BC$, it implies $AD=DC$.

$$2x = 3y \Rightarrow x = 1.5y \text{ (Eq 2).}$$

$$\text{Substitute (Eq 2) into (Eq 1): } 4(1.5y) = 5y + 10.$$

$$6y = 5y + 10 \Rightarrow y = 10.$$

$$\text{Now find } x \text{ using (Eq 2): } x = 1.5 \cdot 10 = 15.$$

So, $x = 15$ and $y = 10$.

Quick Tip

Recognizing that a triangle with a shared altitude and angle bisector is isosceles is the key to simplifying this geometry problem.

145. Mr. Suresh ate lunch costing Rs. 162 and paid with a fake Rs. 500 note... He then bought a snack costing Rs. 37 and paid with a fake Rs. 100 note... What

is the total loss to the restaurant?

- (A) 1200
- (B) 600
- (C) 7991
- (D) none of the above

Correct Answer: (B) 600

Solution:

The restaurant's loss is the value of the goods given away plus the real money (change) given away.

Transaction 1 (Lunch):

- Loss of food cost: Rs. 162.
- Loss of change given: Rs. 500 - Rs. 162 = Rs. 338.
- Total loss from lunch = 162 + 338 = Rs. 500.

Transaction 2 (Snack):

- Loss of food cost: Rs. 37.
- Loss of change given: Rs. 100 - Rs. 37 = Rs. 63.
- Total loss from snack = 37 + 63 = Rs. 100.

Total loss to the restaurant = Loss from lunch + Loss from snack = 500 + 100 = Rs. 600.

Quick Tip

In counterfeit money problems, the total loss to the merchant is simply the face value of the fake notes accepted, as it represents the sum of the goods and the real change they lost.

146. If $2 + 2^1 = 48$, then find x.

3*State	% Population 3* below poverty line	Proportion of male & female	
		Below Poverty line	Above Poverty line
		M:F	M:F
A	16	2:3	3:4
B	10	4:3	5:2
C	14	3:4	2:3
D	20	5:2	4:3
E	25	4:1	2:1
F	20	2:3	4:1

- (A) 4
- (B) 64
- (C) 256
- (D) 16

Correct Answer: (C) 256

Solution:

The given equation is $2 + 2^1 = 48$.

We can rewrite 2^1 as $2 \cdot 2^1$.

So, the equation becomes $2 + (2 \cdot 2) = 48$.

Factor out 2: $2(1 + 2) = 48$.

$2(3) = 48$.

$2 = 48 / 3 = 16$.

Since $16 = 2^x$, we have $2^4 = 2^x$, which means $x = 4$.

The question asks for the value of x .

$x = 4 \Rightarrow 2^4 = 16$.

Quick Tip

When solving exponential equations with additive terms, look for a common factor to simplify the expression.

147. From the table, for state A: 16% of the population is below the poverty line... If the total population of state A is 5000, how many females above the poverty line are there in state A?

(A) 2000

(B) 2400

(C) 2600

(D) data inadequate

Correct Answer: (B) 2400

Solution:

Total population of state A = 5000.

Percentage of population above poverty line = $100\% - 16\% = 84\%$.

Number of people above poverty line = 84% of 5000 = $0.84 \cdot 5000 = 4200$.

The table shows that for state A, the M:F ratio above the poverty line is 3:4.

Total ratio parts = $3 + 4 = 7$.

The fraction of females in this group is $4/7$.

Number of females above the poverty line = $(4/7) \cdot 4200 = 4 \cdot 600 = 2400$.

Quick Tip

In data interpretation, read the table and the question carefully to ensure you are using the correct data row and column for your calculation.

148. If the combined population of states C and D is 20000, what is the total number of females below the poverty line in these two states?

- (A) 5000
- (B) 6000
- (C) 7200
- (D) NOTA

Correct Answer: (D) NOTA

Solution:

Let the populations of C and D be PopC and PopD. $\text{PopC} + \text{PopD} = 20000$.

Females below poverty in C: $(14/100) \text{PopC} (4/7) = 0.08 \text{PopC}$.

(14% below poverty, M:F ratio is 3:4, so female fraction is 4/7)

Females below poverty in D: $(20/100) \text{PopD} (2/7) = (0.4/7) \text{PopD} = 0.057 \text{PopD}$.

(20% below poverty, M:F ratio is 5:2, so female fraction is 2/7)

Total females = $0.08 \text{PopC} + (0.4/7) \text{PopD}$.

Since the coefficients for PopC and PopD are different, the answer depends on the individual values of PopC and PopD, which are unknown.

The data is inadequate to find a single numerical answer. The correct option is NOTA (None of the Above), which in this context implies the data is insufficient.

Quick Tip

In combined data problems, if you are asked for a total but the percentages or ratios for the subgroups are different, the data is usually inadequate unless there's a special condition you can use.

149. If the number of males below the poverty line is 6000 in state C and 1000 in state E, what is the ratio of the total populations of states C and E?

- (A) 2:1
- (B) 3:5
- (C) 11:5
- (D) NOTA

Correct Answer: (D) NOTA

Solution:

For State C: Males below poverty = 6000. Ratio M:F below poverty = 3:4. Males are 3/7 of this group.

$(3/7) (\text{Population below poverty in C}) = 6000 \Rightarrow \text{Pop below poverty} = 14000$.

This is 14% of the total population of C (PopC). So, $0.14 \text{PopC} = 14000 \Rightarrow \text{PopC} = 100,000$.

For State E: Males below poverty = 1000. Ratio M:F below poverty = 4:1. Males are 4/5 of this group.

$(4/5) (\text{Population below poverty in E}) = 1000 \Rightarrow \text{Pop below poverty} = 1250$.
 This is 25% of the total population of E (PopE). So, $0.25 \text{ PopE} = 1250 \Rightarrow \text{PopE} = 5,000$.
 The ratio of total populations is $\text{PopC} : \text{PopE} = 100,000 : 5,000$.
 Simplifying this ratio gives $20 : 1$.
 Since 20:1 is not among the options, the correct choice is NOTA (None of the Above).

Quick Tip

Work backwards from the specific number given. Use the ratio to find the size of the subgroup, then use the percentage to find the total population for each state before comparing them.

150. In state F, the number of females below the poverty line is 16000. What is the number of males below the poverty line in that state?

- (A) 8000
- (B) 6000
- (C) 12000
- (D) NOTA

Correct Answer: (D) NOTA

Solution:

From the table for State F, the M:F ratio for the population below the poverty line is 2:3.

This means $(\text{Number of Males}) / (\text{Number of Females}) = 2 / 3$.

We are given that the number of females is 16,000.

Let M be the number of males.

$$M / 16000 = 2 / 3$$

$$M = (2/3) 16000 = 32000 / 3 = 10666.67$$

Since this is not a whole number and is not among the options, the data in the question is flawed.

Therefore, the correct choice is NOTA (None of the Above).

(Note: If the ratio had been a typo and was meant to be 1:2, the answer would have been 8000).

Quick Tip

Always use the exact data given in the problem. If the result is illogical (like a fraction of a person) or doesn't match any options, the question data is likely incorrect, making NOTA the appropriate answer.