ENGLISH LANGUAGE

TOPIC NO.	TOPIC NAME	PAGE NO.
1	Reading Comprehensions	2-50
2	Para Completion	51-173
3	Grammar	174-242
4	Spotting Errors	243-315
5	Fill in the Blanks	316-385
6	Para Jumbles	386-400
7	Rearrangement of Sentence	401-428
8	Sentence Connector	429-513
9	Idioms and Phrases	514-537
10	Cloze Tests	538-556
11	One word Substitution	557-576
12	Antonyms and Synonyms	577-605

SHANJU'S Your Exam Partner

READING COMPREHENSIONS

SHANJO'S
Your Exam Partner

READING COMPREHENSION

TYPES OF PASSAGES

- Reading Comprehension is the test of your focus, patience level, the ability of understanding and analyzing.
- It is one of the most scoring topics (So train your hands for the battle. So here are some types of passages you will encounter while solving RC's.

1. Descriptive Passages
2. Analytical Passages
3. Hypothetical Passages

Descriptive Passages

- These are the long passages with less significance. If you encounter any long passage don't panic there is 90% probability it will be data-driven.
- For solving these passages, it is suggested you should note the important points so that you don't need to scroll up and down.
- The questions will be direct so you don't need to bang your head.

Analytical Passages

- These are bit tricky ones, if you aren't an avid reader, they will bore you.
- These types of passages are mainly an analysis of some theory (Scientific, Political, etc.).
- Read them carefully these are the perplexing ones but they won't ask you much of inference-based questions.
- So just go through the key points, frame the main idea and you will sail through.

Hypothetical Passages

- They kill, difficult ones. If you encounter any passage which is short, there is a high possibility of abstract "philosophical/ fantasy-based passage".
- You may not be able to decode the main idea. So, I would suggest you to not get biased or form opinions.
- Just believe what the author is saying even if it is drop dead bizarre.

SHANJU'S Your Exam Partner

How to Tackle Reading Comprehension?

- Reading is the best medicine. If you are an avid reader the ball is in your court.
- Now for the people who are not much into reading, it is all about defending. So, let's prepare how to defend yourself.

Tip no 1

- Start reading different things at a time (editorials are good).
- This will help you to tackle different passages in those 60 minutes.

Tip no. 2

- Attempt it whole-heartedly, like you watch or drink the last cup of your coffee.
- Don't skip, don't rush. Take your time, and gradually build up a fast pace.

Tip no 3

- Learn to skip questions. If you can't perceive the main idea don't try to touch the inference-based questions.
- It is a game of negative marking, so, play wisely.

Tip no 4

- Don't skip the data-driven questions. Develop the skill to note down the main points so that you don't need to search again. This requires a lot of practice.

Tip no 5

- Aim to solve at least 3 to 4 passages per day.
- Mastering reading comprehension is a slow process.
- You cannot complete VARC section in a month or two. So, keep practicing.

SHANJU'S Your Exam Partner

Reading Comprehension # 1

Read the passage given below and then answer the questions given below the passage. Pay careful attention.

Social networking has changed the way we interact with friends and associates. While social networks, like Facebook, Twitter, YouTube, FourSquare, and Google+, play a significant role in our lives, they are also a high risk for security threats. With hundreds of millions of users online, these tools not only attract friends and family wanting to stay in touch, but they also attract people wanting to know about you for the wrong reasons.

So, what are the security threats currently out there? Identity thieves gather personal information from social media sites. Even if you have your account on the highest security settings, there are still ways for an identity thief to get your information. Most social network sites have information that is required, such as email address or birthday. It's common for an identity thief to hack an email account by using social information. For example, a common technique to get personal information is by clicking on "forgot password" and trying to recover the information through email.

Once the thief has access to your email account, they then have access to all information on your social networking sites. So what can you do to protect yourself? You don't have to delete all your social profiles or hide from the real world; Just take these precautions and it can reduce our troubles to a certain level. Have a strong password. The stronger your password, the harder it is to guess. Use special characters like symbols and capital letters when creating your password. Also, don't use "common" passwords, like your birthday or your child's name. We should also be careful with our status updates. Often, we innocently post status updates that would give an identity thief information they need to steal our identity. For example, you may post "Happy birthday to my mother!" and then tag her in the post. Likely, your mother's maiden name will be associated with that tag now. A popular security question is "What is your mother's maiden name?" and if you share that online, you run the risks of identity thieves getting the answer to this commonly used question. We can also use a fake location or make one up from another city and state. You may even be able to leave this information blank. Be cautious and never use a city and state where you live. Hackers love social networking, going right to the source to interject malicious code.

The codes hackers use can steal your identity, inject viruses to your computer, and obstruct bank account information, to name a few. Shortened URLs, such as those created on bit.ly, are especially susceptible to hackers. Shortened URLs can trick users into visiting harmful sites where personal information can be compromised because the full URL is not seen. The best advice is to never click on a link until you are sure of the source. Telling the online world where you're going and when you aren't at home is inviting burglars to your house. Did you know that a run-of-the-mill burglar can break into your home in less than 60 seconds and spend less than 10 minutes stealing your possessions? By telling the world you are on vacation in Europe, you're letting potential thieves know where you are, how long you'll be gone, and where you live. Burglars are fond of constant updates, especially about your travel plans. You wouldn't stand up in the middle of a crowd and announce you're going on vacation for a week, would you? Of course not, but that's what you do when you post your vacation pictures and plans online. One of the biggest threats to online security is overconfidence. Whether at home or at work, many users believe as long as they have a firewall

and an antivirus installed, there is no threat to security. Many people also believe that they don't have anything worth hacking so there's no need to worry about security. With today's technology, we are more connected to each other than ever before. When you neglect security, you not only put yourself at risk, but others are at risk as well.

Question 1

What is the main purpose of the passage?

1. To discuss the potential threats to Facebook and LinkedIn.
2. To discuss on the big social networking sites.
3. To portray the importance of security in social networking
4. To discuss the potential threats to networking sites.
5. To suggest the security measure for using social networking site.

Solution: Option 3

The passage is talking about the various threats in using social networking sites and what preventive steps we can take. This reflects the need of security in social networking site.

All options except 3 are only a part or idea but not the main purpose.

SHANJU'S
Your Exam Partner

Question 2

What can be inferred on reading the second paragraph?

1. It is discussing on identity thieves.
2. It is discussing the threat of losing identity information to the hacker.
3. It is suggesting measures on how to safeguard our identity from being stolen.
4. It is warning the social media user for their casual approach.
5. It is talking about breach of social contacts.

Solution: Option 2

The paragraph is nowhere talking about option 3 and 5. Option 1 is only a part of the paragraph.

The essence of the paragraph is how we are losing our identity and personal information to the identity thieves.

As it can be cleared from these few lines **'Most social network sites have information that is required, such as email address or birthday. It's common for an identity thief to hack an email account by using social information'.**

Question 3

What can be inferred on reading the third paragraph?

1. It is trying to warn us on the various malicious attack.
2. It is talking about our lack of knowledge on the potential impact of hacking.
3. It is suggesting ways to prevent our loss of identity and information to the identity thieves.
4. It is talking about the overconfidence of the social network users.
5. It is discussing on the mind-set of the hackers.

Solution: Option 3

The third paragraph is the preventive measure based on the threats of identity thieves that has been well discussed in the preceding paragraph. It is suggesting ways varying from high security password to fake locations. The only option that catches the essence is Option 3. The rest add no relevant meaning.

Question 4

What according to the passage has been regarded 'susceptible to the hackers'?

1. Protocol
2. Bit
3. TCP/IP
4. Shortened URL
5. Location

SHANJU'S
Your Exam Partner

Solution: Option 4

It is clearly given in the passage that "Shortened URLs, such as those created on bit.ly, are especially susceptible to hacker."

Question 5

What according to the passage invites burglars to the house?

1. Using short Password
2. Unprotected URL
3. Shortened URL
4. Sharing Files online
5. Sharing your movement online

Solution: Option 5

It is clearly given in the passage that **"Telling the online world where you're going and when you aren't at home is inviting burglars to your house."**

Question 6

What has been regarded as the biggest threat to security as per the passage?

1. Hacking
2. Invasion
3. Forgery
4. Overconfidence
5. Superiority complex

Solution: Option 4

It is clearly given in the passage that "**One of the biggest threats to online security is overconfidence. Whether at home or at work, many users believe as long as they have a firewall and an antivirus installed, there is no threat to security."**

Question 7

According to the passage, who is fond of constant updates?

1. Hackers
2. Burglars
3. Identity thief
4. Poachers
5. Malware

Solution: Option 2

It is clearly given in the passage that **"Burglars are fond of constant updates, especially about your travel plans."**

Reading Comprehension # 2

Directions: Read the passage given below and then answer the questions given below the passage. Some words may be highlighted for your attention. Pay careful attention

The aisles at Lotte Mart in Beijing's Wangjing district were strangely quiet early this week. A few elderly shoppers pushed trolleys; shop assistants tidied the super market's shelves. Customers have been scarce since "something happened" a few weeks ago, says one cashier. That event was a deal signed on February 28th by Lotte, a South Korean firm, allowing America to build an anti-missile system on land the company owns in South Korea. China's government has responded by

encouraging an outpouring of public anger directed not just at Lotte, whose shops in China are now being boycotted, but almost anything South Korean.

Nationalism is a familiar weapon in China's diplomatic armoury. The last time the government made such a sustained effort to whip it up was in 2012, shortly before Xi Jinping came to power, when officials encouraged protests against Japan's nationalisation of islands it controls in the East China Sea that are also claimed by China. South Korea is not a usual target. But China is furious at its decision to deploy the missile- defence system, known as THAAD (the first components of which arrived in South Korea on March 6th). America says THAAD will help defend the peninsula against North Korea. China says America will use the system's powerful radar to "snoop" on its missiles too, reducing their potency as a deterrent.

In recent weeks, state media have been publishing daily attacks on South Korea's "erroneous decision". The *Global Times*, a **jingoistic** newspaper in Beijing, has encouraged Chinese consumers to "become the main force in teaching Seoul a lesson". It said they should "**make it hurt**".

Censors often try to rein in online discussion when it threatens to boil over into real-world protests. But they are allowing netizens to vent rage at South Korea. One group of online nationalists called on "all patriots to unite and show South Korea what we can do". A famous beauty blogger exhorted the 2.7m followers of her microblog to boycott goods from the country and not to travel to it. A patriotic pop-song has been played more than 3.5m times since its release on March 8th. It includes the lyrics: "*Chinese sons and daughters must stand up; everybody, stop buying Lotte; make them get out of China fast*."

Lotte owns about 100 supermarkets in China, as well as other businesses. They have been badly hit. The company has been subjected to sudden and simultaneous tax and safety inspections. Ten of its shops have been shut for violating fire codes. The website of Lotte Duty Free crashed after a cyber-attack. Several e-commerce sites have stopped selling Lotte's goods and some suppliers have ceased doing business with the company.

The tourism industry has also been disrupted. South Korea is normally a popular destination, but many Chinese travel agencies have recently reduced or halted trips there (seemingly on the government's orders). Others have been warning customers that it is dangerous to go. Airlines from both countries have been reducing services. On March 11th about 3,000 Chinese tourists refused to leave their ship when it docked at the South Korean resort of Jeju, apparently in protest against THAAD.

But China's leaders worry about any popular movement that does not involve the Communist Party— even one that is led by nationalists who profess to be on the government's side. Mr Xi, despite his own nationalist rhetoric, has been **wary** of letting passions flare too high. Officials tried to dampen them last year when a tribunal in The Hague rejected China's claims in the South China Sea. Only a few small protests erupted. The party's main mouthpiece, the *People's Daily*, praised the public's low-key response at the time as evidence of a "brand-new level of patriotism".

In the case of THAAD, the government clearly believes that a more heated public response may persuade South Korea's next president, who is due to be chosen in May, to reconsider its

ARTICLES

- Articles are a part of determiners that are used before nouns to define nouns or give some information about nouns.
- Articles are of three types: A, An and The

Article - A/An

- These two articles are basically used to show the number 'one' of something like a chair, an apple, etc.
- If we have a class of something and we have to choose or pick one/any/each/every from that particular class, we use Article A/An.
- For example, An apple a day keeps the doctor away. In this sentence an apple 'refers to any apple and 'a day' refers to every day.
- If I say 'a student', I am not referring to any particular student but I am referring to any student from the class 'student'.
- 'A' is used before the consonant sounds and 'An' is used before the vowel sounds. Eg: a boy, a student, an M.P., an honest man, etc.

Note: Usage of A/An has nothing to do with letters of English language. These are used according to the sound with which a word starts.

SHANJU'S Your Exam Partner

Rules:

1. A/An is used before singular countable nouns. For example,
    - Twelve inches make a foot.
2. Before a person not known to the speaker. For example,
    - A Mr. Sharma has come to meet you.
3. Before the verbs used as a noun. For example,
    - Have a bath, take a ride, take a walk, etc.
2. 'A' sometimes comes before determiners, for example, a few, a little, a lot of, a most, etc. but in the case of many, a or an - comes after. Few examples,
    - I have a few friends coming over.
    - There is a little milk in the jar.
    - Many a fan welcomed
3. Article A/An is not used with uncountable nouns such as advice, accommodation, luggage, information, furniture, equipment, news, hair, etc. For example,
    - I gave him an advice. ***(remove an)***
    - I bought a furniture for my house. ***(remove a)***
    - **Exception:** There are some uncountable nouns that do not follow the rule given above, such as, noise, lie, etc. Eg: Do not make a noise.

Article – The

- 'The' is used when a reference is given in the sentence of the noun we are talking about. Eg: This is the book you have given me.

Rules:

1. Before a superlative degree. For example,
    - Chetan is the best player in our team.
2. To show uniqueness, oneness, union or something specific. For example,

- The Ganga (the river Ganga);
- The United States of America (America is a union of many states);
- The Sun (there is only Sun in our solar system);
- This is the child that was kidnapped the last Sunday.

3. For using a proper noun as a common noun. For example,
    - He is the Virat Kohli of our team.
4. Before adjectives when they represent the whole class. For example,
    - The young should respect the elder.
5. For double comparison. For example,
    - The more you work the better your result will be.
    - The higher you go the lower will be the level of oxygen.
6. To choose one out of two. For example,
    - He is the better of the two brothers.
7. Before common nouns to make them abstract nouns. For example,
    - Let the judge in you decide who is guilty of the crime.
8. Before language to denote nationality. For example,
    - The English defeated the French.

Using 'the' with geographical nouns generally depends on the size and plurality of the things those nouns refer to. 'The' is generally used everywhere except for some cases. So, it's better to know those exceptions first.

'The' must not precede:

- Names of continents: Asia, Europe, Australia, Africa, South America, North America, Antarctica.
- Names of countries: Australia, Bolivia, England, France, Spain, etc.
- Names of states, cities, or towns: Los Angeles, Alaska, Sydney, London,
- Names of streets: George street, Albion Street, New town street,
- Names of singular lakes and bays: Lake Carey, Lake Eyre, Lake Hillier, Shark Bay,
- Names of single mountains: Mount Everest, Mount Solitary, Mount Bindo, Mount Fuji, etc.
- Names of single islands: Easter Island, Bare Island, Bird Island, Fatima Island,
- Names of languages: Spanish, Russian, English, (When 'the' precedes these nouns, they re- fer to the population of those languages.)
- Names of sports: cricket, football, basketball,
- Names of discipline/subject of studies: biology, history, computer science, mathematics,

Note: 'The' is a widely used article in English. Except for the list mentioned above and proper nouns, 'the' is used before almost all the nouns which mean something definite/particular. The above list has some opposite factors also. Those factors are explained in the following list.

'The' must precede:

- Names of oceans, gulfs, seas, and rivers: the Pacific, the Atlantic, the Coral Sea, the Timor Sea, the Persian Gulf, the Nile, the Murray River, the Darling River, etc.
- Names of countries with United States or islands: the United States of America (the USA), the UK, the UAE, the Philippines, etc.
- Names of great lakes: the Great Lakes, the African Great Lakes
- Names of mountain ranges: the Himalayas, the Alps, the Andes, etc.
- Names of a group of Islands: the West Indies, the Andamans, etc.

Practice Questions

Directions: **Read the sentence to find out whether there is an error in it. The error, if any, will be in one part of the sentence. The number of that part is the answer. If there is no error, the answer is (5). Ignore errors of punctuation, if any.**

Question 1:

A hourly rate of Rs.1000 is too much. (1)/ You're turning education into a business. (2)/ We are supposed to help build these children into world leaders, (3)/ but most of them wouldn't be able to afford this. (4)/ No error (5)

A) 1
B) 2
C) 3
D) 4
E) 5

Correct Option: A

Explanation:

The error is in (1). An should precede hourly, not A. Hence, Option A is the correct answer.

Correct Sentence: *"An hourly rate of Rs.1000 is too much. You're turning education into a business. We are supposed to help build these children into world leaders, but most of them wouldn't be able to afford this."*

SHANJU'S Your Exam Partner

Question 2:

Owing to the emergence of several companies (1)/ such as, the Royal Sundaram, Bajaj Allianz, ICICI Lombard and HDFC in the field of healthcare (2)/, the popularity of health insurance in India(3)/ is on the rise (4)/. No error (5)

A) 1
B) 2
C) 3
D) 4
E) 5

Correct Option: B

Explanation:

No article is used before Proper Nouns, especially before the names of the companies.
The correct sentence will be *"Owing to the emergence of several companies such as, Royal Sundaram, Bajaj Allianz, ICICI Lombard and HDFC in the field of healthcare, the popularity of health insurance in India is on the rise".*

Question 3:

Finally, poor corporate governance, (1)/ in a form of poor management of conflict of interest, inadequate understanding of key banking risks, (2)/ and poor oversight of the mechanisms for risk

management and (3)/ internal audit result in risk management failures and financial instability. (4)/ No error (5)

A) 1
B) 2
C) 3
D) 4
E) 5

Correct Option: B

Explanation:

The article 'a' has been incorrectly used in the second part of the sentence. Since it points to a certain form of poor management it should be 'the'.

Correct sentence: *'Finally, poor corporate governance, in the form of poor management of conflict of interest, inadequate understanding of key banking risks, (2) and poor oversight of the mechanisms for risk management and (3) internal audit result in risk management failures and financial instability.'*

Question 4:

According to a 2010 Gallup poll, 4.4% of surveyed Mexicans, roughly 6.2 million (1)/ people, say that they would move permanently to the United States if given chance, (2)/ and according to the 2012 U.S. Global Leadership Report, 37% of (3)/ Mexicans approve of U.S. leadership, with 27% disapproving and 36% uncertain. (4)/ No error (5)

A) 1
B) 2
C) 3
D) 4
E) 5

Correct Option: B

Explanation:

The error lies in part 2 of the sentence where the article 'the' or 'a' is needed before the word 'chance'. Both can fit here. The sentence should read as: '...if given a chance'.. or '..if given the chance..'

Question 5:

Successive governments of different political (1)/ stripes on either side of the border came to comprehend that our (2)/ two nations played the unique role for each other's (3)/ well-being that fed into the public narrative regarding the relationship. (4)/ No error (5)

A) 1
B) 2
C) 3

D) 4
E) 5

Correct Option: C

Explanation:

The error lies in part 3 of the sentence where the article 'the' before the word 'unique' is wrong and needs to be replaced with the article 'a' to make the sentence correct. It is not something specific but 'a role' thus 'the' is incorrect here. It should read as: '..played a unique role for..'

Correct sentence: *"Successive governments of different political stripes on either side of the border came to comprehend that our two nations played a unique role for each other's well-being that fed into the public narrative regarding the relationship"*

SHANJU'S
Your Exam Partner

GENERAL / FINANCIAL AWARENESS

TOPIC NO.	TOPIC NAME	PAGE NO.
1.	Banking & Financial Awareness	1-52
2.	Economy	53-90
3.	Union Budget	91-119
4.	Government Schemes	120-151
5.	Agreements and MoU	152-180
6.	Indexes and Reports	181-201

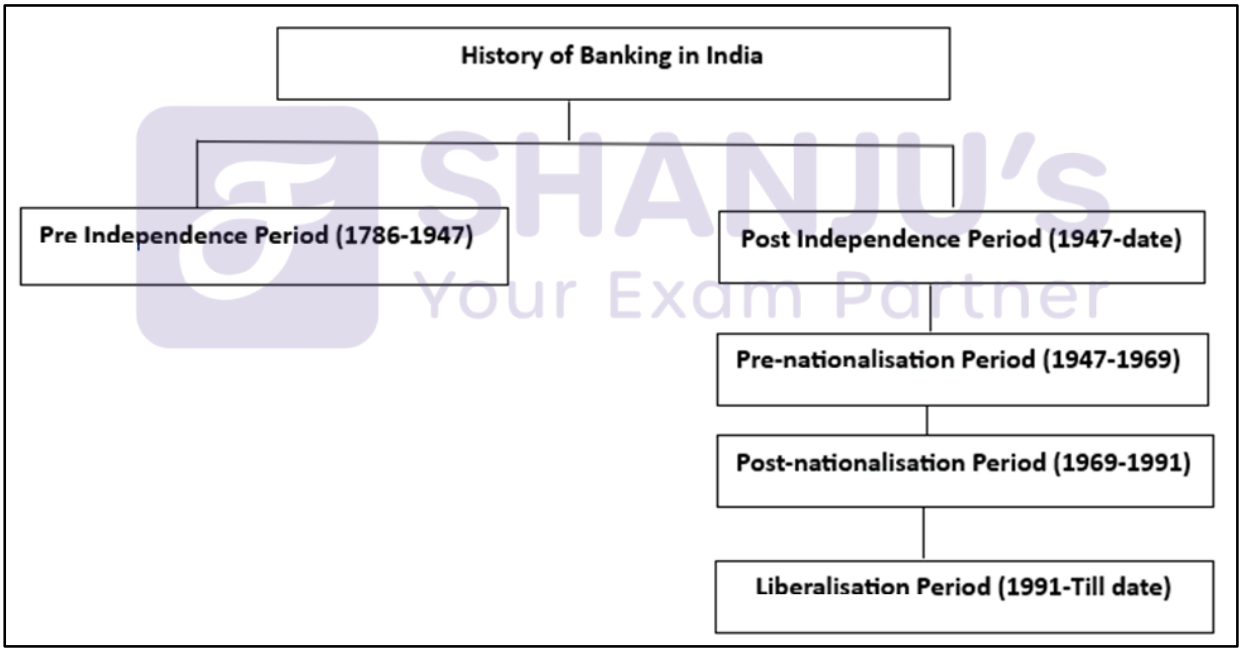
SHANJU'S
Your Exam Partner

BANKING & FINANCIAL AWARENESS

Banking awareness is a part of the general awareness section in the bank exams. It comprises questions related to the history of banks in India, the Banking Institutions, banking terms and the functions and role of the banking industry in the financial system of the country.

History of Banking in India

The banking sector development can be divided into three phases:
Phase I: The Early Phase which lasted from 1770 to 1969.
Phase II: The Nationalization Phase which lasted from 1969 to 1991.
Phase III: The Liberalization or the Banking Sector Reforms Phase which began in 1991 and continues to flourish till date.



Pre Independence-Period (1786-1947)

The first bank of India was the "Bank of Hindustan", established in 1770 and located in the then, Indian capital, Calcutta. However, this bank failed to work and ceased operations in 1832. During the Pre-Independence period over 600 banks had been registered in the country, but only few managed to survive.

Following the path of Bank of Hindustan, various other banks were established in India. They were:

- The General Bank of India (1786-1791)
- Oudh Commercial Bank (1881-1958)

- Bank of Bengal (1809)
- Bank of Bombay (1840)
- Bank of Madras (1843)

During the British rule in India, The East India Company had established three banks: Bank of Bengal, Bank of Bombay and Bank of Madras and called them the Presidential Banks. These three banks were later merged into one single bank in 1921, which was called the "Imperial Bank of India."

The Imperial Bank of India was later nationalized in 1955 and was named The State Bank of India, which is currently the largest public sector Bank.

Given below is a list of other banks which were established during the Pre-Independence period:

Pre-Independence Banks in India	
Bank Name	**Year of Establishment**
Allahabad Bank	1865
Punjab National Bank	1894
Bank of India	1906
Central Bank of India	1911
Canara Bank	1906
Bank of Baroda	1908

SHANJU'S Your Exam Partner

Post Independence Period (1947-1991)

At the time, when India got independence, all the major banks of the country were led privately which was a cause of concern as the people belonging to rural areas were still dependent on moneylenders for financial assistance.
With an aim to solve this problem, the then Government decided to nationalize the Banks. These banks were nationalized under the Banking Regulation Act, 1949. Whereas, the Reserve Bank of India was nationalized in 1949.
Following it was the formation of State Bank of India in 1955 and other 14 banks were nationalized between the time duration of 1969 to 1991. These were the banks whose national deposits were more than 50 crores.

Given below is the list of these 14 Banks nationalized in 1969:

1. Allahabad Bank
2. Bank of India
3. Bank of Baroda

4. Bank of Maharashtra
5. Central Bank of India
6. Canara Bank
7. Dena Bank
8. Indian Overseas Bank
9. Indian Bank
10. Punjab National Bank
11. Syndicate Bank
12. Union Bank of India
13. United Bank
14. UCO Bank

In the year 1980, another 6 banks were nationalized, taking the number to 20 banks. These banks included:

1. Andhra Bank
2. Corporation Bank
3. New Bank of India
4. Oriental Bank of Comm.
5. Punjab & Sind Bank
6. Vijaya Bank

SHANJU'S
Your Exam Partner

A part from the above mentioned 20 banks, there were seven subsidiaries of SBI which were nationalized in 1959:

1. State Bank of Patiala
2. State Bank of Hyderabad
3. State Bank of Bikaner & Jaipur
4. State Bank of Mysore
5. State Bank of Travancore
6. State Bank of Saurashtra
7. State Bank of Indore

All these banks were later merged with the State Bank of India in 2017, except for the State Bank of Saurashtra, which was merged in 2008 and State Bank of Indore, which was merged in 2010.

Impact of Nationalization

There were various reasons why the Government chose to nationalize the banks.

Given below is the impact of Nationalizing Banks in India:

- This lead to an increase in funds and thereby increasing the economic condition of the country.
- Increased Efficiency
- Helped in boosting the rural and agricultural sector of the country
- It opened up a major employment opportunity for the people
- The Government used profit gained by Banks for the betterment of the people
- The competition was decreased, and work efficiency had increased.
- This post Independence phase was the one that led to major developments in the banking sector of India and also in the evolution of the banking sector.

Liberalization Period (1991-Till Date)

Once the banks were established in the country, regular monitoring and regulations need to be followed to continue the profits provided by the banking sector. The last phase or the on going phase of the banking sector development plays a significant role.
To provide stability and profitability to the Nationalized Public sector Banks, the Government decided to set up a committee under the leadership of Shri. M Narasimha to manage the various reforms in the Indian banking industry.
The biggest development was the introduction of Private sector banks in India. RBI gavelicenseto10 Private sector banks to establish themselves in the country. These banks included:

SHANJUS
Your Exam Partner

1. Global Trust Bank
2. ICICI Bank
3. HDFC Bank
4. Axis Bank
5. Bank of Punjab
6. IndusInd Bank
7. Centurion Bank
8. IDBI Bank
9. Times Bank
10. Development Credit Bank

The other measures taken include:

- Setting up of branches of the various Foreign Banks in India.
- No more nationalization of Banks could be done.
- The committee announced that RBI and Government would treat both public and private sector banks equally.
- Any Foreign Bank could start joint ventures with Indian Banks.
- Payments banks were introduced with the development in the field of banking and technology.

- Small Finance Banks were allowed to set their branches across India.
- A major part of Indian banking moved online with internet banking and apps available for fund transfer.

Important Functions of Bank

There are two types of functions of banks:
- Primary functions – being primary are also called banking functions.
- Secondary Functions

Primary Functions of Bank

All banks have to perform two major primary functions namely:
1. Accepting of deposits
2. Granting of loans and advances

Accepting of Deposits

A very basic yet important function of all the commercial banks is mobilizing public funds, providing safe custody of savings and interest on the savings to depositors. Bank accepts different types of deposits from the public such as:

SHANJU's Your Exam Partner

- **Saving Deposits:** encourages saving habits among the public. It is suitable for salary and wage earners. The rate of interest is low. There is no restriction on the number and amount of withdrawals. The account for saving deposits can be opened in a single name or in joint names. The depositors just need to maintain minimum balance which varies across different banks. Also, Bank provides ATM cum debit card, cheque book, and Internet banking facility. Candidates can know about the Types of Cheques at the linked page.

- **Fixed Deposits:** Also known as Term Deposits. Money is deposited for a fixed tenure. No withdrawal money during this period allowed. In case depositors withdraw before maturity, banks levy a penalty for premature withdrawal. As a lump-sum amount is paid at one time for a specific period, the rate of interest is high but varies with the period of deposit.

- **Current Deposits:** They are opened by businessmen. The account holders get an over draft facility on this account. These deposits act as a short term loan to meet urgent needs. Bank charges a high-interest rate along with the charges for overdraft facility in order to maintain a reserve for unknown demands for the overdraft.

Contents

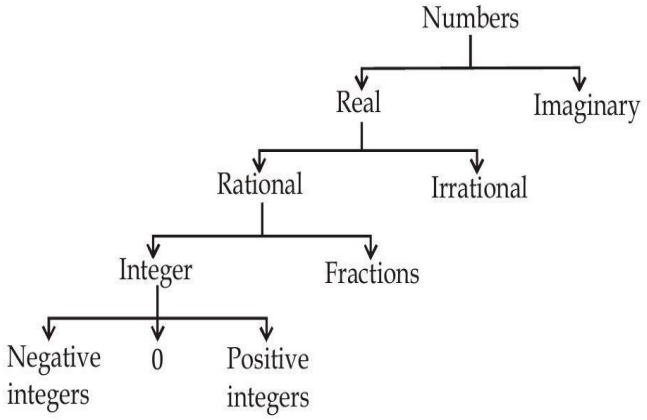
chapter-1 number system 2
chapter-2 ratio and proportion and partnership 38
chapter-3 percentage 73
chapter-4 profit and loss 103
chapter-5 simple interest and compound interest 148
chapter-6 average and ages 178
chapter-7 time and work & pipe and cistern 209
chapter-8 speed, time and distance 259
chapter-9 boat and stream 307
chapter-10 mixture and alligation 334
chapter-11 mensuration 360
chapter-12 probability 400
chapter-13 number series 430
chapter- inequality 460
chapter-15 data enterpretation 501
chapter-16 Data Sufficiency 564

SHANJU'S
Your Exam Partner

Number System, Simplification and Approximation

This chapter forms a basis of many other topics in mathematics. Let us begin by understanding various types of numbers.

1) **Natural Numbers:** All the counting numbers are called natural number.
   Example: 1,2,3,4,5, … ….
   a. **Even Numbers:** The numbers which are exactly divisible by 2 are called even numbers.
      Example: 2,4,6,8, …
   b. **Odd Numbers:** The numbers which leave a remainder 1 when divided by 2 are called odd numbers.
      Example: 2,3,5,7,11, ….
   c. **Co-primes** → Two numbers which have no common factor between them except 1 are said to be co-prime to each other. The two numbers individually may be prime or composite.
      Example: 13 and 29 are co-primes.
   d. **Composite Numbers:** Numbers which are divisible by other numbers along with 1 and itself are called composite numbers.
      Example: 4,6,8,9,10, …..
      The number 1 is neither prime nor composite.
2) **Whole Numbers:** Natural numbers along with ' 0 ' form the set of whole numbers.
   Example: 0,1,2,3, ….
3) **Integers:** All counting numbers and their negatives along with zero are called Integers.
   Example: … … . $-4, -3, -2, -1, 0, 1, 2, 3, 4$, … ….
4) **Rational and Irrational Numbers:** Any number which can be expressed in the form of $\frac{p}{q}$, where p and q are integers and q $\neq$ 0, is a rational number.
   Example: $\frac{3}{5}$, 4, -6, etc.
   Numbers which are represented by non-terminating and non-recurring decimals are called irrational numbers.
   Example: $\sqrt{2} = 1.414$ … … , $\sqrt{3} = 1.732$ … …
5) **Real Numbers:** Rational and irrational number taken together are called real numbers.
   We can summarise the above discussion as follows :



Some important formula :

1. $a^2 - b^2 = (a + b)(a - b)$
2. $(a + b)^2 = a^2 + b^2 + 2ab$
3. $(a - b)^2 = a^2 + b^2 - 2ab$
4. $(a + b + c)^2 = a^2 + b^2 + c^2 + 2ab + 2bc + 2ac$
5. $(a + b)^3 = a^3 + b^3 + 3ab(a + b)$
6. $(a - b)^3 = a^3 - b^3 - 3ab(a - b)$
7. $a^3 + b^3 = (a + b)(a^2 + b^2 - ab)$
8. $a^3 - b^3 = (a - b)(a^2 + b^2 + ab)$
9. $a^3 + b^3 + c^3 - 3abc = (a + b + c)(a^2 + b^2 + c^2 - ab - bc - ac)$

Tests of divisibility

Divisibility by 2: A number is divisible by 2 if its unit digit is zero or an even number.
Example: 248,130

Divisibility by 3: A number is divisible by 3 if the sum of its digit is divisible by 3 .
Example: 279 → 2 + 7 + 9 = 18.
18 is divisible by 3 , hence 279 is divisible by 3 .

Divisibility by 4: A number is divisible by 4 if the number formed by its last two digits is divisible by 4 .
Example: 236784
Here, 84 is divisible by 4 , hence 236784 is divisible by 4 .

Divisibility by 5: A number is divisible by 5 if the number or its unit digit is either 5 or 0 .**Example:** 115,240 , etc.

Divisibility by 6: A number is divisible by 6 if it is divisible by both 2 and 3 .
Example: 318, 396, etc.

Divisibility by 8: A number is divisible by 8 if the number formed by its last 3 digit is divisible by 8.
Example: 23816.
Here, 816 is divisible by 8, hence 23816 is divisible by 8 .

Divisibility by 9: A number is divisible by 9 if the sum

of all its digits is divisible by 9 .

Example: $72936 \rightarrow 7+2+9+3+6=27$

27 is divisible by 9 , hence 72936 is divisible by 9 .

Divisibility by 11: A number is divisible by 11 if the difference of the sum of the alternate digits starting from the units digit and the sum of the alternate digits starting from the tens digit is either ' 0 ' or is a multiple of 11.

Example: 1331

$(1+3)-(3+1)=0 \Rightarrow 1331$ is divisible by 11 .

Divisibility by 19: A number is divisible by 19 if the sum of the number formed by digits other than the unit digit and twice the unit digit is divisible by 19 .

Example: $76 \Rightarrow 7+(2\times 6)=19$.

Therefore 76 is divisible by 19 .

Least Common Multiple (LCM)

LCM of two or more numbers is the least number which is divisible by each of these numbers.

Finding LCM

Write the numbers as product of prime factors. Then multiply the product of all the prime factors of the first number by those prime factors of the second number which are not common to the prime factors of the first number.

The product is then multiplied by those prime factors of the third number which are not common to the prime factors of the first two numbers.

The final product after considering all the numbers will be the LCM of these numbers.

Example: Find the LCM of 540 and 108?

$540=2\times 27\times 10=2^2\times 3^3\times 5$

$108=2^2\times 3^3$

$\text{LCM}=2^2\times 3^3\times 5=4\times 27\times 5=540$

Finding LCM by division

Choose one prime factor common to at least two of the given numbers write the given numbers in a row and divide them by the above prime number. Write the quotient for each number under the number itself. If a number is not divisible by the prime factor selected, wirte the number as it is Repeat this process untill you get quotients which have no common factor.

The product of all the divisors and the numbers in the last line will be the LCM.

Find the LCM of 36,84 and 90

3	36,	84,	90
2	12,	28,	30
2	4,	28,	10
2	2,	14,	5
	1,	7,	5

$\text{LCM}=3\times 3\times 2\times 2\times 7\times 5=1260$

Highest Common Factor (HCF)

HCF is the largest factor of two or more given numbers.

HCF is also called Greatest Common Divisor (GCD).

Finding HCF by Factorisation method

Express each given number as a product of primes factors. The product of the prime factors common to all the numbers will be the HCF.

Find the HCF of 144,336 and 2016?

$144=12\times 12=3\times 2^2\times 3\times 2^2=3^2\times 2^4$

$336=2^4\times 3\times 7$

$2016=2^5\times 7\times 3^2$

$HCF=3\times 2^4=48$

Finding HCF by Division method

Divide the greater number by the smaller number. Then divide the divisor by the remainder. Now, divide the second divisor by the second remainder

We repeat this process till no remainder is left. The last divisor is the HCF.

Then using the same method, find the HCF of this HCF and the third number. This will be the HCF of the three numbers.

HCF of 144,336

$144\overline{)336(2}$
288
$\overline{48\overline{)144(3}}$
144
$\overline{0}$

$\text{HCF}=48$

LCM and HCF of fractions :

$$\text{LCM of fractions}=\frac{\text{LCM of Numerators}}{\text{HCF of Denominators}}$$

$$\text{HCF of fractions}=\frac{\text{HCF of Numerators}}{\text{LCMof Denominators}}$$

Simplification

BODMAS Rule

This rule depicts the correct sequence in which the operations are to be executed, so as to find out the value of a given expression.

B → Bracket

0 → Of
D → Division
M → Multiplication
A → Addition
S → Subtraction
Thus in simplifying an expression, first of all the brackets must be removed, strictly in the order (), {}, [].
After removing the brackets, we must use the following operations strictly in the order :
(i) of (ii) Division (iii) Multiplication (iv) Addition (v) Subtraction

Approximation

One needs to solve the questions of approximation by taking the nearest approximate values and mark the answers accordingly.

If the given value is 3.009 , then the approximate value is 3 .
If the given value is 4.45 , then the approximate value is 4.50 .

Ex.1. $2959.85 \div 16.001 - 34.99 = ?$

(a) 160
(b) 150
(c) 140
(d) 180
(e) 170

Sol.1 (b); $2959.85 \div 16.001 - 34.99 \cong 2960 \div 16 - 35 = 185 - 35 = 150$

Ex.2. $(1702 \div 68) \times 136.05 = ?$

(a) 3500
(b) 3550
(c) 3450
(d) 3400
(e) 3525

Sol.2 (d);$(1702 \div 68) \times 136.05(1700 \div 68) \times 1363400$

Some shortcuts and tricks for calculations

Multiplication by a number close to **10**, **100**, **1000**, etc
Example: $999 = 1000 - 1; 101 = 100 + 1$
To multiply with such numbers, convert the number into the form of $(10 \pm C)$ or $(100 \pm C)$ etc.
Example: $46 \times 98 = 46 \times (100 - 2) = 46 \times 100 - 46 \times 2 = 4600 - 92 = 4508$
Multiplication by 5 or powers of 5 : can be converted into multiplication by 10 or powers of 10 by dividing it by 2 and its powers.

Example: $2345 \times 125 = 2345 \times 5^3 = 2345 \times \left(\frac{10}{2}\right)^3 = \frac{234500}{8} = 293125$

Square of a number which ends with 5.

(1) Last two digits of the square are always 25.
(2) To find the number which comes before 25 , perform the operation $n \times (n + 1)$, where n is the digit before 5 in the original number.
(3) Put the number received in step 2 before 25 and you get the square.
(4) Example: $(65)^2 = ?$
(5) Last two digits are 25.
(6) The digit before 5 is 6 perform $n \times (n + 1)$ operation on this $= 6 \times (6 + 1) = 6 \times 7 = 42$
(7) Hence the square of 65 will be 4225 .

Square of a number containing repeated 1's

(1) Count the number of digits. Let the count be n.
(2) Now, starting from 1 , write the number till n.
(3) Then, starting from n write the number till 1 .

Example: Find the square of 1111 ?
Sol. There are four 1's. Now we write numbers from 1 to 4 . Then again form 4 to 1. So, $(1111)^2 = 1234321$

Multiplying 2-digit numbers where the unit's digits add upto 10 and ten's digits are same

Example: $42 \times 48 = ?$
(1) First multiply the unit digits of the numbers. $2 \times 8 = 16$
(2) Then multiply 4 by $(4 + 1) \Rightarrow 4 \times 5 = 20$.
(3) The answer is 2016.

Multiplying numbers just over/below 100

Example: $108 \times 109 = 11772$.
The answer is in two parts : 117 and 72.
117 is (108 + 9) or (109 + 8), and 72 is 8×9.

new, check for $107 \times 106 =$ 113 | 42 → (7×6)
↓
(107+6)
or
(106+7)

Multiplication of a 2-digit number by a 2-digit number

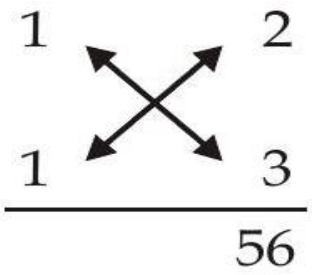
Example: 12×13 ?
Sol. Steps:

SHANU'S Your Exam Partner

1. Multiply the right-hand digits of multiplicand and multiplier (unit-digit of multiplicand with unit-digit of the multiplier).

1 2
↓
1 3
6(2 × 3)

2. Now, do cross-multiplication, i.e., multiply 3 by 1 and 1 by 2 . Add the two products and write down to the left of 6 .



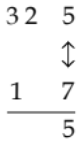
3. In the last step we multiply the left-hand figures of both multiplicand and multiplier (ten's digit of multiplicand with ten's digit of multiplier).

1 2
↑
1 3
156(1 × 1)

So, the answer is 156 .

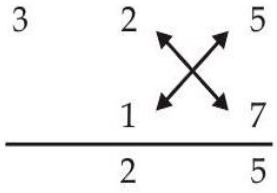
Example: 325 × 17 = ?
Sol. Steps:

1.



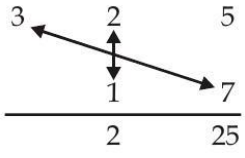
(5 × 7 = 35, put down 5 and carry over 3)

2.



(2 × 7 + 5 × 1 + 3 = 22, put down 2 and carry over 2)

3.

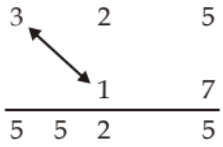


(3 × 7 + 2 × 1 + 2 = 25, put down 5 and carry over 2)

2.

So, answer is 5525

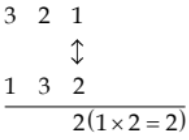
4.



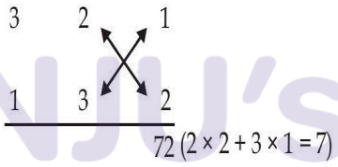
Multiplication of a 3-digit number by a 3-digit number

Example: 321 × 132 = ?
Sol. Steps:

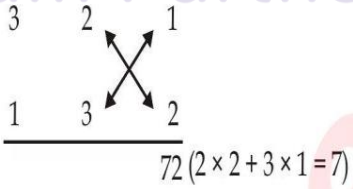
1.



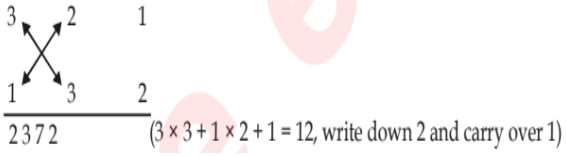
2.



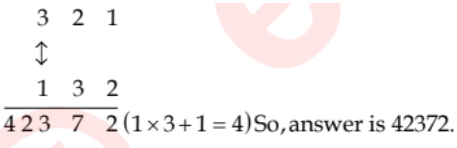
3.



4.



5.



Some more short tricks:

(1) 2 + 22 + 222 + 2222 = 2(1 + 11 + 111 + 1111)
2(1234) = 2468

(2) 0.2 + 0.22 + 0.222 + 0.2222 + 022222 = 2(0.1 + 0.11 + 0.111 + 0.1111 + 0.11111) =
2(0.54321) = 1.08642

SHANJU'S Your Exam Partner

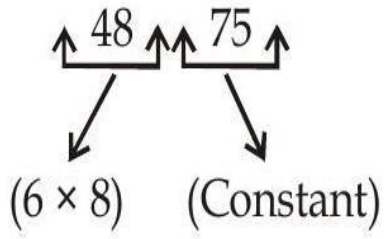
(3) $2 + 8 + 22 + 88 + 222 + 888 + 2222 + 8888 + 22222 + 88888 = 2(12345) + 8(12345)$
$= (12345)(2 + 8) = 12345 \times 10 = 123450$

(4) $(2222)^2 = 2^2 \times (1111)^2 = 4 \times (1234321) = 4937284$

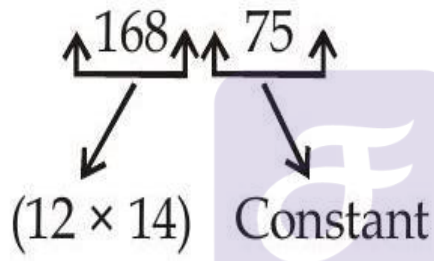
(5) If unit digit in each number is 5 and difference of the numbers is 10 , then they are multiplied as:

Example:

(1) $65 \times 75 =$



(2) $125 \times 135 =$



Percentage - fraction conversion:

The following percentage values of corresponding fractions must be on your tips :

Example: $62\frac{1}{2}\%$ of 256 can be easily calculated if we know the fractional value of $62\frac{1}{2}\%$ i.e., $\frac{5}{8}$.

$$\left[1 = 100\%,\ \frac{1}{2} = 50\%\right]\quad \left[\frac{1}{3} = 33\frac{1}{3}\%,\ \frac{2}{3} = 66\frac{2}{3}\%\right]\quad \left[\frac{1}{4} = 25\%,\ \frac{3}{4} = 75\%\right]\quad \left[\frac{1}{5} = 20\%,\ \frac{2}{5} = 40\%,\ \frac{3}{5} = 60\%,\ \frac{4}{5} = 80\%\right]\quad \left[\frac{1}{6} = 16\frac{2}{3}\%,\ \frac{5}{6} = 83\frac{1}{3}\%\right]$$

$$\frac{1}{20} = 5\%, \frac{1}{19} = 5 + \frac{5 \times 5}{100} = 5.25, \frac{1}{21} = 5 - \frac{5 \times 5}{100} = 4.75\%$$

Similarly,

$\frac{1}{25} = 4, \frac{1}{24} = 4 + \frac{4 \times 4}{100} = 4.16, \frac{1}{26} = 4 - \frac{4 \times 4}{100} = 3.84, \frac{1}{11} = 9.09\%, \frac{1}{7} = 14.2857\%, \frac{1}{22} = 4.54\%, \frac{1}{14} = 7.14\%$
$\frac{1}{33} - 3.03, \frac{1}{28} - 3.57\%$

Finding the unit place digit when a number is raised to some power

(1) When the unit digit of a number is 0,1,5, or 6 , then on raising that number to any power, the new number obtained will have its unit digit 0,1,5, or 6 respectively.

(2) When the unit digit of a number is 2 :

Example: $(122)^{159}$

Divide 159 by 4

$\frac{159}{4} \rightarrow$ remainder $= 3$

(unit digit of 122) $^3 = 2^3 = 8$

So, the unit digit of $(122)^{159} = 8$

(3) When the unit digit of the number is 3 .

Example: $(53)^{145}$

Sol. $\frac{145}{4} \Rightarrow$ Remaider $= 1$

$3^1 = 3$

So, unit digit of $(53)^{145}$ is 3 .

(4) When the unit digit is 4 :

Example: 144

if it is raised to an odd power → Example : $(144)^{145}$ then unit place is 4.

if it is raised to an even power → Example : $(144)^{144}$, then unit place is 6.

(5) When the unit digit is 7:

Example: $(327)^{329}$

Sol. $329 \div 4 \Rightarrow$ rem. $= 1 \Rightarrow 7^1 = 7 \Rightarrow$ So, unit digit $= 7$.

(6) when the unit is 8:

Example: $(88)^{178}$

Sol. $178 \div 4 \Rightarrow$ Rem. $= 2 \Rightarrow 8^2 = 64 \Rightarrow$ So, unit digit of $(88)^{178}$ is 4

(7) When the unit digit is 9 ;

Example:119

if it is raised to an odd power

Example: $(119)^{119} \Rightarrow$ unit digit $= 9$

if it is raised to an even power →

Example: $(119)^{118} \Rightarrow$ unit digit $= 1$

Finding minimum and maximum values in fractions:

Example: Find maximum value:

$$\frac{5}{7}, \frac{9}{4}, \frac{8}{13}, \frac{14}{15} \Rightarrow$$

Let us consider $\frac{5}{9}$ and $\frac{9}{4}$



$$5 \times 4 < 9 \times 7 \Rightarrow \frac{5}{7} < \frac{9}{4}$$

Now, let us take: $\frac{9}{4}$ and $\frac{8}{13}$

SHAALA's Your Exam Partner



$13 \times 9 > 4 \times 8 \Rightarrow \frac{9}{4} > \frac{8}{13}$

$\frac{9}{4}$ is greater than both $\frac{5}{7}$ and $\frac{8}{13}$.

Now, let us compare $\frac{9}{4}$ and $\frac{14}{15}$



$15 \times 9 > 4 \times 14 \Rightarrow \frac{9}{4} > \frac{14}{15}$

So, $\frac{9}{4}$ is the greatest value among all given values.

SHANJU'S
Your Exam Partner

Basic Questions

1. 320% of $40 = ?$
(a) 128
(b) 140
(c) 180
(d) 60
(e) 210

2. 14.28% of $49 = ?$
(a) 8
(b) 11
(c) 7
(d) 16
(e) 15

3. $1\frac{1}{3} - 1\frac{1}{9} + 1\frac{1}{6} = ?$
(a) $1\frac{5}{18}$
(b) $1\frac{7}{18}$
(c) $1\frac{1}{9}$
(d) $1\frac{4}{9}$
(e) None of these

4. $3/7$ of $49/6$ of $4/7 = ?$
(a) 1
(b) 2
(c) 3
(d) 4
(e) 5

5. 25% of $48 + 50\%$ of $120 = ?\%$ of 1200
(a) 4
(b) 5
(c) 6
(d) 8
(e) 16

6. $\sqrt{52 \times 27 \div 6 + 26 - 4} = ?$
(a) $\sqrt{24}$
(b) $(16)^2$
(c) 24
(d) $\sqrt{16}$
(e) None of these

7. $4\frac{4}{5} \div 6\frac{2}{5} = ?$
(a) 3/4
(b) 5/7
(c) 7/11
(d) 5/8
(e) None of these

8. $\frac{16}{24} + \frac{4}{10} - \frac{1}{6} = ?$
(a) $\frac{9}{10}$
(b) $\frac{7}{10}$
(c) $\frac{5}{10}$
(d) $\frac{3}{10}$
(e) None of these

9. $8000 \div 16 - 200 = ? \times 6$
(a) 75
(b) 60
(c) 50
(d) 25
(e) None of these

10. $\frac{3}{5}$ th of 24% of $500 - 32 = ?$
(a) 20
(b) 30
(c) 50
(d) 40
(e) None of these

11. $(\sqrt{2209} - 12) \times 5 = ?$
(a) 175
(b) 180
(c) 225
(d) 195
(e) None of these

12. $\sqrt{8 \times 220 \div 11 + 85 - 20} = ?$
(a) 15
(b) 25
(c) 35
(d) 20
(e) None of these

13. $1\frac{5}{6} + 2\frac{3}{5} + 4\frac{2}{3} = ?$
(a) $2\frac{1}{10}$
(b) $7\frac{1}{10}$
(c) $6\frac{1}{10}$
(d) $9\frac{1}{10}$
(e) None of these

14. $\frac{1}{4}$ th of $\frac{1}{2}$ of $\frac{3}{4}$ th of $52000 = ?$
(a) 4785
(b) 4877
(c) 4857
(d) 4875
(e) None of these

15. $\frac{3}{11}$ of $\frac{5}{7}$ of $(?) = 63$
(a) 3134
(b) 312.4
(c) 323.4
(d) 3100
(e) None of these

SHANJU'S Your Exam Partner

Prelims Questions
Level - 1

Directions (1-5): What will come in place of question mark (?) in the following questions.

1. $\left(\frac{4\frac{4}{5}\text{ of }25}{48}\right) \div \left(\frac{5}{4}\text{ of }32 + \frac{3}{7}\text{ of }21\right) = ?\text{ of }\frac{1}{49}$
(a) 3.5
(b) 3
(c) 2.5
(d) 4
(e) 5

2. $\sqrt{?}\text{ of }6 + 20\%\text{ of }95 = \frac{1}{2}\text{ of }62$
(a) 3
(b) 4
(c) 5
(d) 6
(e) 7

3. $\left(\frac{5}{3}\text{ of }6\frac{3}{5}\text{ of }\frac{9}{11}\right) + ?^2 = 45$
(a) 5
(b) 7
(c) 4
(d) 8
(e) 6

4. $\left(\frac{4}{7} \times \frac{14}{5} \div 2\right) - \left(\frac{3}{10}\text{ of }?\right) = \frac{4}{5} - 3$
(a) 10
(b) 8
(c) 9
(d) 11
(e) 12

5. $4\frac{4}{5} + 2\frac{1}{15} - \frac{27}{5} = 2\frac{1}{5} \div 3 \times ?$
(a) $\frac{2}{9}$
(b) 1
(c) 2
(d) 3
(e) $\frac{1}{9}$

Directions (6-10): What will come in place of question mark (?) in the following questions.

6. $\left(\frac{\frac{4}{5}\text{ of }25}{64}\right) \div \left(432 - 20^2 + \frac{3}{7}\text{ of }21\right) \times (82) = ?\text{ of }\frac{1}{64}$
(a) 50
(b) 45
(c) 35
(d) 30
(e) 40

7. $55\%\text{ of }900 + 70\%\text{ of }1050 = ?\%\text{ of }3000$
(a) 41
(b) 42
(c) 43
(d) 44
(e) 45

8. $73823 - 34156 + 4756 + 6758 - 9849 = 41499 - 160 - ?$
(a) 5
(b) 7
(c) 4
(d) 8
(e) 6

9. $\frac{5599}{1331} \times \frac{3773}{2036} \times \frac{88}{49} = ? - 6^2$
(a) 44
(b) 46
(c) 48
(d) 50
(e) 52

10. $84 \times \frac{1}{4} \div 21^2 + ? = \frac{7}{147} \times 21 - \frac{20}{21}$
(a) 2
(b) 1
(c) 0
(d) 3
(e) 4

Directions (11-15): What will come in place of question mark (?) in the following questions

11. $\sqrt{5776} - \sqrt{1444} + \sqrt{729} = 43 + ?$
(a) 25
(b) 20
(c) 26
(d) 24
(e) 22

12. $78 \times 26 \div 6 + 1262 = 1311 + (?)^2$
(a) 17
(b) 22
(c) 15
(d) 13
(e) 19

13. $1484 \div 28 + 1462 \div 34 - 12 \times 7 = ?$
(a) 12
(b) 14
(c) 18
(d) 16
(e) 20

14. $42.5 \times 15 + 37.5 \times 25 = 1420 + ?$
(a) 145
(b) 165
(c) 155
(d) 170
(e) 185

15. $2450 + 3760 - 3830 = 6000 - ?$
(a) 3610
(b) 3620
(c) 3580
(d) 3600
(e) 3520

SHANJO'S Your Exam Partner

Directions (16-20): What will come in place of question mark (?) in the following questions

16. $\sqrt{\frac{3840}{60}+\frac{1440}{40}-\frac{1330}{70}}=?$
(a) 10
(b) 9
(c) 8
(d) 7
(e) 11

17. $25\times 18+\frac{4200}{40}-\frac{525}{105}=740-?$
(a) 200
(b) 220
(c) 190
(d) 170
(e) 150

18. $3845+4380+2640-5965=(?)^2$
(a) 75
(b) 60
(c) 80
(d) 70
(e) 72

19. $400\div 20\times 35+6666\div 33+?=1100$
(a) 180
(b) 198
(c) 195
(d) 205
(e) 200

20. $28\times 14.5+1680\div 15+445=1000-?$
(a) 27
(b) 37
(c) 47
(d) 50
(e) 40

Directions (21-25): What will come in place of question mark (?) in the following questions

21. $\sqrt{256}\times\sqrt{169}+3600\div 12=800-?$
(a) 312
(b) 280
(c) 292
(d) 324
(e) 296

22. $37.5\times 14+800-(26)^2+136=?$
(a) 785
(b) 800
(c) 810
(d) 825
(e) 765

23. $5430+3780-6430=2260+?$
(a) 530
(b) 490
(c) 500
(d) 520
(e) 510

24. $2160\div 12+5740\div 14-3150\div 15+?=400$
(a) 16
(b) 32
(c) 28
(d) 24
(e) 20

25. $\sqrt{3481}\times 7+\sqrt{5625}\times 4=500+?$
(a) 213
(b) 223
(c) 203
(d) 233
(e) 243

Direction (26-30): What will come in place of (?) question mark.

26. 50% of $128+\frac{\sqrt{16}}{2}\times 4=?+10$
(a) 64
(b) 62
(c) 60
(d) 56
(e) 82

27. $\frac{\sqrt[3]{1331}}{11}+\sqrt{81}+?=27$
(a) 19
(b) 18
(c) 17
(d) 16
(e) 15

28. $(3)^2\times(3)^6\times(9)^2\div(27)^2=(3)^?$
(a) 4
(b) 6
(c) 7
(d) 5
(e) 8

29. $123+447-170+500=?-200$
(a) 1300
(b) 1100
(c) 1000
(d) 1030
(e) 1173

30. $(14)^2+179+(5)^2=(?)^2$
(a) 10
(b) 20
(c) 30
(d) 40
(e) 22

Directions (31-35): What will come in place of question mark (?) in the following questions

31. $\sqrt{841}+\sqrt{1296}-\sqrt{1024}=\sqrt{\ }?$
(a) 1156
(b) 1089
(c) 1024
(d) 961
(e) 1225

32. $14400\div 36+15600\div 12+450=1800+?$
(a) 410
(b) 330
(c) 390

SHANJU'S Your Exam Partner

(d) 350
(e) 370

33. $7450 + 5880 - 6890 = 9000 - ?$
(a) 2560
(b) 2760
(c) 2460
(d) 2850
(e) 2480

34. $32 \times 25 + 44 \times 18 + 348 \div 6 = ?$
(a) 1550
(b) 1620
(c) 1650
(d) 1600
(e) 1690

35. $\sqrt{1225} \times 28 + 203 \times 7 = (?)^2$
(a)47
(b) 45
(c) 49
(d) 51
(e) 53

Directions (31-40): What will come in place of question mark (?) in the following questions

36. $\sqrt{961} + \sqrt{1369} - \sqrt{1444} = \sqrt{361} + \sqrt{\ } ?$
(a) 196
(b) 169
(c) 144
(d) 121
(e) 81

37. $52500 \div 7 + 64680 \div 6 = 19500 - ?$
(a) 1220
(b) 1260
(c) 1280
(d) 1340
(e) 1390

38. $28.5 \times 34 + 2320 \div 8 = (36)^2$ - ?
(a) 51
(b) 47
(c) 43
(d) 34
(e) 37

39. $47 \times 27 + 15600 \div 8 + 181 = ?$
(a) 3320
(b) 3420
(c) 3370
(d) 3400
(e) 3460

40. $112.5 \times 5 + 4560 \div 6 - 175 \times 7 = ?$
(a) 103.5
(b) 91.5
(c) 97.5
(d) 110.5
(e) 115.5

Directions (41-45): Find the value of question marks (?) in the following questions.

41. 80% of $? = \sqrt{250 \times 44 + 40\% \text{ of } 8500}$
(a) 80
(b) 120
(c) 150
(d) 180
(e) 240

42. $? \times 40 \div 24 \times 27 = \frac{594}{115} \times \frac{2300}{264}$
(a) 1
(b) 2
(c) 3
(d) 4
(e) 5

43. 20% of $(40 \times \sqrt{?}) = (32)^2 + (16)^2$
(a) 160
(b) 2560
(c) 16
(d) 25600
(e) 256

44. $? + 13 \times 50 = 420 + 45\% \text{ of } 800 + 220$
(a) 300
(b) 350
(c) 400
(d) 450
(e) 250

45. $(?)^{\frac{3}{2}} = 256 \times (2)^8 \div (8)^5 \times 32$
(a) 4
(b) 256
(c) 64
(d) 1024
(e) 16

Directions (46-50): What will come in place of question mark (?) in the following questions

46. $56 \times 28 + 7680 \div 6 - 37 \times 24 = ?$
(a) 1880
(b) 1990
(c) 1910
(d) 1960
(e) 2020

47. $(28)^2 + (12)^3 + (38)^2 = (65)^2$ - ?
(a) 275
(b) 269
(c) 281
(d) 264
(e) 259

48. $7560 + 8165 + 6780 = 18000 + ?$
(a) 4620
(b) 4580
(c) 4505
(d) 4475
(e) 4540

49. $\sqrt{2401} + \sqrt{3969} - \sqrt{3136} = 32 + ?$
(a) 28
(b) 32
(c) 26
(d) 30

SHANJU'S Your Exam Partner

(e) 24

50. $1750 \times \frac{1}{7} + 900 \times \frac{3}{8} + 3240 \times \frac{2}{9} = ?$

(a) 1307.5
(b) 1368.5
(c) 1425.5
(d) 1268.5
(e) 1487.5

Directions (51-55): What should come in place of question mark (?) in the following questions?

51. 48% of 525 + ? % of 250 = 499

(a) 88.8
(b) 76.6
(c) 82.6
(d) 98.8
(e) 92.8

52. $\frac{5}{2}$ of $\frac{7}{8}$ of $\frac{1}{28}$ of 1600 = 260+? −499

(a) 264
(b) 480
(c) 364
(d) 342
(e) 420

53. $\sqrt{5^2 \times 41 \times 5 - 17^2 - 75} = ?$

(a) 69
(b) 71
(c) 79
(d) 63
(e) 89

54. $\sqrt{256 \times 49} + (19)^2 + 11 = (?)^2$

(a) 484
(b) 22
(c) 24
(d) 42
(e) 26

55. $252 + 520 \div 20 + 420 = 121 + ?$

(a) 587
(b) 577
(c) 527
(d) 477
(e) 627

SHANJU'S
Your Exam Partner

Level - 2

Directions (1-5): What approximate value will come in place of question mark (?) in the following questions. (You are not expected to calculate the exact value)

1. 40.02% of $601 - 249.97 = ? - 69.98\%$ of 910
(a) 607
(b) 627
(c) 637
(d) 617
(e) 647

2. $42001 \div 60 \times 29.95 = ? \times 41.99$
(a) 540
(b) 520
(c) 500
(d) 460
(e) 480

3. $(42.02)^2 + (6.98)^2 - (27.02)^2 = (33.01)^2 - ?$
(a) 1
(b) 2
(c) 3
(d) 4
(e) 5

4. $\frac{699.97}{52} \div \frac{11}{207.99} \times \frac{121}{77.02} = ?$
(a) 400
(b) 410
(c) 390
(d) 420
(e) 380

5. 29.97% of $? + \sqrt{399.81} = (14.98)^2 + 31.99$
(a) 750
(b) 730
(c) 760
(d) 790
(e) 830

Directions (6-10): What approximate value will come in place of question mark (?) in the following questions. (You are not expected to find the exact value)

6. $\frac{125.98}{154.03} \times \frac{198.02}{17.99} - \frac{156.05}{101.98} \times \frac{51.03}{78.03} = ?$
(a) 8
(b) 25
(c) 35
(d) 50
(e) 0

7. 7. 80.08% of $349.98 + 45.02\%$ of $799.99 = ?\% \times 255.95$
(a) 300
(b) 270
(c) 235
(d) 250
(e) 200

8. $\sqrt{1224.99} \div 6.99 = ? - 1799.98$
(a) 1600
(b) 1810
(c) 1950
(d) 1710
(e) 1900

9. $2744.98 - 1417.99 = ? + 987.98$
(a) 369
(b) 299
(c) 119
(d) 229
(e) 339

10. $?^2 = 44.99\%$ of $4500.02 - 24.99\%$ of $3959.98 + 87.01 \times 2.97$
(a) 0
(b) 16
(c) 36
(d) 56
(e) 80

Directions (11-15): What approximate value will come in place of question mark (?) in the following questions. (You are not expected to find the exact value)

11. $1749.98 \div 350 \times 49.79 + 111.03 = (?)^2$
(a) 19
(b) 39
(c) 29
(d) 9
(e) 49

12. $? \times \mathbf{625.04} = 15625.01 + 9999.99$
(a) 41
(b) 25
(c) 60
(d) 12
(e) 68

13. 29.98% of $701 - 350.01 + 82\%$ of $501 = ?$
(a) 230
(b) 290
(c) 270
(d) 250
(e) 310

14. $5759.99 \div 45.01 + 11.99 = ? \times 10.03$
(a) 60
(b) 2
(c) 46
(d) 30
(e) 14

15. $1395.98 + 412.04 - 2703.99 = ? - (31.02)^2$
(a) 28
(b) 45
(c) 65
(d) 85
(e) 98

Directions (16-20): What approximate value will come in place of question mark (?) in the following

SHANJU'S Your Exam Partner

questions. (You are not expected to find the exact value)

16. $41.979 \times \frac{22}{7} + 19.989\%$ of $530.014 - 26.021 = ?$
(a) 244
(b) 198
(c) 236
(d) 212
(e) 252

17. $(23.012 \times 22.989) + 20.985 \times 7.014 = ?^2$
(a) 8
(b) 38
(c) 26
(d) 12
(e) 44

18. $\sqrt{1443.979} \div 18.981 + 3.5 \times \sqrt{16.017} = (?)$
(a) 16
(b) 30
(c) 8
(d) 26
(e) 10

19. $779.98 \div 48.014 \times 15.989 = ?$
(a) 280
(b) 248
(c) 275
(d) 242
(e) 260

20. $1485.988 + 212.04 - 1703.99 = ? - (11.02)^2$
(a) 95
(b) 115
(c) 130
(d) 102
(e) 135

Directions (21-25): What approximate value will come in place of question mark (?) in the following questions. (You are not expected to find the exact value)

21. $43.495 \times \frac{64.02}{31.99} \times \frac{1}{28.979} - 2.012 = ?$
(a) 4
(b) 12
(c) 6
(d) 1
(e) 8

22. $(33.33 \times 80.989 \div 99.99) + 3.024 - ? = 4.012$
(a) 20
(b) 26
(c) 34
(d) 16
(e) 40

23. $20.021 + 4.969 + 30.499 - 50.022 = ?$
(a) 5.5
(b) 2
(c) 8.5
(d) 12.5
(e) 14

24. $995.013 - 39.976 \times 19.99 + 5.022 = 1.988 \times ?$
(a) 115
(b) 85
(c) 100
(d) 125
(e) 75

25. $(10.011)^2 + (23.989)^2 = 275.99 + (?)^2$
(a) 34
(b) 6
(c) 28
(d) 12
(e) 20

Directions (26-30): What approximate value will come in place of question mark (?) in the following questions. (You are not expected to find the exact value)

26. $33.989 \times \frac{4.01}{17.02} \times \frac{1}{3.99} - 2.012 = ?$
(a) 0
(b) 3
(c) 5
(d) 4
(e) 8

27. $(11.01 + 12.97) \times \frac{1}{7.99} + 5.956 = 18 - ?$
(a) 15
(b) 13
(c) 5
(d) 9
(e) 18

28. $119.022 + 40.99 + 9.03 = ?^2$
(a) 10
(b) 13
(c) 17
(d) 8
(e) 16

29. $58.99 + 52.11 - 47.94 + ? = 85.96$
(a) 27
(b) 19
(c) 23
(d) 15
(e) 30

30. $(14.96)^2 + (5.011)^3 + 50.02 = ?^2$
(a) 28
(b) 16
(c) 25
(d) 12
(e) 20

Directions (31-35): What approximate value will come in place of question mark (?) in the following questions

31. $112.5 \times 5.95 + 7799 \div 26 + 124.8 = ?$
(a) 1150
(b) 1100
(c) 1200
(d) 1250

SHANJU'S Your Exam Partner

(e) 1050

32. $57.5 \times 13.98 + 8748 \div 13.98 - 21.97 \times 8 = ?$
(a) 1300
(b) 1350
(c) 1205
(d) 1254
(e) 1150

33. $(25.98)^2 + (33.97)^2 + \sqrt{1440} - \sqrt{3136} = ?$
(a) 1814
(b) 1864
(c) 1764
(d) 1710
(e) 1920

34. $12449.5 + 7649.7 - 9874.8 + 8274.9 = ?$
(a) 19200
(b) 17000
(c) 17500
(d) 18000
(e) 18500

35. $(15.98)^3 + 9320 \div 7.99 - 7304.8 \div 4.99 = ?$
(a) 3750
(b) 3800
(c) 3600
(d) 3690
(e) 3850

Directions (36-40): What approximate value will come in place of question mark (?) in the following questions. (You are not expected to find the exact value)

36. $1999.92 \div 49.87 \times 3.01 + 5.13 = (?)^3$
(a) 5
(b) 8
(c) 9
(d) 2
(e) 3

37. 59.9% of $319.94 + 9.99\%$ of $1600.01 = -177 + (?)^2$
(a) 26
(b) 33
(c) 23
(d) 20
(e) 40

38. $1.101 + 11.01 + 101.01 \div 1.01 = ?$
(a) 109
(b) 116
(c) 101
(d) 113
(e) 117

39. $\sqrt{2024} \times \sqrt{9.21} - 35.01 = ? \times 10.1$
(a) 10
(b) 12
(c) 14
(d) 20
(e) 15

40. $1390.98 \div 26.04 \times 1.99 = ? - 16^2$
(a) 324
(b) 413
(c) 400
(d) 343
(e) 363

Directions (41-45): In each of the following questions, find the exact value of (?).

41. $2\frac{3}{5} + 3\frac{2}{3} - 1\frac{1}{2} = ? + 1\frac{23}{30}$
(a) 2
(b) 4
(c) 3
(d) 1
(e) 0

42. $15 \div 5 \times 4 - 2 = ? - 9$
(a) 23
(b) 19
(c) 17
(d) 15
(e) 20

43. $2^3 \times 4^6 \div 8^2 = (2)^{?-2}$
(a) 7
(b) 6
(c) 9
(d) 11
(e) 8

44. $44. \frac{\sqrt{1521}}{\sqrt{169}} \times \frac{\sqrt{1444}}{\sqrt{361}} \times (10)^2 = \sqrt{100} \times ?$
(a) 40
(b) 80
(c) 70
(d) 50
(e) 60

45. 15% of $250 + 35\%$ of $750 - 75 = (?)^2$
(a) 15
(b) 16
(c) 18
(d) 10
(e) 20

46. $7.5 \times 8 - 10 = ? \times 2.5$
(a) 15
(b) 20
(c) 25
(d) 30
(e) 35

47. $7394 + 6295 - 3689 = ? \times 40$
(a) 320
(b) 240
(c) 280
(d) 250
(e) 300

48. $9 \times 9 \div 3 + 9 \times 123 = ? - 19 - 23$
(a) 1176
(b) 1174
(c) 1177
(d) 1175

SHANJU'S Your Exam Partner

(e) 1178

49. $13 \times 23 + 27 \times 37 = (?) - 302$

(a) 1620
(b) 1540
(c) 1700
(d) 1500
(e) 1600

50. $493 + 287 - 334 = -54 + ? \times 5$

(a) 90
(b) 100
(c) 110
(d) 95
(e) 85

SHANJU'S
Your Exam Partner

Mains Questions

Directions (1-5): What will come in place of (?) in the following questions?

1. $\frac{54\% \text{ of } ?}{56 \div 48 \times 54} = (3)^2$
(a) 1050
(b) 1200
(c) 1140
(d) 1180
(e) 1100

2. $\{(15)^2 + (23)^2 - (17)^2\} \div 31 = ?$
(a) 5
(b) 35
(c) 25
(d) 45
(e) 15

3. $\left(\frac{?+65}{45\% \text{ of } 480}\right) \times 72 \div 35 \times 840 = ? \times 18$
(a) 13
(b) 65
(c) 52
(d) 26
(e) 39

4. $(?)^3 + (9)^2 = (12)^3 - 35\% \text{ of } 1800 - 80\% \text{ of } 360$
(a) 14
(b) 12
(c) 9
(d) 6
(e) 11

5. $? = \{(65\% \text{ of } 3400) \div (45\% \text{ of } 900)\} \text{ of } 648$
(a) 3022
(b) 3536
(c) 3468
(d) 3290
(e) 3812

Directions (6-10): What will come in place of (?) in the following questions?

6. $37\% \text{ of } 2500 + 11 \times 21 = (?)^2$
(a) 32
(b) 34
(c) 27
(d) 38
(e) 24

7. $\{(34 \times 23) + (24\% \text{ of } 4900)\} \div 22 = ?$
(a) 89
(b) 35
(c) 48
(d) 65
(e) 11

8. $126 + 25\% \text{ of } (317 + 1059 + 224) = ?$
(a) 580
(b) 572
(c) 545
(d) 526
(e) 512

9. $32\% \text{ of } 1200 \div (26\% \text{ of } 5500) \times 65 \times 132 = (?)^2$
(a) 18
(b) 38
(c) 28
(d) 8
(e) 48

10. $\frac{?\times 15 \times 100}{36} = 1625$
(a) 45
(b) 39
(c) 63
(d) 51
(e) 57

Directions (11-15): What comes at the place of question (?) Mark:

11. $26\% \text{ of } 250 + ?\% \text{ of } 640 = (15)^2$
(a) 35
(b) 25
(c) 20
(d) 15
(e) 45

12. $23 \times 13 + (11)^2 - ? = (19)^2$
(a) 49
(b) 39
(c) 59
(d) 29
(e) 19

13. $\frac{?}{24} + 65\% \text{ of } 260 = 4 \times 49.75$
(a) 640
(b) 840
(c) 960
(d) 720
(e) 800

14. $2.46 \times 15 + 25\% \text{ of } 92.4 = ? \times 15$
(a) 10
(b) 2
(c) 8
(d) 6
(e) 4

15. $460 + 927 - 433 + ? = (31)^2$
(a) 1
(b) 9
(c) 3
(d) 7
(e) 5

Directions (16-20): What will come in place of (?) in the following questions?

16. $45\% \text{ of } 600 \div \{(25 + 15)\% \text{ of } 500\} = ? \div 40$
(a) 62
(b) 48
(c) 54
(d) 58
(e) 46

SHANJU'S Your Exam Partner

17. $\frac{?-80}{15\times24}$ of $432 \times 25 = 4800$
(a) 260
(b) 230
(c) 250
(d) 270
(e) 240

18. $(?)^2 = 210\%$ of $800 + (38)^2 + 108 \times 9$
(a) 64
(b) 54
(c) 84
(d) 94
(e) 74

19. $?\times 23 = 24 \times 45 + 820 - 60\%$ of 2400
(a) 20
(b) 50
(c) 40
(d) 80
(e) 60

20. $?\%$ of $3500 = 1684 - 488 - 31\%$ of 1600
(a) 40
(b) 30
(c) 25
(d) 20
(e) 35

Directions (21-25): Find the approximate value of (?) in the following questions.

21. 24.97% of $1799 - (11.012 \times 24.05) = ?$
(a) 138
(b) 164
(c) 157
(d) 186
(e) 123

22. 12.012% of $(231.989 + 417.91) + 90.98 = (?)^2$
(a) 13
(b) 15
(c) 8
(d) 10
(e) 19

23. $(26.99 \times 48.023) \div 54.01 + 57.03\%$ of $2500.034 = ?$
(a) 1485
(b) 1498
(c) 1467
(d) 1454
(e) 1449

24. $\frac{55.01\% \text{ of } 2199}{67.023+54.12} + (2.034 \times 12.01 + 6.02) = ?$
(a) 28
(b) 40
(c) 62
(d) 72
(e) 56

25. $513.89 - 122.11 + 56.987 + 221.123 = ?$
(a) 670
(b) 690
(c) 780
(d) 730
(e) 760

Directions (26-30): Find the approximate value of (?) in the following questions.

26. 57.034% of $4499 - 12.97 \times 4.99 = (?)^2$
(a) 35
(b) 48
(c) 42
(d) 50
(e) 40

27. $? = \frac{64.99\times36.03}{59.97\% \text{ of } 194.967} + 17.89$
(a) 30
(b) 41
(c) 46
(d) 35
(e) 38

28. $1191.12 - (52.03 + 1267.991) \div 55.034 = ?$
(a) 1103
(b) 1057
(c) 1167
(d) 1149
(e) 1111

29. $11.976 \div 484.01 \times 846.99 + (15.99\%$ of $199) = ?$
(a) 53
(b) 32
(c) 39
(d) 48
(e) 60

30. $(12.011)^3 - (34.998)^2 + 154.034\%$ of $490.04 = ?$
(a) 1285
(b) 1279
(c) 1258
(d) 1264
(e) 1272

Directions (31-35): Find the approximate value of (?) in the following questions.

31. $(?)^2 = (37.012\%$ of $4500.03) \div 332.989 + 19.023 \times 3.99$
(a) 13
(b) 9
(c) 11
(d) 15
(e) 7

32. $? - 219.11 + 670.01 - 1331.03 = 37.034 \times 6.99$
(a) 1097
(b) 1073
(c) 1123
(d) 1047
(e) 1139

33. $\{(5.0023)^3 - (9.01)^2\}$ of $14.978 = ? - 11.997\%$ of 699.95
(a) 767
(b) 758
(c) 731

SHANJU'S Your Exam Partner

(d) 744
(e) 713

34. $?\times 24.023+\frac{1}{2}$ of $419.991=\frac{3}{4}$ of 984.034
(a) 8
(b) 10
(c) 22
(d) 14
(e) 16

35. 41.99% of 2299 − 45.03% of 1400.056 − 11.98 = $(?)^2$
(a) 13
(b) 11
(c) 18
(d) 19
(e) 22

Direction (36-40): What approximate value should come in the place of questions (?) mark.

36. $\frac{144.01}{\sqrt[4]{?}}+24.03\%$ of $124.97=(8.01)^2-\sqrt{99.99}$
(a) 16
(b) 4096
(c) 256
(d) 1296
(e) None of these

37. ? % of $249.95+(3.99)^3=(6.01)^3-\sqrt[4]{16.01}$
(a) 60
(b) 40
(c) 48
(d) 80
(e) 56

38. $28.03\times ?+12.99\%$ of $1999.98=(21.91)^2$
(a) 12
(b) 6
(c) 8
(d) 4
(e) 10

39. $647.89+?^4=(30.99)^2-18.99\%$ of 300.01
(a) 2
(b) 4
(c) 6
(d) 8
(e) 12

40. 32.01% of $?+(17.99)^2=75.99\%$ of 500.04
(a) 175
(b) 150
(c) 125
(d) 225
(e) 275

Direction (41-45): What approximate value should come in the place of question (?) mark.

41. 28.01% of $224.99+(9.01)^2=?2$
(a) 8
(b) 16
(c) 24
(d) 12
(e) 6

42. $\frac{?}{18.01}+(14.01)^2=(15.01)^2-\sqrt[3]{124.99}$
(a) 432
(b) 412
(c) 402
(d) 442
(e) 472

43. $32.01\times ?+(18.01)^2=80.01\%$ of 1404.99
(a) 35
(b) 25
(c) 15
(d) 45
(e) None of these

44. 56.01% of $?+(11.99)^2=68.01\%$ of 499.99
(a) 250
(b) 300
(c) 150
(d) 450
(e) 350

45. $?^3\times 18.08+\sqrt{625.01}=2274.98$
(a) 15
(b) 25
(c) 35
(d) 5
(e) 45

Directions (46-50): Find the approximate value of (?) in the following questions.

46. 62.5% of $999.9+(4.99)^2=(?)\times 25.956$
(a) 15
(b) 25
(c) 45
(d) 55
(e) 35

47. ? % of $\{(26.03)^2-19.023\times 3.99\}=1818.014$
(a) 311
(b) 315
(c) 332
(d) 303
(e) 327

48. $34.99\times 49.980\div 175.045=?-19.98\%$ of 1700.03
(a) 350
(b) 270
(c) 360
(d) 380
(e) 320

49. $(53.97)^2-(12.02)^3+(17.992)^2=?$
(a) 1548
(b) 1686
(c) 1512
(d) 1584
(e) 1632

50. $\frac{1695.94}{?\%\text{ of }799.9}+\sqrt{1023.98}=58.47$
(a) 30

SHANU'S Your Exam Partner

(b) 8
(c) 48
(d) 76
(e) 18

Directions (51-55): Find the approximate value of (?) in the following questions.

51. $?\times 24.99 = (243.02 + 647.023)$ of 44.97
(a) 1674
(b) 1602
(c) 1646
(d) 1628
(e) 1682

52. $(17.989)^3$ of $(35.04)^2 \div 5399.99 + (1.98)^3 = (?)^3$
(a) 15
(b) 9
(c) 7
(d) 13
(e) 11

53. 34.99% of $2499 - 17.97\%$ of $3599 = \frac{\{(?)^2+4.99\}}{3.03}$
(a) 18
(b) 26
(c) 22
(d) 28
(e) 36

54. 15.03% of $? = 1497.03 - 682.991 - 777.995$
(a) 240
(b) 280
(c) 150
(d) 360
(e) 350

55. $\frac{3.011}{4.99} \times \frac{9.021}{19.03} \times ? \times 64.99 = (11.023)^3 + 72.989$
(a) 76
(b) 85
(c) 82
(d) 71
(e) 88

Direction (56-60): What approximate value should come in the place of (?) mark :

56. 72.01% of $(? + 224.98) = (14.01)^2 + 199.99$
(a) 325
(b) 375
(c) 225
(d) 405
(e) 625

57. 16.01% of $? + 64.01\%$ of $350.01 = 64.99\%$ of 400
(a) 125
(b) 225
(c) 275
(d) 350
(e) 625

58. $\frac{128.05}{?} + (17.01)^2 = 19.99\%$ of 1525.01
(a) 6
(b) 12
(c) 4
(d) 16
(e) 8

59. $?^3 + (24.01)^2 = (25.01)^2 + 29.99\%$ of 49.99
(a) 2
(b) 6
(c) 3
(d) 8
(e) 4

60. $?\%$ of $420.01 + (12.01)^2 = 24.01\%$ of 1649.99
(a) 54
(b) 60
(c) 64
(d) 50
(e) 55

Directions (61-65): What approximate value will come in place of (?) in the following questions?

61. $234.01 \times \frac{?}{12.99} - 29.9\%$ of $499.9 = 810.01 \div 26.98$
(a) 30
(b) 20
(c) 15
(d) 10
(e) 25

62. $\frac{59.99}{180.01} \times \sqrt[2]{81.011} + 249.98\%$ of $160.01 = ?$
(a) 407
(b) 412
(c) 399
(d) 395
(e) 403

63. $(5.01)^3 \times (23.99)^2 \div (44.98)^3 = (?)^2$
(a) $\frac{13}{9}$
(b) $\frac{8}{9}$
(c) $\frac{5}{7}$
(d) $\frac{12}{7}$
(e) $\frac{2}{7}$

64. $\{29.001 + 120.99\} \div (4.98)^2 + 4.01 \times (?)^2 = 75\%$ of $839.98 + 51.995$
(a) 17
(b) 13
(c) 16
(d) 15
(e) 14

65. $\sqrt{1520.98} + \sqrt{144.01} + \sqrt{576.001} + ? = 31.997\%$ of 799.9
(a) 181
(b) 211
(c) 171
(d) 201
(e) 191

SHANJU'S Your Exam Partner

Directions (66-70): What approximate value should come in place of Question mark (?) in the following equation?

66. $\frac{25\% \text{ of } 295.7 \times 32.02}{?} = \frac{36.99}{25\% \text{ of } \frac{1}{4}}$

(a) 2
(b) 4
(c) 6
(d) 8
(e) 1

67. $\frac{\sqrt[3]{404.99 \times 315.01 \times 245.40}}{\sqrt{33\frac{1}{3}\% \text{ of } 26.99}} = ?$

(a) 100
(b) 105
(c) 110
(d) 115
(e) 95

68. $19.66\% \text{ of } 144.87 - \frac{266.47}{118.84} \times \frac{17}{18.84} = ?^3$

(a) 5
(b) 7
(c) 0
(d) 3
(e) 6

69. $\sqrt{82 \div 8.76 \div 9.25 \times 3.76} + \frac{181}{91.10} \times \frac{473.92}{237.40} + 7.91 = ?^{\frac{1}{2}}$

(a) 100
(b) 400
(c) 256
(d) 169
(e) 196

70. $6739 + 161 \times 4.966 - 74.99 \times 11.888 + 20\% \text{ of } 121 - 10\% \text{ of } 109 = ?$

(a) 6657
(b) 7067
(c) 7167
(d) 6587
(e) 6757

SHANJU'S
Your Exam Partner

Previous Year Question

Direction (1-5): What approximate value should come in the place of question mark in following question.

1. $(89.99\% \text{ of } 7000.02 + (24.01)^2) \div ? = 1719.01$
(a) 4
(b) 3
(c) 2
(d) 6
(e) 5

2. $32.01 \times 4.99 + ? = 64.03\% \text{ of } 349.97$
(a) 48
(b) 96
(c) 72
(d) 64
(e) 32

3. $\frac{312.07}{?} + (12.99)^2 = 20.01\% \text{ of } 909.99$
(a) None of these
(b) 48
(c) 6
(d) 12
(e) 24

4. $199.99 + 12.01\% \text{ of } 499.99 - \sqrt[3]{63.99} = ? 2$
(a) 12
(b) 16
(c) 14
(d) 18
(e) 8

5. $\frac{84.01}{?} + 26.03\% \text{ of } 799.97 + \sqrt[4]{16.03} = (5.99)^3$
(a) 42
(b) 21
(c) 12
(d) 14
(e) 4

Direction (6-10): Find the value of (?) in following approximation questions:

6. $2^? = 32.01 \div 128.01 \times 1023.99 \div 7.99$
(a) 7
(b) 3
(c) 4
(d) 5
(e) 8

7. $\frac{339.99}{?} = \sqrt{143.99} + \sqrt{64.01}$
(a) 17
(b) 20
(c) 10
(d) 34
(e) 40

8. $34.02\% \text{ of } 550.09 \div ? = 297.07 \div \sqrt{728.95}$
(a) 14
(b) 21
(c) 8
(d) 27
(e) 17

9. $(? \div 9.97) \times 12.08 = 20.12\% \text{ of } 1319.97$
(a) 220
(b) 240
(c) 260
(d) 280
(e) 200

10. $? \% \text{ of } 179.99 = \sqrt{(24.02)^2 + (17.98)^2 + 60.01\% \text{ of } 659.98}$
(a) 80
(b) 60
(c) 40
(d) 20
(e) 10

Directions (11-15): What approximate value should come in place of the question mark (?) in the following questions?
Note: (You are not expected to calculate the exact value.)

11. $24.001 \times 14.999 \times 9.998 = ?$
(a) 4200
(b) 3000
(c) 3600
(d) 4000
(e) 2500

12. $14.003\sqrt{?} + 53.0345\sqrt{?} = \frac{67}{26.999} \times (?)$
(a) 801
(b) 720
(c) 729
(d) 721
(e) 744

13. $10.11 \times 36.93 + \sqrt{48.875} \times 19.99 = 17.231 \times \sqrt{?}$
(a) 25
(b) 144
(c) 225
(d) 625
(e) 900

14. $1898.88 \div 189.921 + 9.99 + (?)^2 = 83.89$
(a) 3
(b) 4
(c) 5
(d) 8
(e) 7

15. $39.7\% \text{ of } 801 - 250.17 = ? - 63\% \text{ of } 801$
(a) 800
(b) 500
(c) 574
(d) 760
(e) 550

Directions (16-20): What approximate value should come in place of the question mark (?) in the following questions? (You are not expected to calculate the exact value.)

16. $57\% \text{ of } 394 - 2.5\% \text{ of } 996 = ?$

SHANU'S Your Exam Partner

(a) 215
(b) 175
(c) 200
(d) 180
(e) 227

17. $96.996 \times 9.869 + 0.96 = ?$
(a) 860
(b) 870
(c) 1080
(d) 965
(e) 1100

18. $\frac{3}{5} \times \frac{1125}{1228} \times 7 = ?$
(a) 7
(b) 12
(c) 9
(d) 4
(e) 15

19. $(\sqrt{329} \times 25) \div 30 = ?$
(a) 12
(b) 15
(c) 24
(d) 21
(e) 9

20. $(638 + 9709 - 216) \div 26 = ?$
(a) 275
(b) 345
(c) 440
(d) 300
(e) 390

Direction (21-25): What will come in the place of (?) mark in following question.

21. $280 \div 4 \div 2 = 170 - ?$
(a) 105
(b) 115
(c) 125
(d) 135
(e) 145

22. $(\sqrt{144} + \sqrt{169}) \times 3 = \frac{?}{5}$
(a) 375
(b) 325
(c) 350
(d) 275
(e) 475

23. $(12 \times 5 \div 4) \times 8 = ?$
(a) 100
(b) 140
(c) 120
(d) 80
(e) 90

24. $(120\% \text{ of } 750) \div ? = 25$
(a) 30
(b) 36
(c) 24
(d) 18
(e) 48

25. $8\frac{1}{2} - 4\frac{5}{6} = ? - 3\frac{7}{12}$
(a) $3\frac{1}{4}$
(b) $3\frac{5}{12}$
(c) $2\frac{7}{12}$
(d) $7\frac{1}{4}$
(e) $5\frac{2}{3}$

26. $275 + 64\% \text{ of } 750 = 750 + ?$
(a) 25
(b) 8
(c) 10
(d) 15
(e) 5

27. $\sqrt{225} + \sqrt{81} + 12^2 = ?$
(a) 168
(b) 164
(c) 162
(d) 172
(e) 182

28. $\frac{510}{?} = \sqrt{324} + 3.25$
(a) 12
(b) 48
(c) 24
(d) 6
(e) 18

29. $12.5\% \text{ of } (120 + ?) = 45$
(a) 160
(b) 180
(c) 360
(d) 240
(e) 120

30. $572 \div 13 \times 12 - 16 = (8)^{?}$
(a) 4
(b) 2
(c) 3
(d) 5
(e) None of these

Direction (31-35): What will come in the place of question mark in following questions.

31. $(? \div 5 \div 7) \times 14 + 112 = 420$
(a) 710
(b) 720
(c) 660
(d) 770
(e) 750

32. $(?)^{(4 \times 16 \div 32 + 1)} + 12^2 = 360$
(a) 4
(b) 6
(c) 8
(d) 2
(e) 3

SHANJU'S Your Exam Partner

33. 50% of $128 + \frac{\sqrt{16}}{2} \times 4 = ? + 10$
(a) 64
(b) 62
(c) 60
(d) 56
(e) 82

34. $\frac{\sqrt[3]{1331}}{11} + \sqrt{81} + ? = 27$
(a) 19
(b) 18
(c) 17
(d) 16
(e) 15

35. $(14)^2 + 179 + (5)^2 = (?)^2$
(a) 10
(b) 20
(c) 30
(d) 40
(e) 22

36. $28.5 \times 34 + 2320 \div 8 = (36)^2 - ?$
(a) 51
(b) 47
(c) 43
(d) 34
(e) 37

37. $47 \times 27 + 15600 \div 8 + 181 = ?$
(a) 3320
(b) 3420
(c) 3370
(d) 3400
(e) 3460

38. $112.5 \times 5 + 4560 \div 6 - 175 \times 7 = ?$
(a) 103.5
(b) 91.5
(c) 97.5
(d) 110.5
(e) 115.5

39. 80% of $? = \sqrt{250 \times 44 + 40\% \text{ of } 8500}$
(a) 80
(b) 120
(c) 150
(d) 180
(e) 240

40. $? \times 40 \div 24 \times 27 = \frac{594}{115} \times \frac{2300}{264}$
(a) 1
(b) 2
(c) 3
(d) 4
(e) 5

41. $? + 13 \times 50 = 420 + 45\%$ of $800 + 220$
(a) 300
(b) 350
(c) 400
(d) 450
(e) 250

42. 12% of $? + 12.5\%$ of $960 = 16 \times 12$
(a) 840
(b) 960
(c) 800
(d) 600
(e) 400

43. $15 \times ? + 20\%$ of $450 = 360$
(a) 12
(b) 20
(c) 24
(d) 16
(e) 18

44. 75% of $\frac{3}{4} \times \frac{8}{9} \times 1800 = ? + 600$
(a) 300
(b) 400
(c) 250
(d) 480
(e) 540

45. $?\%$ of $900 + 500 = 4 \times 197$
(a) 28
(b) 25
(c) 36
(d) 40
(e) 32

Directions (46-50): What should come in place of question mark (?) in following questions?

46. $(48\%$ of $625) \div 0.75 = ?$
(a) 800
(b) None of these
(c) 40
(d) 4000
(e) 400

47. $\frac{(4)^3 + (18)^2}{7^2 + 121 - 73} = ?$
(a) 1
(b) 2
(c) 4
(d) 5
(e) 3

48. $(4)^? \times 2 = \frac{(16)^2}{\sqrt[4]{16}}$
(a) 2
(b) 3
(c) 4
(d) 1
(e) None of these

49. $4 \times (? + 120) = (8)^3$
(a) 6
(b) 12
(c) 8
(d) 4
(e) 16

50. $? + 432 - 205 = 550$
(a) 384
(b) 244

SHANU'S Your Exam Partner

(c) 224
(d) 276
(e) 324

51. $12 \times 8 + (?)^2 = (14)^2$
(a) 10
(b) 12
(c) 8
(d) 6
(e) 9

52. 40% of $400 + ?$ % of $300 = 250$
(a) 40
(b) 36
(c) 25
(d) 30
(e) 20

53. $\sqrt{441} \div 7 = ?$ -180
(a) 185
(b) 183
(c) 187
(d) 184
(e) 182

54. $\sqrt{576} - \sqrt{144} + \sqrt{729} = 36 + ?$
(a) 1
(b) 4
(c) 5
(d) 2
(e) 3

55. $119 + 41 + 9 = ?^2$
(a) 10
(b) 13
(c) 17
(d) 8
(e) 16

56. $12\%(? + 100) = 18$
(a) 40
(b) 50
(c) 30
(d) 100
(e) 60

57. $\frac{\sqrt[3]{1331}}{11} + \sqrt{81} + ? = 27$
(a) 19
(b) 18
(c) 17
(d) 16
(e) 15

58. $?^2 + \sqrt{400} = 6^2$
(a) 3
(b) 4
(c) 2
(d) 1
(e) 5

59. $9\frac{1}{3} + 7\frac{1}{2} = ? + 5\frac{1}{6} + 6\frac{1}{3}$
(a) 4
(b) $4\frac{1}{2}$
(c) 5
(d) $5\frac{1}{6}$
(e) 6

60. $(3^4 \times 9^7) \div 27^6 = 3^?$
(a) 2
(b) 3
(c) 0
(d) 6
(e) 7

SHANJU'S
Your Exam Partner

Solutions

Basic Questions

1. (a); $\frac{320\times40}{100} = 128$

2. (c); 14.28% of $49 = \frac{1}{7}\times 49 = 7$

3. (b); $1\frac{1}{3} - 1\frac{1}{9} + 1\frac{1}{6} = (1 - 1 + 1) + \left(\frac{1}{3} - \frac{1}{9} + \frac{1}{6}\right)$

$= 1 + \left(\frac{6-2+3}{18}\right) = 1 + \frac{7}{18} = 1\frac{7}{18}$

4. (b); $\frac{3}{7}$ of $\frac{49}{6}$ of $\frac{4}{7} = \frac{3}{7}\times\frac{49}{6}\times\frac{4}{7} = 2$

5. (c); $\frac{1}{4}\times 48 + \frac{1}{2}\times 120 = x\%$ of 1200

$12 + 60 = \frac{x\times 1200}{100} P\ x = \frac{72\times 100}{1200} = 6$

6. (e); $\sqrt{52\times\frac{27}{6} + 26 - 4} = \sqrt{26\times 9 + 26 - 4}$

$\sqrt{234 + 22} = \sqrt{256} = 16$

7. (a); $\frac{24}{5}\times\frac{5}{32} = \frac{3}{4}$

8. (a); $\frac{16}{24} + \frac{4}{10} - \frac{1}{6} = \frac{5\times16+12\times4-1\times20}{120}$

$= \frac{80 + 48 - 20}{120} = \frac{108}{120} = \frac{9}{10}$

9. (c); $8000 \div 16 - 200 = ? \times 6$

$? = \frac{\frac{8000}{16} - 200}{6} = \frac{500 - 200}{6} = 50$

10. (d); $\frac{3}{5}\times\frac{24\times500}{100} - 32 = ?$ P $? = 72 - 32 = 40$

11. (a); $(\sqrt{2209} - 12)\times 5 = (47 - 12)\times 5 = 35\times 5 = 175$

12. (a); $\sqrt{8\times\frac{220}{11} + 85 - 20}$

$= \sqrt{8\times 20 + 85 - 20} = \sqrt{140 + 85} = \sqrt{225} = 15$

13. (d); $1\frac{5}{6} + 2\frac{3}{5} + 4\frac{2}{3} = (1 + 2 + 4) + \left(\frac{5}{6} + \frac{3}{5} + \frac{2}{3}\right)$

$= \left(7 + \frac{25 + 18 + 20}{30}\right) = 7 + \frac{63}{30}$

$= 7 + \frac{21}{10} = \frac{91}{10} = 9\frac{1}{10}$

14. (d); $\frac{1}{4}\times\frac{1}{2}\times\frac{3}{4}\times 52000 = \frac{3}{4}\times 6500 = \frac{19500}{4} = 4875$

15. (c); $\frac{3}{11}$ of $\frac{5}{7}$ of $x = 63$

$\frac{3}{11}$ of $\frac{5}{7}$ of $x = 63$

$x = \frac{63\times7\times11}{3\times5} = \frac{21}{5}\times 77 = 4.2\times 77 = 323.4$

SHANJU'S
Your Exam Partner

Contents

chapter-1 alpha numeric series..... 2
chapter-2 Cause and Effect..... 30
chapter-3 Order ranking, direction distance, word formation..... 48
Chapter-4 Course of Action..... 93
chapter-5 Coding and Decoding..... 120
chapter-6 Statements and Assumption..... 155
chapter-7 Inequality..... 177
chapter-8 strength of argument..... 202
chapter-9 blood relation..... 220
chapter-10 Statements and Conclusion..... 256
chapter-11 Syllogism..... 274
chapter-12 (1) inference from passage..... 318
chapter-13 Input output..... 347
chapter-14 seating arrangement..... 381
chapter-15 Puzzles..... 444
chapter-16 data sufficiency..... 507

SHANJU'S
Your Exam Partner

Alpha-Numeric-Symbol Series

Introduction: Alpha - Numeric - Symbol series is a combination of alphabets, Numbers, and symbols. This chapter is one of the important chapters because in every competitive exam around five questions come from this chapter.

* Some important points you have to keep in your mind:
  (1) Vowels - A, E, I, O, U
  (2) Consonants - All letters except vowels
  (3) Numbers - 1,2,3,4 etc ___
  (4) Symbols - ! @ # $ % etc ___
  In whole chapter we will use these four points by applying some different conditions.
* Some twisted terms, you must understand to solve the questions:
  (1) A precedes B means A will left to B (i.e AB)
  (2) *B* is preceded by *A* (It also means that *A* will left to *B*). (i.e *AB*)
  (3) *B* follows *A* means *B* will right to *A* (i.e *AB*)
  (4) A is followed by B
  It also means that *B* will right to *A* (i.e *AB*)
* Some common types of series are:
  - **Alphabet series-** this can be of two types
    Where all the elements are alphabets.
    Ex- E N D H A GS I H D L F
  - Where elements are in the form of words having 3 or 4 alphabets in each
    Ex-RHU SNJ OKF INK ABH
  - **Number series-** where all given elements are numerals.
    Ex-3 5 7 8 9 0 1 9 3 8 4 7
  - **Alpha-**numeric series- where given elements are combination of alphabets and numbers.
    Ex- A N D 972 M K 637 B R 0
  - **Alpha-symbol series-** where given elements are combination of alphabets and symbols.
    Ex- J * F A B $ # N J * I %
  - **Numeric-symbol series-** where given elements are combination of numbers and symbols.
    Ex- 87 # % 98 % 43 & @
  - **Alpha-numeric-symbol series-** combination of alphabets, numbers and symbols are given here and this is very common type of series found in exam.
    Ex- *SD % 6 J $ Q 5 ! O $ P 7 ^ M @ XC 35 B
  - **3-digit number series-** Here, all elements are numbers having three digits in each.
    Ex-571 095 387 204 184
* Some important examples you have to keep in mind:
  a) 3-digit number series example is given-
    634 563 086 456 678
    Here, number is - 634 (complete term)
    Digit is −6,3,4 (single numeral)
  b) When numbers are arranged in ascending/descending order, then only numbers are arranged and digits remain same on their position.
    Ascending- 086 456 563 634 678
    Descending-678 634 563 456 086
  c) When digits are operated in ascending/descending/reversed order, then only digits are arranged and numbers remain same on their position.
    Ascending- 346 356 068 456 678
    Descending- 643 653 860 654 876
    Reversed- 436 365 680 654 876
  d) When digits interchange their position, then numbers remain same on their position.
    Ex- 2nd and 3rd digit interchange their position, so new arrangement is
    643 536 068 465 687
* **Important tips:**
  Left + Left = (−) from Left
  Right + Right = (−) from Right
  Left + Right = (+) from Right
  Right + Left = (+) from Left

Example:
Read the following character sequence carefully and then answer the questions given below it:
BCZ 4 X 6Δ G $ M P · 5% R

(1) Which character is 3rd to the right of 4th from the right?
Explanation: 3rd to the right of 4th from the right means (4 − 3) from right = 1 st from right = R

(2) Which character is 2nd to the left of 7th from left?
Explanation: 2nd to the left of 7th from left means (7-2) from left = 5th from left = X

(3) Which character is 2nd to the left of 7th from right?
Explanation: 2nd to the left of 7th from right means (7 + 2) from right = 9th from right = Δ

(4) Which character is 2nd to the right of 7th from left?
Explanation: 2nd to the right of 7th from left means (7 + 2) from left = 9th from left = $

Points to Remember:

(1) Give proper attention to twisted terms like "Preceded" and "Followed/succeeded".
(2) Follow the important tips which are mentioned in concept part to solve questions in less time.
(3)

SHANU's Your Exam Partner

(4) Count characters from left or right in series properly because a silly mistake will make your answer wrong.

Foundation

Directions (1-20): What should be come in place of question mark (?)

1. ABABCABCDABCD ?
(a) A
(b) B
(c) C
(d) D
(e) E

2. ZZYZYXZYXWZY?
(a) *Z*
(b) *Y*
(c) *X*
(d) W
(e) None of these

3. ANZBOYCPXD?W
(a) Q
(b) R
(c) S
(d) T
(e) U

4. ABDGKP?
(a) S
(b) T
(c) Q
(d) V
(e) None of these

5. AY, BX, CW, DV, ?
(a) GH
(b) EF
(c) EU
(d) EV
(e) None of these

6. A2Y, B4 W, C6U ?
(a) C 8 S
(b) D8S
(c) E 8 T
(d) D75
(e) None of these

7. AB, CF, EJ, ?, IR
(a) FM
(b) FL
(c) FJ
(d) GN
(e) None of these

8. BY, DW, ? , HS, JQ
(a) FT
(b) FU
(c) GU
(d) EU
(e) None of these

9. ZZYZYXZYXWZYXWVZYXWVUZYXWVU?
(a) T
(b) U
(c) W
(d) S
(e) None of these

10. ZYXWVUTZYXWVUZYXWVZYXW?
(a) V
(b) *Y*
(c) Z
(d) U
(e) None of these

Direction (11-15): Study the following alphanumeric series carefully and answer the questions given below:
S 5 DGH & M * 78 # B 9 KL @ 6%U & * 2

11. How many alphabets in the above series are immediately preceded and followed by symbols?
(a) None
(b) Two
(c) One
(d) Three
(e) None of these

12. Which element is 5th to the left of the element which is 7th from the right end?
(a) #
(b) &
(c) 8
(d) B
(e) 7

13. How many vowels are between the 6th element from the left end and 4th element from the right end?
(a) None
(b) One
(c) Two
(d) Three
(e) None of these

14. What would come at the question mark in the following sequence?
5DG &M* #B9 ?
(a) @6%
(b) 6%U
(c) L@6
(d) %U&

SHANKAR'S Your Exam Partner

(e) None of these

15. How many numbers are there in the above series which are immediately followed by symbols and immediately preceded by alphabets?
(a) None
(b) One
(c) Two
(d) Three
(e) None of these

Direction (16-20): Study the following alphanumeric series carefully and answer the questions given below:
D % G $ & H J R 6 Y # IL 9 $ 7 @ V 1 X A 8 %

16. How many numbers in the series are preceded as well as followed by alphabets?
(a) None
(b) One
(c) Three
(d) Two
(e) More than three

17. If we eliminated all the numbers in this series then, which of the following element is 5th to the right of H ?
(a) Y
(b) #
(c) I
(d) L
(e) None of these

18. How many numbers in the series are preceded as well as followed by symbols?
(a) Three
(b) One
(c) None
(d) Two
(e) More than three

19. Which of the following element is 4 th to the left of the element which is 5 th from right end?
(a) L
(b) 9
(c) $
(d) 7
(e) None of these

20. If we eliminated all alphabets in this series then, which of the following element is 4 th to the left of @ ?
(a) 6
(b) #
(c) $
(d) 9
(e) None of these

Directions (21-25): The following questions are based on the five three-digit numbers given below:
574 658 821 945 247

21. If one is added to the last digit of each of the numbers, in how many numbers thus formed will the last digit be a perfect square (1 is also be a perfect square)?
(a) one
(b) Two
(c) three
(d) four
(e) None of these

22. If 1 is subtracted from the 1st digit of each number then how many numbers thus formed will be divisible by three?
(a) none
(b) one
(c) two
(d) three
(e) four

23. If in each number, all the three-digit are arranged in ascending order within the number which of the following will be the highest number?
(a) 574
(b) 658
(c) 821
(d) 945
(e) 247

24. If in each number the first two digits are replaced by their sum then which number will be the largest?
(a) 574
(b) 658
(c) 821
(d) 945
(e) 247

25. If in each number the position of 1 st and the 2^{nd} digit are interchanged which number will be the smallest?
(a) 574
(b) 658
(c) 821
(d) 945
(e) 247

Directions (26-30): These questions are based on following set of numbers.
937483765572684

26. If in each number the first two digit are replaced by their sum which number will be the largest?
(a) 937
(b) 684
(c) 765
(d) 483
(e) 572

27. If ' 1 ' is added to the second digit and then the first and second digits are interchanged. Which number will be third highest?
(a) 684
(b) 483
(c) 572
(d) 937

SHANJU'S Your Exam Partner

(e) 765

28. If the order of first and last digit is reversed and then the numbers are arranged in descending order, which numbers will be second from right.
(a) 937
(b) 483
(c) 765
(d) 572
(e) 684

29. If in each number the positions of first and second digits are interchanged, which number will be the smallest?
(a) 684
(b) 572
(c) 765
(d) 483
(e) 937

30. If in each number ' 1 ' is added to the last digit and then the position of second and third digits are interchanged which number will be the largest.
(a) 483
(b) 684
(c) 765
(d) 937
(e) 572

Directions (31-35): The following questions are based on the five three digit numbers given below:
374 659 821 945247

31. If 1 is subtracted from the last digit of each numbers how many numbers thus formed is divisible by two?
(a) None
(b) one
(c) two
(d) three
(e) four

32. If in each number the first and second digits are interchanged, which of the following will be the third lowest number?
(a) 374
(b) 247
(c) 659
(d) 821
(e) 945

33. If in each number 2 is added to the middle digit and then first two digit are interchanged then which of the number will be the largest?
(a) 659
(b) 945
(c) 374
(d) 247
(e) 821

34. If 1 is subtracted from the last digit of each of the numbers then in how many numbers thus formed will be the last digit be perfect square (one is also a perfect square)
(a) None
(b) one
(c) two
(d) three
(e) four

35. If in each number, all the three digits are arranged in ascending order within the number which of the following will be the second highest number.
(a) 247
(b) 374
(c) 659
(d) 821
(e) 945

Direction (36-40): Following questions are based on the five three digit numbers given below:
328642836697954

36. If all the numbers are arranged in descending order from left to right, which of the following will be the product of the first and the second digits of the number which is exactly in the middle of the new arrangement.
(a) 6
(b) 63
(c) 24
(d) 54
(e) 45

37. One is subtracted from the first digit and two is subtracted from third digit of each of the numbers. What will be the difference between the first digit of the highest number and the third digit of the lowest number?
(a) 1
(b) 2
(c) 3
(d) 4
(e) 5

38. What will be the resultant if the 1st digit of the second highest number is divided by the 3rd digit of the highest number.
(a) 2
(b) 1
(c) 4
(d) 6
(e) None of these

39. If the position of the first and the third digits of each of the numbers are interchanged. What will be the sum of all the digit of the second highest number thus formed?
(a) 12
(b) 13
(c) 17
(d) 18
(e) 22

40. If all the digits in each of the number are arranged in descending order within the number, which of

the following will form the lowest number in the new arrangement of numbers.
(a) 328
(b) 642
(c) 697
(d) 836
(e) 954

Moderate

Directions (1-5): These questions are based on the following set of numbers.
538 687 239 764 848

1. If in each number the first and the third digits are interchanged and then newly formed numbers are arranged in ascending order, which number will be the third?
(a) 538
(b) 687
(c) 764
(d) 848
(e) 239
2. If ' 1 ' is added to the first digit of each number and ' 1 ' is subtracted from the second digit, which number will be the largest?
(a) 687
(b) 239
(c) 848
(d) 538
(e) 764
3. If in each number the positions of the first and second digits are interchanged which number will be the smallest?
(a) 538
(b) 239
(c) 687
(d) 764
(e) 848
4. If ' 1 ' is subtracted from the last digit as well as the first digit and then the second and third digits are interchanged, which number will be the second if arranged in ascending order?
(a) 538
(b) 239
(c) 764
(d) 687
(e) 848
5. If all the second digits of the numbers are reduced by 2 and then increased by 1 and arranged in ascending order after that how many digits will appear 2 or more than 2 times in the whole series?
(a) One
(b) Two
(c) Three
(d) Four
(e) five

Directions (6-10): The following questions are based on the five four digit number given below:
34752791645818267583

6. If one is added to the last digit of each of the numbers in how many numbers thus formed will be the last digit be a perfect square (one is also perfect square).
(a) none
(b) one
(c) two
(d) three
(e) four
7. If the first and third digit of each of the numbers are interchanged what will be the sum of the third digit of the lowest number and the third digit of the highest number.
(a) 3
(b) 6
(c) 7
(d) 4
(e) None of these
8. What will be the resultant if the second digit of the highest number is subtracted from the third digit of the second lowest number?
(a) 2
(b) 3
(c) 4
(d) 5
(e) None of these
9. If all the digit in each of the numbers are arranged in descending order from left to right within the number which of the following will be the sum of all the four digits of the number which is third highest in the new arrangement.
(a) 19
(b) 32
(c) 17
(d) 23
(e) None of these
10. If in each number the first and the last digits are interchanged. Which of the following will be the second lowest number?
(a) 3475
(b) 2791
(c) 6458
(d) 1826
(e) 7583

Directions (11-15): Study the following arrangement carefully to answer the questions given below:

SHANU'S Your Exam Partner

7, 2, 6, 3, 7, 5, 6, 4, 2, 9, 6, 1, 3, 4, 1, 6, 3, 9, 1, 5, 6, 9, 2, 3, 1, 6, 5, 4, 3, 2, 1, 9, 6, 7, 1, 6, 3

11. How many 6 s are there in the following numbers series, each of which is immediately preceded by 1 or 5 and immediately followed by 3 or 9 ?
(a) None
(b) One
(c) Two
(d) Three
(e) None of these

12. How many 3 s are there in the following number series each of which is preceded by its multiple and immediately followed by its multiple also.
(a) One
(b) Two
(c) Three
(d) More than three
(e) None of these

13. Which is 7 th digit to the right of 25 th from right end?
(a) 5
(b) 1
(c) 6
(d) 7
(e) None of these

14. How many 1 s are there which are followed as well as preceded by even number?
(a) None
(b) One
(c) Two
(d) Three
(e) None of these

15. Which is 5th digit to the left of 20th from right end?
(a) 3
(b) 9
(c) 2
(d) 4
(e) None of these

Directions (16-20): Study the following arrangement carefully and answer the questions given below:
7617924156492341258584831 2752672953

16. How many 2 s are there in the above arrangement, each of which is immediately followed by a digit which have a numerical value of more than four?
(a) None
(b) One
(c) Two
(d) Three
(e) More than three

17. How many such 1 s are there in the above arrangement, each of which is immediately preceded by a perfect square?
(a) None
(b) One
(c) Two
(d) Three
(e) More than three

18. How many such 5 s are there in the above arrangement each of which is immediately preceded and followed by an odd digit?
(a) None
(b) One
(c) Two
(d) Three
(e) More than three

19. Which of the following is third to the left of the eighteenth digit from the left end of the above arrangement?
(a) 8
(b) 3
(c) 4
(d) 5
(e) 1

20. If all the even digits are deleted from the above arrangement, which of the following will be ninth from the right end of arrangement?
(a) 9
(b) 3
(c) 1
(d) 5
(e) 7

Directions (21-25): Study the following arrangements carefully and answer the question given below.
24856313@6452#9713

21. Which of the following digit/symbol is second to the right of the 10th from the left end?
(a) 6
(b) 4
(c) 5
(d) 3
(e) None of these

22. How many pairs of numbers are there in the series highlighted in bold in the above arrangement each of which as many numbers between them (in both forward and backward directions) as they have between them in the numerical series?
(a) one
(b) two
(c) three
(d) four
(e) None of these

23. How many symbol are there in the above arrangement each of which is immediately followed by perfect square (one is a perfect square)
(a) one
(b) two
(c) three
(d) four

SHANJU'S Your Exam Partner

(e) five

24. How many perfect squares are there in the above arrangement, each of which is immediately preceded by an even number? (One is also a perfect square).
(a) one
(b) two
(c) three
(d) four
(e) None of these

25. If all the symbols are dropped from the above arrangement, which of the following will be the 12^{th} from the right end of the above arrangement?
(a) 5
(b) 3
(c) 6
(d) 1
(e) None of these

Directions (26-30): Study the following arrangements carefully and answer the question given below.
342687 © 54*329$16537#986@2143п9872 b 43

26. How many 2 's are there in the above arrangement, each of which is immediate followed by a perfect square?
(1 is also a perfect square)
(a) None
(b) One
(c) Two
(d) Three
(e) More than Three

27. Which of the following is 5th to the right of 18th from the left end of the above arrangement?
(a) $
(b) 9
(c) 2
(d) @
(e) 6

28. How many symbols are there in the above arrangement each of which is immediately preceded as well as followed by an even number in the above arrangement
(a) None
(b) One
(c) Two
(d) Three
(e) More than Three

29. If all the digits that are perfect square are dropped from the above arrangement, which of the following will be 13th (digit/symbol) from the left end of the above arrangement.
(a) $
(b) 2
(c) #
(d) 7
(e) 5

30. How many pairs of digit are there in the number highlighted in bold in the above arrangement each of which has many digits between them (in both forward and backward directions) as they have between them in the numerical series?
(a) One
(b) Two
(c) Three
(d) Four
(e) Five

Directions (31-35): Following questions are based on the five three-digit numbers given below.
452869125345854

31. If all the digits in the number are arranged in the descending order within the number from left to right, then which among the following will be the lowest number after re arrangement?
(a) 452
(b) 869
(c) 125
(d) 345
(e) 854

32. What is the product of 3rd digit of 2nd lowest number and 1st digit of 2nd highest number?
(a) 36
(b) 38
(c) 40
(d) 44
(e) None of these

33. If 1 is subtracted from each number than how many numbers thus formed are odd numbers?
(a) One
(b) Two
(c) Three
(d) Four
(e) None of these

34. What is the product of the 1st digit of highest number and 2 nd digit of the lowest number?
(a) 6
(b) 8
(c) 15
(d) 16
(e) None of these

35. If all the numbers are added, then what will be the 3rd digit of the new number formed?
(a) 2
(b) 3
(c) 6
(d) 4
(e) None of these

Directions (36-40): These questions are based on the following five numbers:
451685254723132

SHAALU'S Your Exam Partner

36. If we arranged all numbers in descending order from left then, the position of how many numbers are remain unchanged?
(a) One
(b) None
(c) Three
(d) Two
(e) More than three

37. If we interchanged 1st and 3rd digit of each number then, how many numbers become even?
(a) None
(b) Three
(c) Two
(d) One
(e) More than three

38. If we interchanged 1 st and 2 nd digit of each number then, which of the following number becomes 3 rd highest number?
(a) 451
(b) 685
(c) 254
(d) 723
(e) 132

39. If we interchanged 2 nd and 3 rd digit of each number, then how many numbers become odd?
(a) One
(b) None
(c) Two
(d) Three
(e) More than three

40. What is the total sum of 3rd digit of 2nd number from left and 2 nd digit of 3 rd number from right?
(a) 10
(b) 8
(c) 9
(d) 11
(e) None of these

Directions (41-45): Following questions are based on the five words given below, Study the following words and answer the following question:

SAND CARE RUIN MOON NICE

41. If the letters are arranged in alphabetical order within the words then how many words will start with a vowel?
(a) One
(b) Three
(c) Two
(d) Four
(e) Five

42. If the given words are arranged in the order as they appear in a dictionary from left to right, then which of the following word will be second from the right end?
(a) RUIN
(b) MOON
(c) SAND
(d) NICE
(e) CARE

43. How many letters are there between the first letter of the first word from the left end and the second letter of the third word from the right end?
(a) Two
(b) Three
(c) Four
(d) One
(e) More than four

44. If in each of the given words, every consonant is changed to its previous letter and every vowel is changed to its next letter according to the English alphabetical series, then in how many words, thus formed, at least one vowel will appear?
(a) One
(b) Two
(c) Three
(d) More than three
(e) None

45. If the given words are arranged in the order as they appear in a dictionary from right to left, which of the following will be second from the left end?
(a) RUIN
(b) MOON
(c) NICE
(d) SAND
(e) CARE

Direction (46-49): Study the following alphabetic series carefully and answer the questions given below:
CVBNHGMKJNXZAESQWERPXIUTRL O A

46. How many letters are there in the series which is preceded by vowel and succeeded by consonant?
(a) None
(b) One
(c) Two
(d) Three
(e) More than three

47. Which of the following letter is 9 th from left of ' *U* '?
(a) A
(b) E
(c) S
(d) Q
(e) None of these

48. If all vowels are eliminated from the series then, which of the following letter is 11th from right end?
(a) N
(b) Z
(c) *X*
(d) S
(e) None of these

SHANJU'S Your Exam Partner

49. How many letters are there in the series which is preceded by vowel and succeeded by the letter which comes before K in English alphabetical series?
(a) None
(b) One
(c) Two
(d) Three
(e) More than Three.

SHANJU'S
Your Exam Partner

Difficult

Directions (1-5): In each of the questions given below, a group of letters is given followed by four combinations of symbols/numbers (a), (b), (c) and (d). You have to find out which of the four combinations correctly represents the group of letters based on the symbol/number codes and the conditions given below. If none of the four combinations represents the group of digits correctly, give
(e) 'None of these' as the answer.

K	Z	M	Q	A	B	S	E	D	P	I	L	X	O	C	U
2	3	@	7	%	#	1	6	0	8	5	!	4	+	∧	9

Steps:
(a) If the first and fourth letter of the word are vowel, then both are coded as first letter.
(b) If the first letter is vowel and last letter is consonant, then both are coded as last letter.
(c) If the both first and last letter of the word are vowel, then the codes for both letter will be interchanged.
(d) If the both first and last letter of the word are consonant, then both are coded as &.

1. ALXBC
   (a) ∧ ! 4#^
   (b) %! 4#^
   (c) ^! #4^
   (d) ∧ 4#! ∧
   (e) None of these
2. SMZPQ
   (a) 1@387
   (b) &3@8&
   (c) 7@381
   (d) &83@&
   (e) None of these
3. OPDCM
   (a) @08%3
   (b) @08^3
   (c) @ 80^ @
   (d) 3%80 +
   (e) None of these
4. BELXU
   (a) #4!69
   (b) #6!49
   (c) 6#! 46
   (d) #6!94
   (e) None of these
5. IBXCU
   (a) 5#4^9
   (b) 94#^5
   (c) 59#4^
   (d) 9#4^5
   (e) None of these

Directions (6-10): In each of the following below is given a group of letters followed by four combinations of digits/symbols numbered (a), (b), (c) and (d). You have to find out which of the combinations correctly represents the group of letters based on the following coding system and mark the number of that combination as the answer. If none of the four combinations correctly represents the group of letters, mark (e), i.e. 'None of these', as the answer-
Note: More than one condition may apply.

Letter	R	G	F	A	P	Q	U	N	E	I	K	J	S	O	H
Digit/ Symbol	#	2	7	µ	%	3	&	9	1	@	5	©	6	8	$

Conditions:
(i) If first letter is vowel and last letter is consonant then both are coded with the code of the consonant.
(ii) If both the 2 nd letter and the last letter is vowel, then their codes are to be interchanged.
(iii) If the second letter is a consonant and the 2nd last letter is a vowel, then both are to be coded as the code for the vowel.
(iv) If both 1st and fifth letter is consonant then both are coded as the code of third letter.
(v) If only one condition is applied among the above given, then the code of first letter is interchanged with code of second letter and third letter code interchanged with 4th letter and so on after that applied condition.

6. ANSHIKA
   (a) μ96$5@$\mu$
   (b) μ96$5@$
   (c) μ9@6$5$\mu$
   (d) μ96@5\mu$
   (e) None of these
7. RFKOSH
   (a) 7558$5
   (b) 758$55
   (c) 57585$
   (d) 7585$5
   (e) None of these
8. NIHONE
   (a) $@$8$@
   (b) $1@8$@
   (c) $1$8$@
   (d) $1$7$@
   (e) None of these
9. HSJEQP
   (a) 6C1e%c
   (b) 6@1◯$(C

SHAALA 365 Your Exam Partner

(c) 6 ⊙ 1C%6
(d) 6◯1◯% (C)
(e) None of these

10. AROHIS
(a) 6@8$@6
(b) 6#8$#6
(c) 6@6$#6
(d) 6@8$#6
(e) None of these

Directions (11-15): Study the following alphanumeric series carefully and answer the questions given below:
LE8YO&HG9J9@%S4IO9U*K#3$1T3@9

STEP 1: The letters which are immediately followed and immediately preceded by a number are arranged in the end of the series in the alphabetical order.

STEP 2: The numbers which are immediately preceded by the number and immediately followed by the symbols are arranged in the starting of the series in the ascending order. (They are arranged just before L)

STEP 3: The symbols which are immediately followed by number are interchanged its position with respect to the element just after it.

NOTE: STEP-2 is applied after STEP-1 and STEP-3 is applied after STEP-2.

11. How many letters are arranged before letter (K) of the series in the step-1?
(a) Twenty
(b) Nineteen
(c) Seventeen
(d) Ten
(e) None of these

12. How many vowels are immediately followed by letter in step-3?
(a) Five
(b) Three
(c) One
(d) Six
(e) None of these

13. Which among the following are the elements which are 4 th position from the left end in the step- 2 and 7 th position from the right end in step-1?
(a) Y3
(b) E3
(c) P#
(d) E$
(e) None of these

14. How many symbols are immediately preceded by number in step-2?
(a) Five
(b) Three
(c) One
(d) Two
(e) None of these

15. Which among the following element is exactly between the element, which is 5th from the left end and the element, which is 7th from the right end in step-3?
(a) %
(b) 4
(c) S
(d) I
(e) None of these

Directions (16-20): Study the following information and answer the given questions:
Arrange the following string, as per the steps given below-
Z7U@6D£5¥G8$K#3E2R&%1P9B μ ^A 4 H

STEP 1: The Numbers which is immediately preceded by the symbol and immediately followed by an Alphabet are written from the right end in ascending order.

STEP 2: Interchanging the even number with the previous element in the series to form the step- 2

STEP 3: Alphabet which is immediately preceded by a symbol are written between seventh and eighth element from the left end in alphabetical order.

STEP 4: The first fourteen element from the left end is written after the last element in series in the reverse order (It means fourteenth element from the left end is written immediately after the last element and so on..)

NOTE: (STEP II is applied after STEP I and STEP III is applied after STEP II and STEP IV is applied after STEP III)

16. Which of the following element is sixth to the right of the element which is ninth from the left end in step 3?
(a) $
(b) K
(c) #
(d) G
(e) None of these

17. If the alphabet which is immediately followed by a consonant is changed to next letter in alphabet series in step 2, then how many vowels are present in the newly formed series?
(a) Two
(b) None
(c) Three
(d) One
(e) More than three

18. If all the symbols are removed from the step 1 , then which of the following element will be in the middle of the series?
(a) 2
(b) P
(c) *R*
(d) Both (a) and (c)

(e) Both (a) and (b)

19. How many alphabets are immediately followed and immediately preceded by number in step 4 ?
(a) One
(b) Two
(c) None
(d) Three
(e) More than three

20. What will be the product of the number which is sixth from the right end in step 1 and the number which is fifth from the left end in step 4 ?
(a) 48
(b) 42
(c) 54
(d) 24
(e) 12

Directions (21-24): Study the following alphanumeric series carefully and answer the questions given below:
AS2!DF@9GH7#8JK3$%LZ*5^XC4V& B6N1

STEP 1: The letters which are immediately preceded by symbol and immediately followed by a consonant are arranged just after 2 in the series in the alphabetical order.

STEP 2: The numbers which are immediately preceded by the Symbol and immediately followed by the letter are arranged between 6 and N in the decreasing order.

STEP 3: The letters which are immediately preceded by the symbol and immediately followed by the number are arranged in the beginning of the series in the alphabetical order.

NOTE: (STEP 2 is applied after STEP 1 and STEP 3 is applied after STEP 2)

21. How may numbers are between 4th element from left and 7th element from right in the last step?
(a) Two
(b) Three
(c) Four
(d) Six
(e) None of these

22. Which of the following element is 3rd to the left of 5^{th} element from the right end in Step 2?
(a) C
(b) 4
(c) &
(d) B
(e) V

23. How many symbols are immediately followed by numbers in Step 3?
(a) One
(b) Three
(c) Four
(d) Five
(e) Two

24. Which of the following element is 7th to the left of "8" in the Step 2?
(a) C
(b) ∧
(c) 4
(d) V
(e) %

Direction (25-29): There are two rows given and to find out the resultant of a particular row we need to follow the following steps: -

STEP 1: If an even number is followed by an odd number then the resultant will be the addition of both the numbers.

STEP 2: If an odd number is followed by a perfect square then the resultant will be the difference of that square number from the odd number.

STEP 3: If an odd number is followed by another odd number (but not a perfect square) then the resultant will be the addition of both the numbers.

STEP 4: If an odd number is followed by an even number (but not a perfect square) then the resultant comes by multiplying the numbers.

STEP 5: If an even number is followed by another even number then the resultant will be the division of first number by the second number.

25. If the sum of the resultants of two rows is 37 . Then find the value of X.

5 2 5

8 3 X

(a) 7
(b) 3
(c) 2
(d) 5
(e) 9

26. Find the sum of the resultant of the two rows

6 2 1

4 11 2

(a) 38
(b) 32
(c) 34
(d) 26
(e) None of the above

27. If the resultant of the first row is double the resultant of the second row. Then find the value of X.

5 15 X

6 3 4

(a) 6
(b) 7
(c) 8
(d) 2
(e) None of the above

SHANJO'S Your Exam Partner

28. Find the difference between the resultant of first and second row.

23 17 2

4 11 12

(a) 117
(b) 126
(c) 157
(d) 96
(e) None of the above

29. The resultant of the first row is how much less or more than the resultant of the second row?

13 3 7

16 13 19

(a) 11
(b) 85
(c) 10
(d) 20
(e) 25

Direction (30-33): There are two rows given and to find out the resultant of a particular row we need to follow the following steps: -

STEP 1: If an odd number is followed by an even number then the resultant will be the addition of both the numbers.

STEP 2: If an even number is followed by a perfect cube (excluding 1) then the resultant will be the positive difference of that cube number and the even number.

STEP 3: If an even number is followed by another even number (but not a perfect cube) then the resultant will be the addition of both the numbers.

STEP 4: If an even number is followed by an odd number (but not a perfect cube) then the resultant comes by multiplying the numbers.

STEP 5: If an odd number is followed by another odd number then the resultant will be the division of first number by the second number.

30. Find the sum of the resultant of two rows?

109 80 27

54 27 162

(a) 189
(b) 169
(c) 190
(d) 197
(e) None of the above

31. Find the difference between the resultant of first and second row.

16 64 3

111 24 9

(a) 128
(b) 192
(c) 129
(d) 127
(e) None of the above

32. Find the value X if the sum of the resultant of two rows is 177 ?

26 5 12

23 6 X

(a) 3
(b) 6
(c) 2
(d) 5
(e) None of the above

33. Find d the multiplication of the resultant of first and second row.

33 3 2

11 4 3

(a) 3
(b) 87
(c) 29
(d) 26
(e) None of these

Direction (34-38): There are two rows given and to find out the resultant of a particular row we need to follow the following steps: -

STEP 1: If an even number is followed by an odd number then the resultant will be the addition of both the numbers.

STEP 2: If an odd number is followed by a perfect square then the resultant will be the difference of that square number and the odd number.

STEP 3: If an odd number is followed by another odd number (but not a perfect square) then the resultant will be the addition of both the numbers.

STEP 4: If an odd number is followed by an even number (but not a perfect square) then the resultant comes by multiplying the numbers.

STEP 5: If an even number is followed by another even number then the resultant will be the division of first number by the second number.

34. Find the sum of two rows

10 2 3

13 8 9

(a) 78
(b) 107
(c) 123
(d) 98
(e) None of these

35. If the sum of the resultants of two rows is 52 . Then find the value of X.

11 4 9

SHANU's Your Exam Partner

30 6 X

(a) 16
(b) 27
(c) 10
(d) 15
(e) None of these

36. Find the difference between the resultant of first and second row.

15 5 9

6 13 14

(a) 137
(b) 126
(c) 159
(d) 237
(e) None of these

37. Find the multiplication of the resultant of first and second row.

27 23 10

18 15 11

(a) 110
(b) 85
(c) 176
(d) 220
(e) None of these

38. Find the sum of the resultant of first and second row.

3 10 5

7 4 9

(a) 89
(b) 41
(c) 28
(d) 135
(e) None of these

Directions (39-40): Study the following arrangement carefully and answer the questions given below:
7RET4A9%DF1U#B@8HI@WM_32V$5N P6Q

39. How many such vowels are there in the above arrangement, each of which is immediately followed by a symbol?
(a) None
(b) One
(c) Two
(d) Three
(e) More than three

40. Four of the following five are alike in a certain way based on their position in the above arrangement and so form a group. Which is the one that does not belong to the group?
(a) RTA
(b) 9 DF
(c) #@H
(d) 3 V 5
(e) IW_

SHARJU'S
Your Exam Partner

Previous Year (Memory Based)

Directions (1-5): Study the following arrangement carefully and answer the questions given below:
1 $6HJA7 GQ#2MEK %R5@NDIP4CT3 9 F

1. If all the symbols in the above arrangement are dropped, which of the following will be 10th from the right end?
(a) E
(b) N
(c) 5
(d) R
(e) None of these

2. Which of the following is fifth to the left of eighteenth from the left end in the above arrangement?
(a) B
(b) #
(c) 2
(d) M
(e) None of these

3. How many such vowels are there in the above arrangement each of which is immediately preceded

by a number and immediately followed by a consonant?
(a) None
(b) Two
(c) Three
(d) Four
(e) None of these

4. What will come in place of question mark (?) in the following series based on the above arrangement?
6AJ #Q 2KE RN@ ?
(a) NP4
(b) @IP
(c) IC4
(d) I4C
(e) None of these

5. How many such consonants are there in the above arrangement, each of which is immediately preceded by a number and immediately followed by a letter?
(a) One
(b) Three
(c) Four
(d) None
(e) None of these

Directions (6-10): Study the following arrangement carefully and answer the questions given below:
DF3#RN8A@Y4MãWP6HU91K2E

6. How many such numbers are there in the above arrangement each of which is immediately preceded by a vowel?
(a) None
(b) One
(c) Two
(d) Three
(e) None of these
7. Which of the following is sixth to the right of the nineteenth from the right end of the above arrangement?
(a) *Y*
(b) M
(c) 4
(d) @
(e) None of these
8. How many such consonants are there in the above arrangement each of which is immediately preceded by a symbol and immediately followed by a letter?
(a) None
(b) One
(c) Two
(d) Three
(e) None of these
9. If all numbers are dropped from the above arrangement, which of the following will be the fourteenth from the left end?
(a) I
(b) P
(c) W
(d) U
(e) None of these
10. If it is possible to make a meaningful word with the fifth, sixth, eighth, twelfth, twentieth and twentythird letter of the above arrangement, which of the following will be the fourth letter from the left?
(a) E
(b) I
(c) N
(d) R
(e) Either I or A

Directions (11-15): Study the following arrangement carefully and answer the questions given below:
OP 5 Q 6 $ SE9% XZ1Y8LH3T@AU472W

11. If all symbols are dropped from the given arrangement which element will be eighth will be eighth from the left end?
(a) X
(b) 9
(c) Z
(d) E
(e) None of these
12. How many such numbers are there in the above arrangement each of which is immediately preceded by a vowel?
(a) None
(b) One
(c) Two
(d) Three
(e) None of these
13. How many such consonants are there in the above arrangement each of which is immediately followed by a consonant?
(a) None
(b) One
(c) Two
(d) Three
(e) None of these
14. ' O ' is related to ' in the same way as ' 9 ' is related to ' *Y* '. Following the same pattern, ' 8 ' is related to which of the following?
(a) T
(b) @
(c) A
(d) U
(e) None of these
15. Which of the following is the sixth to the right of the thirteenth from the right end?
(a) @
(b) *Y*
(c) E
(d) E
(e) None of these

Directions (16-20): Study the following arrangement carefully and answer the given questions:
K28% P # B 3 H $ GTIAYE £ 49 LU @ 7CN

16. If all the symbols are dropped from the above arrangement, which of the following will be tenth from the right end?
(a) A
(b) Y
(c) 9
(d) G
(e) None of these
17. How many such consonants are there in the above arrangement each of which is not immediately preceded by a symbol?

SHANU'S Online Exam Partner

(a) None
(b) One
(c) Two
(d) Three
(e) More than three

18. How many such letters are there in the above arrangement each of which is immediately followed by a number?
(a) One
(b) Two
(c) Three
(d) None
(e) None of these

19. How many such symbols are there in the above arrangement each of which is not immediately preceded by a consonant but followed by a vowel?
(a) Two
(b) Three
(c) Four
(d) None
(e) None of these

20. If all the alphabets in the above arrangement are arranged in English alphabetical order within the series, which of the following will be sixteenth from the left?
(a) N
(b) *
(c) L
(d) K
(e) 4

Directions (21-25): Study the following arrangement carefully and answer the questions given below:
A % DFKE 8JQ1 VTU2$W # 6 B G @ IL 73 H

21. If all the symbols are dropped from the above arrangement, which of the following will be eleventh from the right end?
(a) W
(b) 2
(c) U
(d) T
(e) None of these

22. How many such letters are there in the above arrangement each of which is immediately followed by a number?
(a) None
(b) One
(c) Two
(d) Three
(e) None of these

23. How many such symbols are there in the above arrangement each of which is immediately preceded by a consonant and followed by a vowel?
(a) None
(b) One
(c) Two
(d) Three
(e) None of these

24. How many such consonants are there in the above arrangement each of which is not immediately preceded by a symbol but followed by a vowel?
(a) One
(b) Two
(c) Three
(d) Four
(e) None of these

25. How many such vowels are there in the above arrangement each of which is immediately preceded by a number?
(a) One
(b) Two
(c) Three
(d) Four
(e) None of these

Directions (26-30): These questions are based on the following arrangement of numbers, letters and symbols. Study them carefully and answer the questions given below:
18 QW3dZ5 2J @ UK9PI%R4$ME7T # A 6 F

26. Which of the following should come in place of question mark (?) in the following series based on the elements in the above arrangement?
3WZ 2 @ 9KI ?
(a) %14
(b) 4 RM
(c) 4%$
(d) $4E
(e) None of these

27. How many such letters are there in the above arrangement each of which is not immediately preceded by a symbol?
(a) Five
(b) Six
(c) Seven
(d) Eight
(e) More than eight

28. Four of the following five are alike in a certain way based on their positions in the above arrangement and hence form a group. Find out the one that does not belong to that group.
(a) W1
(b) ⋆ δ
(c) @ 9
(d) IK
(e) 4I

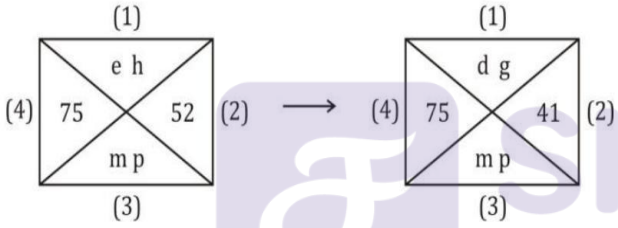
29. Which of the following is fifth to the right of the fifteenth from the right end?
(a) 4
(b) 9
(c) $

SHANKAR'S Your Exam Partner

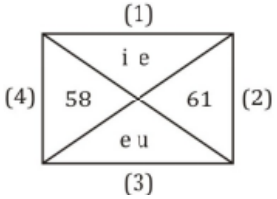
(d) P
(e) None of these

30. How many such numbers are there in the above arrangement each of which is immediately followed by a symbol and also immediately preceded by a latter?
(a) One
(b) Two
(c) Three
(d) Four
(e) None of these

Directions (31-35): Study the following information and answer the questions given below:
There are four triangles given in question on which some operations are applied individually on each triangle and then it is converted into solution. You have to answer the questions from the triangle which comes after the operation applied on the given triangle.
For example-



For triangle 1- if the difference between the place value of the letters in triangle 1 is less than four then change each letter to previous letter according to English alphabetical series
For triangle 2- if the difference between given two digit is less than 5 then change the each digit to previous digit.
For triangle 3- if the total letters between given two letters is more than 5 then change the each letter to previous letter according to English alphabetical series.
For triangle 4- if the difference between given two digits is more than 2 then change each digits to previous digit.
Note- If the above condition are not applied then you have to write the digit and letter as it is in resultant triangle.
Based on the above example solve the given question.



31. How many meaningful words are formed by letter combining from triangle 1 and triangle 3 ?
(a) None
(b) Two
(c) Three
(d) One
(e) Four

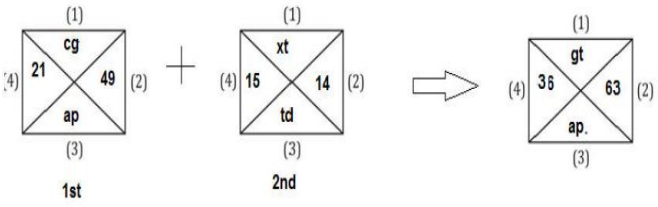
32. What is the sum of each digits which is obtained in triangle 2 and triangle 4 ?
(a) 17
(b) 18
(c) 19
(d) 20
(e) 16

33. Which of the following letter is obtained in triangle 3?
(a) d,f
(b) *t*, *c*
(c) d, t
(d) d,v
(e) *t*, *b*

34. What is the product of 2nd digit of triangle4 and 1st digit of the triangle2?
(a) 45
(b) 56
(c) 48
(d) 42
(e) none of these

35. What is the sum of the numerical value of the 1st letter in triangle1 and 2nd letter of tringle 3?
(a) 30
(b) 31
(c) 28
(d) 26
(e) none of these

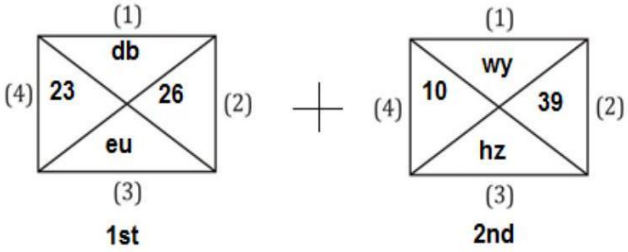
Directions (36-40) : Study the following information and answer the questions given below:
There are four triangles in each square given in question on which some operations are applied individually on
each triangle and then it is converted into solution. You have to answer the questions from the triangle which comes after the operation applied on the given triangle. For example-



For triangle 1- if the letters in the 2nd square are reverse of the letters in the 1st square ,then write the 2nd letter of the 1st square and 2nd square.
For triangle 2- if there is a common factor for the numbers in 1st and 2nd square then write the sum of the the two numbers.

SHANJO'S Your Exam Partner

For triangle 3- if the total letters between given two letters of the both the squares is more than 13 then write the letters of the 1st square as it is.
For triangle 4- if there is a common factor between the numbers in 1st and 2nd square then write the sum of the the two numbers
Note- If the above condition are not applied then you have to write the digit and letter as it of the triangles of 1st square in the triangles of resultant square.
Based on the above example solve the given question.



36. What is the sum of the digits in triangle 4 of the solution?
(a) 6
(b) 5
(c) 9
(d) 10
(e) none of these.

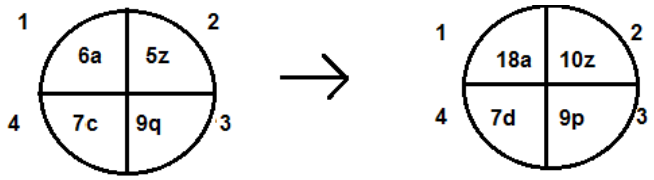
37. What is the sum of the numerical value of letters in triangle 1 and triangle 3 of the solution?
(a) 53
(b) 65
(c) 54
(d) 47
(e) none of these

38. What letters are obtained in triangle 3 of the solution?
(a) e,y
(b) *b*, *y*
(c) 0, m
(d) *u*, *b*
(e) e,u

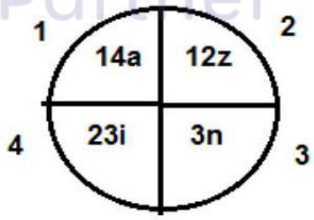
39. What is the result when 1st digit of triangle 2 is divided by 2 nd digit of triangle 4 ?
(a) 2
(b) 4
(c) 3
(d) 1
(e) none of these

40. What is the product of the numbers in triangle 2 and triangle 4 of the solution?
(a) 1499
(b) 1495
(c) 1395
(d) 1485
(e) 1405

Directions (41-45) : Study the following information and answer the questions given below:
There are four sectors in a circle given in question on which some operations are applied individually on each sectors and then it is converted into solution. You have to answer the questions from the sectors which comes after the operation applied on the given sectors.



For example-
(1) For sector 1- if the number is an even number, then multiply it by 3 and write the letter as it is.
(2) For sector 2- if the number is an odd number, then multiply with 2 and write the letter as it is.
(3) For sector 3- if the the place value of the letter is an even number, then change the letter to the previous letter and write the number as it is.
(4) For sector 4- if the the place value of the letter is an odd number, then change the letter to the next letter and write the number as it is.
Note- If the above condition are not applied then you have to write the digit and letter as it is in the question
Based on the above example solve the given question.



41. What is the sum of the numbers obtained in all the sector?
(a) 80
(b) 70
(c) 54
(d) 72
(e) none of these

42. What is the difference between the numbers of sector 2 and sector 3 ?
(a) 39
(b) 20
(c) 9
(d) 11
(e) none of these

43. Which of the following pair of letters is obtained in 1 st and 3rd sector?
(a) a,z
(b) a, m
(c) a, j

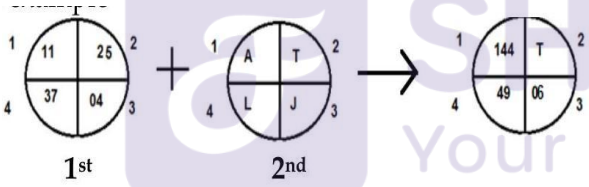
SHANKAR'S Your Exam Partner

(d) e, m
(e) none of these

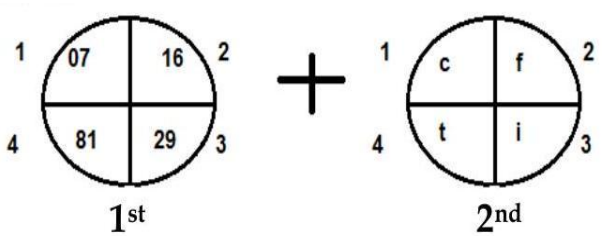
44. What is the difference in place value of the letters obtained in 3rd and 4th sector ?
(a) 7
(b) 8
(c) 3
(d) 2
(e) none of these

45. What is the product of the number in 1st sector and place value of the letter in 3rd sector?
(a) none of these
(b) 516
(c) 576
(d) 546
(e) 676

Directions (46-50) : Study the following information and answer the questions given below:
There are four sectors in each circle given in question on which some operations are applied individually on each sectors and then it is converted into solution. You have to answer the questions from the sectors which comes after the operation applied on the given sectors.
For example-



(1) For sector 1- if the number in the 1 ST circle is odd, then write the square of the sum obtained from the number in 1st circle and place value of the letter in 2nd circle .
(2) For sector 2- if the number in the 1st circle is a perfect square ,then write the letter of the 2 nd circle in a resultant circle.
(3) For sector 3- if the place value of the letter in the 2nd circle and the number in the 1st circle are even ,then write the difference of the two.
(4) For sector 4- if the place value of the letter in the 2nd circle is even and the number in the 1 st circle is odd ,then add the two..
Note- If the above condition are not applied then you have to write the digit and letter as it is in the 1st circle
Based on the above example solve the given question.



46. What is the sum of all the numbers obtained in the solution?
(a) 301
(b) 230
(c) 231
(d) 201
(e) none of these

47. What is the place value of the letter obtained in the 2nd sector?
(a) 5
(b) 6
(c) 2
(d) 9
(e) none of these

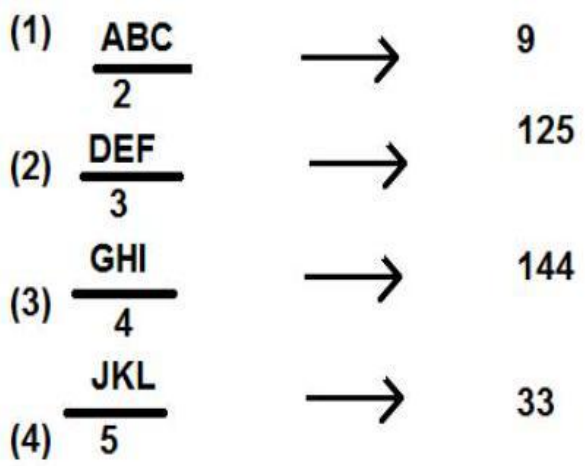
48. Which of the following is the pair of number obtained in the 1st and 3rd sector?
(a) 100,101
(b) 100,29
(c) 29,101
(d) 201,29
(e) none of these

49. Which of the following is obtained on dividing the number in the 1 st sector by 25 ?
(a) 6
(b) 5
(c) 4
(d) 3
(e) none of these

50. Which is the next letter to the letter obtained in the 2nd sector?
(a) D
(b) F
(c) E
(d) G
(e) none of the these

Directions (51-55): Study the following information and answer the questions given below:
There are four diagrams given in question on which some operations are applied individually on each diagram and then it is converted into solution. You have to answer the questions from the diagram which comes after the operation applied on the given diagram. For example-

SHANJU'S Your Exam Partner



(1) For diagram 1- if the sum of the place value of the letters is divisible by 2 , then write the square of the result obtained on division

(2) For diagram 2- if the sum of the place value of the letters is divisible by 3 , then write the cube of the result obtained on division

(3) For diagram 3-if the sum of the 1st and 3rd letter is divisible by 4 , then multiply the sum of 1 st and 3 rd letter with 9.

(4) For diagram 4- if the place value of the middle letters is odd, then multiply it with 3

Note- If the above condition are not applied then you have to write the digit which is divisor in the diagram as it is in solution part.

Based on the above example solve the given question.

(1) $\frac{stu}{2} \rightarrow \rightarrow$

(2) $\frac{mja}{3} \rightarrow \rightarrow$

(3) $\frac{hcl}{4} \overset{niy}{\rightarrow}$

(4) $\frac{\rightarrow}{5}$

51. What is the sum of all the numbers obtained in resultant diagram?
(a) 1443
(b) 1445
(c) 1446
(d) 1442
(e) none of these

52. Which alphabet represents the the number obtained in 3rd diagram according to English dictionary?
(a) f
(b) b
(c) d
(d) z
(e) none of these

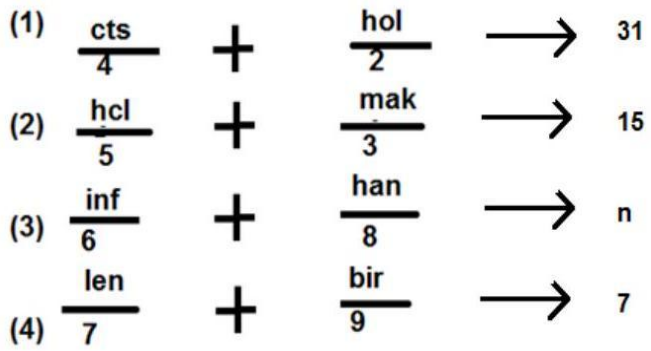
53. In how many diagrams can a meaning full word be formed from the letters of question part by rearrangement?
(a) none
(b) three
(c) two
(d) one
(e) four

54. How many perfect cubes are there in the numbers obtained?
(a) none
(b) one
(c) two
(d) three
(e) four

55. What is the difference between the value which is obtained from the addition of 1st and 4th diagrams and the one which is obtained from the addition of 2nd and 3rd diagrams?
(a) 1381
(b) 411
(c) 365
(d) 341
(e) none of these

Directions (56-60) : Study the following information and answer the questions given below:

There are four diagrams given in question on which some operations are applied individually on each diagram and then it is converted into solution. You have to answer the questions from the diagram which comes after the operation applied on the given diagram. For example-



(1) For diagram 1- if the difference between the place value of the 1st letters in the two fraction is more than 3, then add the place values of the last digits of both fraction.

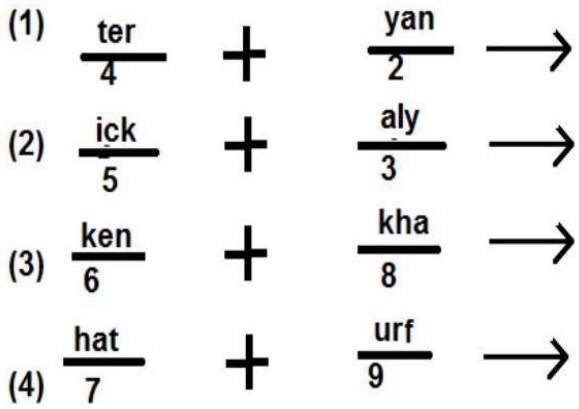
(2) For diagram 2- if the difference between the middle letters is less than 3, then multiply the numbers of the denominators.

(3) For diagram 3-if there is any common letter in the two fractions, then write the common letter

(4) For diagram 4- if the difference between the place values of the middle letter of the 1st fraction and

1st letter of the 2 nd fraction is more than 5 , then add the two numbers of the denominator

Note- If the above condition are not applied then you have to write the digit of denominator of the 1st fraction as it is in solution part.



56. What is the difference between the number obtained from 1st and 2nd diagram?
(a) 27
(b) 23
(c) 16
(d) none of these
(e) can't be determined

57. What is the letter/number obtained in the 3rd diagram?
(a) h
(b) k
(c) 32
(d) 16
(e) none of these

58. What is the product of all the numbers obtained ?
(a) 2570
(b) 2568
(c) 2560
(d) 2467
(e) 2458

59. In how many diagrams can a meaning full word be formed from the letters of the first fraction of all diagrams by rearrangement?
(a) none
(b) three
(c) two
(d) one
(e) four

60. How many perfect squares are there in the numbers obtained?
(a) none
(b) one
(c) two
(d) three
(e) four

Direction (61-64): Study the following arrangement carefully and answer the questions given below:
391812586364252852645149473272 59 Year: 2020 IBPS Clerk Pre

61. How many 2 's is there in the above arrangement, each of which is immediately preceded by a digit which has a numerical value of more than 5 ?
(a) None
(b) One
(c) Two
(d) Three
(e) More than three

62. Which of the following number is seventh to the left of the twentieth from the left end of the above arrangement?
(a) 3
(b) 9
(c) 2
(d) 7
(e) 1

63. If all the even digits are removed from the above arrangements then, which of the following digit will be tenth from the right end of the arrangement?
(a) 9
(b) 5
(c) 1
(d) 3
(e) 7

64. How many such 1's is there in the above arrangement, each of which is immediately followed by a perfect square?
(a) None
(b) One
(c) Two
(d) Three
(e) More than three

Direction (65-69): Following questions are based on the five words given below, Study the following numbers and answer the following question:
BOY CAT RAT MAT SIT PEN

65. If the vowel in each of the given words is changed to its next letter and each consonant is changed to its previous letter according to the English alphabetical series, then in how many words there are repeated letters?
(a) One
(b) Two
(c) Three
(d) Four
(e) Five

66. How many letters are there between the first letter of the second word from left and first letter of the third word from right end in English alphabetical series?

SHANJU'S Your Exam Partner

(a) Eight
(b) Six
(c) Seven
(d) Five
(e) More than eight

67. If the words are arranged according to the English dictionary from left to right then which of the following word is second from the left end?
(a) BOY
(b) SIT
(c) CAT
(d) RAT
(e) None of these

68. If all the letters in each word are arranged according to the English alphabetical series from left to right, then how many meaningful words are formed?
(a) One
(b) Two
(c) Three
(d) Five
(e) Four

69. If the first letter is interchanged with the third letter within the word then how many words starts with a vowel?
(a) None
(b) One
(c) Two
(d) Three
(e) More than three

Directions (70-74): Following questions are based on the five numbers given below, Study the given information and answer the following questions.
625 427 189 258 469

70. What is the sum of the 3rd digit of second number from left and 2nd digit of third number from right?
(a) 10
(b) 15
(c) 14
(d) 12
(e) None of these

71. If the position of first and third digits of each of the numbers are interchanged, then which among the following is the highest number?
(a) 258
(b) 469
(c) 189
(d) 427
(e) 625

72. If all the digits in the number are arranged in the descending order within the number from left to right, then which among the following will be the lowest number after rearrangement?
(a) 427
(b) 189
(c) 258
(d) 625
(e) 469

73. What is the product of 3rd digit of 2nd lowest number and 1st digit of 2nd highest number?
(a) 32
(b) 72
(c) 24
(d) 36
(e) None of these

74. If 2 is subtracted from each number, then how many numbers thus formed are odd numbers?
(a) One
(b) Two
(c) Three
(d) More than three
(e) None

SHAALU'S Your Exam Partner

SOLUTIONS

Foundation

1. (e): E
2. (c): X
3. (a): ANZ, BOY, CPX, DQW
4. (d): $A \xrightarrow{+1} B \xrightarrow{+2} D \xrightarrow{+3} G \xrightarrow{+4} K \xrightarrow{+5} P \xrightarrow{+6} V$
5. (c): A B C D E
YXWVU
6. (b): A 2Y, B4 W, C6U, D8 S
7. (d): $A \xrightarrow{+2} C \xrightarrow{+2} E \xrightarrow{+2} G \xrightarrow{+2} I$
$B \xrightarrow{+4} F \xrightarrow{+4} J \xrightarrow{+4} N \xrightarrow{+4} R$
8. (b): $B \xrightarrow{+2} D \xrightarrow{+2} F \xrightarrow{+2} H \xrightarrow{+2} J$
$Y \xrightarrow{-2} W \xrightarrow{-2} U \xrightarrow{-2} S \xrightarrow{-2} Q$
9. (a): T
10. (c): Z

Direction (11-15):

11. (b): (&M*) and (%U&)
12. (a)
13. (a)
14. (b)
15. (a)

Direction (16-20):

16. (d): R6Y, V1X
17. (c)
18. (b): $7@
19. (c)
20. (b)
21. (a): after adding 1 last digit = 5,9,2,6,8 only 9 is a perfect square.
22. (d):after subtracted 1 to from each 1st digit of each number, the number become 474,558,721,845, 147. Only 474,558 and 147 are divisible by three
23. (b): after arranging each digit in ascending order the number become 457,568,128,459,247. So highest number which is 568 comes from 658.
24. (d): In 124,118,101,135,67. Largest no. is 135 which come from 945.
25. (c): after changing first and second digit the number be 754,568,281,495,427. So smallest number 821 comes from 281.
26. (b): 684
27. (c): after doing this process the number will be. 497 , 943, 775, 852, 964. Third highest number will be 852 which comes from 572.
28. (b): after doing this process the number will be 739, 384, 567, 275, 486. So after arranging in descending order the number from right be second lowest which is 384 which comes from 483
29. (e): 937
30. (d): 937

Directions (31-35):

31. (c)
32. (c)
33. (b)
34. (d)
35. (d)

Directions (36-40):

36. (d): 451685254723132
723685451254132
37. (b)
38. (c)
39. (d)
40. (a)

SHANJU'S
Your Exam Partner

Moderate

1. (a): New numbers 835786932467848
Ascending order -
467 < 786 < 835 < 848 < 932
Ans. 538
2. (c): New numbers after applying operations 628, 777, 329, 854, 938
largest number is 848
3. (b): New numbers after interchanging operation 358, 867, 329, 674, 488
Ans. 239
4. (a): 538 → 437 → 473
687 → 586 → 568
239 → 138 → 183
764 → 663 → 636
848 → 747 → 774
Ascending order - 183 < 473 < 568 < 636 < 774
Ans. 538
5. (d): New numbers -
528, 677, 219, 754, 838
Ascending order -
219 < 528 < 677 < 754 < 838
Ans. 2, 5, 8, 7
6. (c): 6,2,9,7,4 perfect square is 9 and 4