

SSC MTS 2020 Tier I : 20

Oct S3

Mock Test Questions & Solutions

Mock Test Solutions in English

Questions

1. Select the most appropriate word for the given group of words.

The cry of a goat

- | | |
|----------|---------|
| A. Bleat | B. Bray |
| C. Croak | D. Yelp |

2. Select the most appropriate meaning of the given idiom.

Bear the brunt

- A. Be first to try something
 - B. Confront a powerful rival
 - C. Know what is going on
 - D. Suffer the worst of something

3. Select the most appropriate ANTONYM of the given word.

PROFUSE

- A. Sufficient
 - B. Lush
 - C. Plenty
 - D. Scant

- 4. Select the INCORRECTLY spelt word.**

- | | |
|---------------|----------------|
| A. Preferance | B. Predict |
| C. Preface | D. Predominant |

5. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'.

The workers has called up the strike.

6. Identify the segment that contains a grammatical error. If there is no error, select 'No error'.

One of the apples that you have picked up are rotten.

7. Select the most appropriate meaning of the given idiom.

Behind closed doors

- A. Do something alone
 - B. Be in prison
 - C. Be away from others
 - D. Do something secretly

8. Select the most appropriate option to fill in the blank.

In the morning I leave my house _____ eight o'clock.

9. Select the most appropriate ANTONYM of the given word.

DISTANT

- A. Remote
 - B. Removed
 - C. Isolated
 - D. Near

10. Identify the segment that contains a grammatical error. If there is no error, select 'No error'.

Hundred and fifty rupees seem a high price for this little vase.

11. Identify the segment that contains a grammatical error. If there is no error, select 'No error'.

This is one trip whom I will never forget.

- A. No error
 - B. This is one trip
 - C. never forget
 - D. whom I will

12. Select the most appropriate option to fill in the blank.

I am sure that my seeds _____ by next week.

- A. are growing
 - B. will grow
 - C. grow
 - D. grew

13. Select the most appropriate word for the given group of words.

Rub out writing

C. Break

D. Demolish

14. Select the most appropriate option to substitute the underlined segment in the given sentence.

The accused has been tortured before he was brought to the court.

A. was being tortured

B. has tortured

C. had tortured

D. had been tortured

15. Select the INCORRECTLY spelt word.

A. Multiple

B. Murmur

C. Muddel

D. Mumble

16. Select the most appropriate synonym of the given word.

PREVENT

A. Block

B. Allow

C. Open

D. Push

17. Select the most appropriate option to fill in the blank.

Millions of people _____ during the acute famine of Odisha.

A. hungered

B. starved

C. damaged

D. collapsed

18. Select the most appropriate option to fill in the blank.

The trek manager _____ that the trekkers rest for a while before the climb.

A. insisted

B. informed

C. told

D. warned

19. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'.

The game of cricket is governed by strict laws like other sports where there are merely rules.

A. unlike

B. such like

C. No substitution required

D. quite like

20. Select the most appropriate synonym of the given word.

ELEGANT

- A. Graceful
- B. Intelligent
- C. Common
- D. Rough

21. **Direction:** In the following passage, some words have been deleted. Fill in the blanks with the help of the options given. Select the most appropriate option for each blank.

Suraj waved to a passing train, and kept waving (1) _____ only the spiralling smoke remained. He (2) _____ waving to trains. He wondered (3) _____ the people in them, and about (4) _____ they were going and what it (5) _____ be like there. And when the train had passed, Suraj was lonely.

Select the most appropriate option to fill in blank no. 1

- A. while
- B. when
- C. until
- D. After

22. Select the most appropriate option to fill in blank no. 2

- A. liked
- B. likes
- C. is liking
- D. was liking

23. Select the most appropriate option to fill in blank no. 3

- A. of
- B. about
- C. for
- D. To

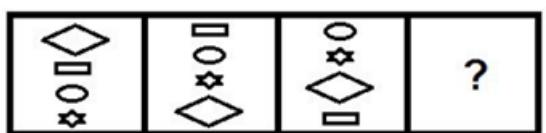
24. Select the most appropriate option to fill in blank no. 4

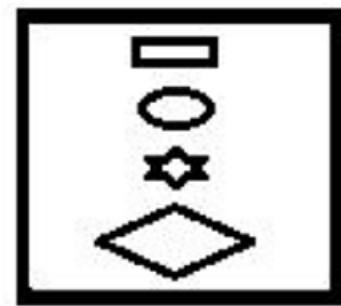
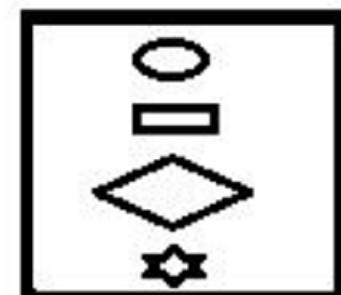
- A. where
- B. why
- C. how
- D. when

25. Select the most appropriate option to fill in blank no. 5

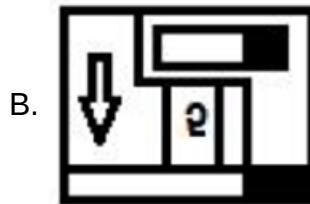
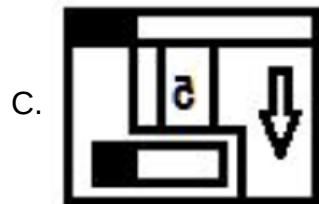
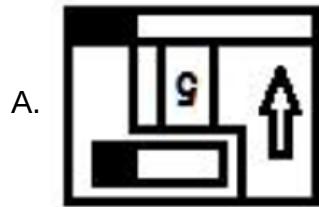
- A. should
- B. would
- C. can
- D. will

26. Select the figure that will replace the question mark (?) in the following figure series.









Statements:

All thermometers are rockets.

All equipment are thermometers.

Conclusions:

I. Some rockets are equipment.

II. Some rockets are thermometers.

A. Only conclusion II follows

C. Neither conclusion I nor II

Select the option that is related to the following statement.

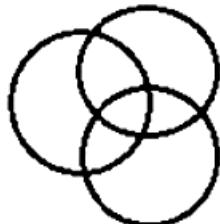
B. Both conclusions I and II follow

D. Only conclusion I follows

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

6 : 50 :: 11 : ?

33. Select the set of classes the relationship among which is best illustrated by the following Venn diagram.



- A. Lawyers, Mothers, Sisters B. Engines, Cars, Plants
C. Cardamom, Fenugreek, Spices D. Architects, Boys, Girls

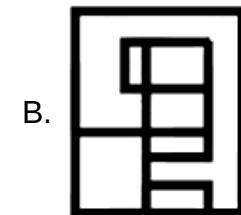
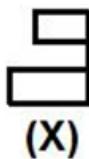
34. Which of the following numbers will replace the question mark (?) in the given series?

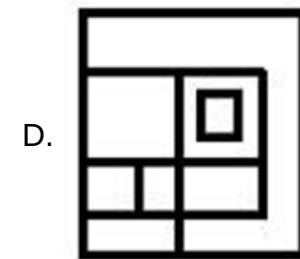
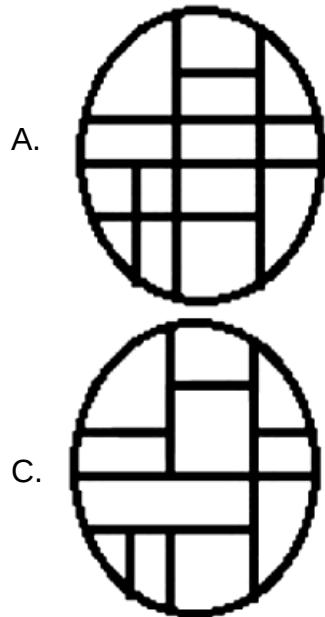
25, 34, 52, ?, 160, 304

35. Which of the following numbers will replace the question mark (?) in the given series?

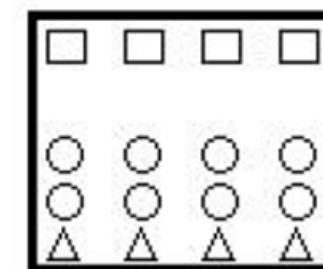
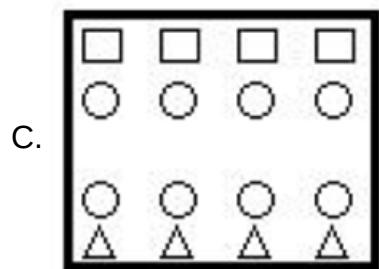
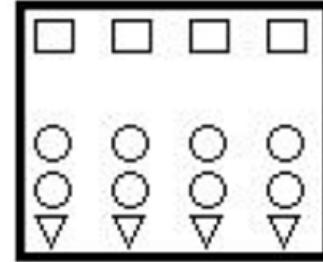
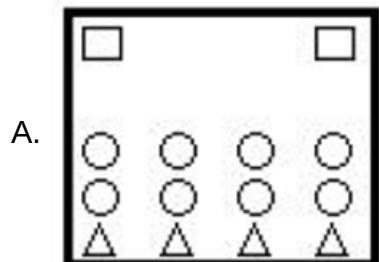
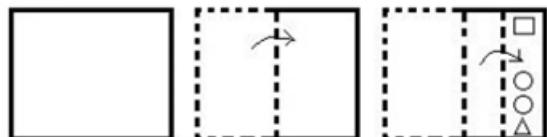
1080, 360, ?, 60, 30, 10, 5

36. Select the option in which the given figure (X) is embedded as its part (rotation is not allowed).





37. A paper is folded and cut as shown in the given figures. How will it appear when unfolded?



38. Which two numbers should be interchanged to make the given equation correct?

$$8 \times 7 - 42 \div 14 \times 2 + 21 = 66$$

PRIVATE : HWDYLUS :: SIGNIFY : ?

BRAIN DRAIN DTAIN ? DTCKN DTCKP

5 9 5

7 3 ?

148 180 292

- | | |
|-------|-------|
| A. 12 | B. 10 |
| C. 9 | D. 11 |

46. Select the option that is related to the third word in the same way as the second word is related to the first word.

Ink : Write :: Medicine : ?

- | | |
|-----------|------------|
| A. Doctor | B. Chemist |
| C. Tablet | D. Cure |

47. Two statements are given followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

Statements:

All needles are threads.

No thread is a match-box.

Conclusions:

- I. No needle is a match-box.
- II. Some threads are needles.
- III. Some match-boxes are needles.

- | | |
|---------------------------------------|-------------------------------------|
| A. Only conclusions I and III follow | B. All of the conclusions follow |
| C. Only conclusions II and III follow | D. Only conclusions I and II follow |

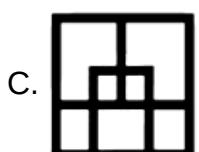
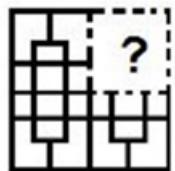
48. Select the option that is related to the third word in the same way as the second word is related to the first word.

Pulses : Black gram :: Cereal : ?

- A. Coriander
- C. mustard

- B. Rice
- D. Fertiliser

49. In a certain code language, 'MIXTURE' is written as '117', and 'FLOWER' is written as '85'. How will 'MERGER' be written in that language?
- A. 55
 - C. 86
 - B. 66
 - D. 72
50. Select the option figure that will replace the question mark (?) in the figure given below to complete the pattern.

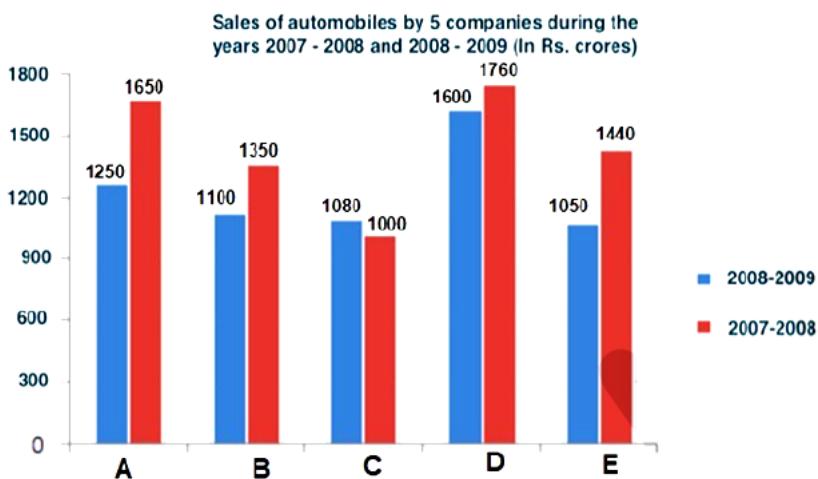


51. The base of a triangle is increased by 30%. By what percentage (correct to two decimal places) can its height be increased so that the area increases by 50%?
- A. 10.53%
 - C. 13.53%
 - B. 12.38%
 - D. 15.38%
52. On selling a bat for Rs. 954, a man gains 6%. What should be its selling price (in Rs.) to gain 8%?
- A. 958
 - C. 972
 - B. 1,080
 - D. 1,054
53. The mean of 11, 10, 12, 13, 15, x and 17, is 15. The value of X is:
- A. 18
 - C. 25
 - B. 29
 - D. 27
54. A manufacturer marks the price of an article at Rs. 1,200. He sells it to a trader at a discount of 10%. The trader gets a further discount of 5% on his net payment for paying in cash. What amount (in Rs.) does the

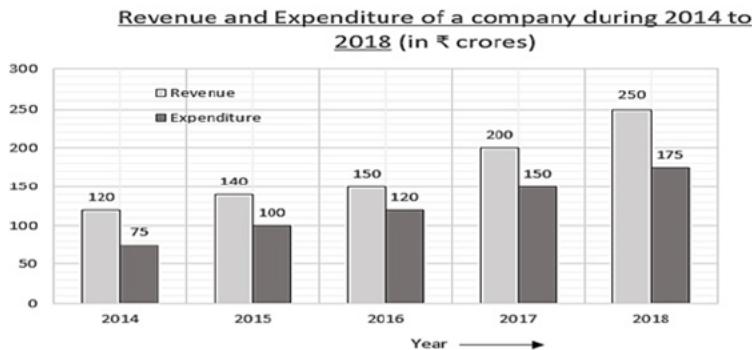
trader pay to the manufacturer?

Study the bar graph and answer the question that follows.

(Note: the data shown below is only for mathematical exercise. It does not represent the actual figures of the companies)



What should have been the sales (in Rs. crores) of company E in 2008-2009 so that it would have shown the same increase over 2007-2008 as shown by the sales of automobiles of company C during these years?



In how many years is the profit (Revenue - Expenditure) as a percentage of revenue, more than 28%?

Award' in 2020.

A. Sonu Sood

C. Naveen Patnaik

B. Maneka Gandhi

D. Sadaa Sayed

87. Who among the following is a famous Santoor player?

A. Pandit Shivkumar Sharma

B. Pandit Ravi Shankar

C. Ustad Bismillah Khan

D. Ustad Zakir Hussain

88. Rukmini Devi Arundale is a famous classical dancer of:

A. Kathak

B. Bharatnatyam

C. Mohiniattam

D. Kuchipudi

89. Which edition of Khelo India Youth Games was held in Guwahati in January 2020?

A. Second edition

B. Fifth edition

C. Fourth edition

D. Third edition

90. An official enumeration of population done periodically is known as:

A. national register of citizens

B. demographic count

C. census

D. national population register

91. The Mattancherry palace is situated in:

A. Odisha

B. Kerala

C. Andhra Pradesh

D. Tamil Nadu

92. Which state among the following is the largest producer of coffee?

A. Karnataka

B. Tamil Nadu

C. Andhra Pradesh

D. Kerala

93. The 15th Finance Commission has been constituted by the President of India for a period of _____ years.

A. three

B. six

C. four

D. five

94. Which department of the Government of India declares the minimum support prices?

A. Department of Economic Affairs

B. Department of Agriculture and Cooperation

C. Department of Disinvestment

D. Department of Expenditure

95. Whitewashed walls appear to be shiny after three to four days due to the formation of:

A. calcium nitrate

B. calcium sulphate

C. calcium oxide

D. calcium carbonate

96. Which law explains about the tides due to the moon and the sun?
- A. Law of gravitation B. Law of reflection
C. Law of inertia D. Law of refraction
97. Electoral roll is commonly known as:
- A. election count B. voter's list
C. election list D. serial list
98. Which tissue among the following is a protective tissue in the animal body?
- A. Muscular tissue B. Nervous tissue
C. Connective tissue D. Epithelial tissue
99. Which law was imposed in India during the command of General Dyer?
- A. Preventive detention B. Discrimination law
C. Simon law D. Martial law
100. With which of the following sports/games is Rani Rampal associated?
- A. Hockey B. Badminton
C. Cricket D. Boxing

Solutions

1. A

Sol. Bleat: a single sound that sheep or goats make.

Bray: a loud unpleasant sound made by a donkey.

Croak: a rough low sound made in the throat, like the sound made by a frog.

Yelp: a sudden short cry, usually of pain.

Hence, **option A** is the correct answer.

2. D

Sol. The idiom "**Bear the brunt**" means to receive the main force of something unpleasant.

Example: Schools will **bear the brunt** of cuts in government spending.

Hence, **option D** is the correct answer.

3. D

Sol. Let's understand the meaning of the given words:

Profuse= produce in large amounts.

E.g.: It was a mistake from my side. Please accept my **profuse** apologies.

Sufficient = enough for a particular purpose.

Lush = beautiful and making you feel pleasure.

Plenty = a lot of

Scant = hardly any; not very much and not as much as there should be.

E.g.: The firefighters went back into the house with **scant** regard for their own safety.

Hence, **option D** is the correct answer.

4. A

Sol. **Option A has incorrectly spelt word.**

“Preference” is the correct spelling of the incorrect word “Preferance”. It means a greater interest in or desire for someone/something than someone/something else.

The meaning of other words are:

Predict: to say that something will happen in the future.

Preface: an introduction to a book, especially one that explains the author's aims.

Predominant: most obvious or easy to notice.

5. D

Sol. **The underlined part of the sentence is grammatically incorrect.**

* Underlined part needs correction in phrasal verb and helping verb.

* “Call something up” as a phrasal verb means to bring something back to your mind.

For example:

The smell of the sea **called up** memories of his childhood.

* “Call something off” as a phrasal verb means to cancel something; to decide that something will not happen.

For example:

The game was **called off** because of bad weather.

* As per the Subject Verb agreement, verb should be in accordance with the subject. Singular verb should be used with singular subject. Plural verb should be used with plural subject.

For example:

The **children have** adapted well to the heat.

- * In the given sentence, we need the sense of “cancellation of strike by the workers”. Phrasal verb “call something off” is suitable for expressing such meaning in the sentence.
- * Also, “workers” is a plural subject but we have erroneously used singular helping verb “has”. As per subject verb agreement, plural helping verb “have” should be used for plural subject.
- * Hence, “**have called off**” is the correct substitution.

Thus, the correct sentence will be:

The workers have called off the strike.

Hence, **option D** is the correct answer.

6. C

Sol. The sentence is grammatically incorrect, and the error lies in **option C**. The error is related to **Verb**.

- * After a subject with “one of”, we use a singular verb.

For example:

One of these letters is for you.

One of the most important political freedoms is freedom of association.

- * “Rotten” is an adjective and it means something that has decayed and cannot be eaten or used.

For example:

They pelted him with **rotten** eggs.

- * In the given sentence, we have erroneously used plural helping verb (used as linking verb) “are” after “one of” structure. Thus, singular helping verb “is” should be used in place of “are”.
- * Also, usage of “rotten” as an adjective is correct because it is acting like a complement for the subject “one of” and helping verb “is” is acting like a linking verb that connects complement with its subject.
- * Hence, “**is rotten**” is the correct substitution.

Thus, the correct sentence will be:

One of the apples that you have picked up is rotten.

7. D

Sol. The idiom “**Behind closed doors**” means without the public being allowed to attend or know what is happening; in private.

Example: The meeting between the two politicians held **behind closed doors**.

Hence, **option D** is the correct answer.

8. B

Sol. Let us understand the meaning of the given words:-

- * In = used to show at a point within an area or a space.
- * At = used to say when something happens.
- * On = used to show “in or into a position covering, touching or forming part of a surface”.
- * For = used to show purpose or function.

Now let's find out the correct fit for the blank:

- * "In" as a preposition is used to show at a point within an area or a space. Thus, option A is incorrect.
- * "On" as a preposition is used in context of "in or into a position covering, touching or forming part of a surface". Thus, option C is incorrect.
- * "For" as a preposition is used to show purpose or function. Thus, option D is incorrect.
- * "At" as a preposition is used to show when something happens. Here in the given sentence, it is used to mention the time when "I" leave the house i.e. "at eight o' clock".

Thus, "At" becomes the correct word to fill in the blank.

Thus, the correct sentence will be:

In the morning I leave my house at eight o'clock.

Hence, **option B** is the correct answer.

9. D

Sol. Let's understand the meaning of the given words:

Distant= far away in space or time.

E.g.: The time we spent together is now a **distant** memory.

Remote = far away from places where other people live.

Removed = to take someone/something away from a place.

Isolated = far away from any others.

Near = a short distance away.

E.g.: His house is very **near**.

Hence, **option D** is the correct answer.

10. A

Sol. The sentence is grammatically incorrect, and the error lies in **option A**. The error is related to **Verb**.

* Singular verb should be used when plural nouns explain specific ‘amount, sum, distance, quantity, time, period’ as a whole.

For example:

Five hundred rupees was a large amount sixty years ago.

Six miles is not a long distance.

* In the given sentence, we have erroneously used plural helping verb “seem” after “Hundred and fifty rupees” which shows the specific amount of money. Thus, singular helping verb “seems” should be used in place of “seem”.

* Hence, “**seems a high price**” is the correct substitution.

Thus, the correct sentence will be:

Hundred and fifty rupees seems a high price for this little vase.

11. D

Sol. The sentence is grammatically incorrect, and the error lies in **option D**. The error is related to

Pronoun.

* “Whom” is objective case of “Who”.

For example:

I need colleagues with **whom** I can speak frankly.

He asked me with **whom** I had discussed it.

* “Who” as a relative pronoun is used for persons.

For example:

Only those children **who** are below sixteen can take part in this competition.

* “That” as a relative pronoun is used for referring to someone/something that has already been mentioned or is already known about.

For example:

The watch **that** you gave me keeps perfect time.

* In the given sentence, we have erroneously used “whom” as a relative pronoun because there is no need of an objective case in the sentence. Noun “trip” is already known to the listener because determiner “one” used before it specifies it. Thus, relative pronoun “that” should be used in place of “whom”.

* Hence, “**that I will**” is the correct substitution.

Thus, the correct sentence will be:

This is one trip that I will never forget.

12. B

Sol. Let us understand the meaning of the given words:-

- * Are growing = is the structure of verb used in present continuous tense.
- * Will grow = is the structure of verb used in simple future tense.
- * Grow = is the first form of verb. It means to increase in size, number, strength or quality.
- * Grew = is the second form of verb “grow” used in simple past tense.

Now let's find out the correct fit for the blank:

- * “Are growing” is the structure of verb used in present continuous tense but we need future tense in the filler. Thus, option A is incorrect.
- * “Grow” is the first form of verb used in simple present tense but we need future tense in the filler. Thus, option C is incorrect.
- * “Grew” is the second form of verb “grow” used in simple past tense but we need future tense in the filler. Thus, option D is incorrect.
- * “Will grow” is the structure of verb used in simple future tense. It shows what is going to happen in the future. Here in the given sentence, time word “next week” necessitates the use of future tense in the filler. “Will grow” shows that there is possibility of growth in seeds by following week.

Thus, “Will grow” becomes the correct word to fill in the blank.

Thus, the correct sentence will be:

I am sure that my seeds will grow by next week.

Hence, **option B** is the correct answer.

13. A

Sol. Erase: to make a mark or something you have written disappear for example by rubbing it, especially in order to connect it.

Abolish: to officially end a law, a system or an institution.

Break: to be damaged and separated into two or more parts, as a result of force.

Demolish: to pull or knock down a building; to destroy something.

Hence, **option A** is the correct answer.

14. C

Sol. **The underlined part of the sentence is grammatically incorrect.**

* Underlined part needs correction in tense.

* Past perfect tense is used when out of two actions it is necessary to emphasize that the preceding action was completely finished before the succeeding action started. Succeeding action is written in simple past tense.

For example:

We **had gone** to Mumbai last month before our father **came**.

* The structures for active/passive voices for past perfect tense are:

Active Voice: Subject + had + Verb (V3 form) + Object

Passive Voice: Object + had + been + Verb (V3 form) + by + Subject

For example:

Active Voice: The insects **had damaged** most of the goods.

Passive Voice: Most of the goods **had been damaged** by the insects.

- * The given sentence (written in passive voice) is about two actions of the past. Succeeding action identified by verb “was brought” is written correctly in simple past tense (passive voice). But we have erroneously used present perfect tense to show the preceding action. Thus, verb structure of past perfect tense (in passive voice) i.e. “had been tortured” should be used.
- * Hence, “**had been tortured**” is the correct substitution.

Thus, the correct sentence will be:

The accused had been tortured before he was brought to the court.

Hence, **option D** is the correct answer.

15. C

Sol. **Option C has incorrectly spelt word.**

“Muddle” is the correct spelling of the incorrect word “Muddel”. It means to put things in the wrong order or mix them up.

The meaning of other words are:

Multiple: many in number; involving many different people or things.

Murmur: to say something in a soft quiet voice that is difficult to hear or understand.

Mumble: to speak or say something in a quiet voice in a way that is not clear.

16. A

Sol. Let's understand the meaning of the given words:

Prevent= to stop someone from doing something or from happening.

E.g.: The accident could have been **prevented** by the driver.

Block = to stop something from moving or flowing through a pipe, a passage, a road etc. by putting something in it or across it.

E.g.: A truck had overturned and was completely **blocking** the traffic.

Allow = to let someone/something do something.

Open = to move a door, window, lid etc. into a position that is no longer closed.

Push = to use your hands, arms or body in order to make someone/something move forward or away from you.

Hence, **option A** is the correct answer.

17. A

Sol. Let us understand the meaning of the given words:-

* Hungered = (verb) to have strong desire or need for something/someone.

* Starved = (verb) to suffer or die because you do not have enough food to eat; to make someone suffer or die in this way.

* Damaged = (verb) to have a bad or harmful effect on something/someone.

* Collapsed = (verb) to fall down or fall in suddenly often after breaking apart.

Now let's find out the correct fit for the blank:

* "Hungered" as a verb means to have strong desire or need for something/someone. Thus, option A is incorrect.

* "Damaged" as a verb means to have a bad or harmful effect on something/someone. Thus, option C is incorrect.

* "Collapsed" as a verb means to fall down or fall in suddenly often after breaking apart. Thus, option D is incorrect.

* "Starved" as a verb means to suffer or die because you do not have enough food to eat; to make someone suffer or die in this way. Here in the given sentence, it is used to show that millions of people died during acute famine because they do not have enough food to eat.

Thus, "Starved" becomes the correct word to fill in the blank.

Thus, the correct sentence will be:

Millions of people starved during the acute famine of Odisha.

Hence, **option B** is the correct answer.

18. C

Sol. Let us understand the meaning of the given words:-

* Insisted = (verb) to demand that something happen or that someone agree to do something.

* Informed = (verb) to tell someone about something especially in an official way.

* Told = (verb) to give information to someone by speaking or writing.

* Warned = (verb) to tell someone about something especially something dangerous or unpleasant that is likely to happen.

Now let's find out the correct fit for the blank:

* "Informed" as a verb means to share information in an official way. But in the given sentence there is no such official relation. Thus, option B is incorrect.

* "Told" as a verb means to share information to someone either by speaking or by writing. Thus, option C is incorrect.

* "Warned" as a verb means to share information to someone about something dangerous or unpleasant that is going to happen. Thus, option D is incorrect.

* "Insisted" as a verb means demanding something to be followed or to do something. Here in the given sentence, "trek manager" is asked "trekkers" in demanding tone that they should take rest for some time before starting the climbing activity.

Note: Use of "Inform" or "Told" simply shows that information is being shared to the listener. They don't show the sense of "intended action/expected action from receiver". This sense of "expected action" is reflected in the usage of verb "Insisted". Hence, "Insisted" is the best option.

Thus, "Insisted" becomes the correct word to fill in the blank.

Thus, the correct sentence will be:

The trek manager insisted that the trekkers rest for a while before the climb.

Hence, **option A** is the correct answer.

19. A

Sol. **The underlined part of the sentence is grammatically incorrect.**

* Underlined part needs correction in preposition.

* "Unlike" as a preposition is used to show "different from a particular person or thing". Thus, it is used to contrast someone/something with another person or thing.

For example:

Music is quite **unlike** any other art form.

Unlike most systems, this one is very easy to install.

* “Like” as a preposition is used to show “similar to someone/something”.

For example:

She looks nothing **like** her mother.

She is wearing a dress **like** mine.

* The given sentence is setting up a “contrast” between the nature of rules/laws in “cricket” and “other sports”. It is erroneous to use preposition “like” that is used to show the similarity between two entities. Thus, preposition “unlike” should be used in place of preposition “like”

* Hence, “**unlike**” is the correct substitution.

Thus, the correct sentence will be:

The game of cricket is governed by strict laws unlike other sports where there are merely rules.

Hence, **option A** is the correct answer.

20. A

Sol. Let's understand the meaning of the given words:

Elegant= attractive and showing a good sense of style.

E.g.: She looked **elegant** in a simple black dress.

Graceful = moving in an attractive way that shows control OR polite and kind in your behaviour especially in a difficult situation.

E.g.: He gave a **graceful** bow to the audience.

Intelligent = good at learning, understanding and thinking in a logical way about things.

Common = happening often.

Rough = having a surface that is not even or regular.

Hence, **option A** is the correct answer.

21. C

Sol. The given passage is about "**Suraj's curiosity about train**".

"While" as a conjunction is used to show "during the time that something is happening". Thus, option A is wrong.

"When" as a conjunction is used to show "at or during the time that". Thus, option B is wrong.

"After" as a conjunction is used to show "at a time later than something". Thus, option D is wrong.

"Until" as a conjunction is used to show up to the point in time or the event mentioned. Here in the given sentence, it is used to mention that Suraj kept waving to a passing train up to the event (i.e. till the continuous circles of smoke of train were visible).

Hence, **option C** is the correct answer.

22. A

Sol. The given passage is about "**Suraj's curiosity about train**".

"Likes" is the first form of verb. Thus, option B is wrong.

"Is liking" is the structure of verb used in present continuous tense. Thus, option C is wrong.

"Was liking" is the structure of verb used in past continuous tense. Thus, option D is wrong.

"Liked" is the second form of verb used in simple past tense. It means to find someone/something pleasant, attractive or of a good enough standard; to enjoy something.

Here in the given sentence, it is used to show that Suraj enjoys waving to the trains. Since the entire passage is set in past tense that's why second form of verb is chosen.

Hence, **option A** is the correct answer.

23. C

Sol. The given passage is about "**Suraj's curiosity about train**".

"Of" as a preposition is used to show the location which is relatively small or unknown or not so popular. Thus, option A is wrong.

"For" as a preposition is used in context of "purpose or function". Thus, option C is wrong.

"To" as a preposition is used in context of "in the direction of something; towards something". Thus, option D is wrong.

"About" as a preposition is used to show "on the subject of someone/something" or "in connection with someone/something". Here in the given sentence, it is used to establish connection of verb "wondered" with "people". Thus, Surag wondered about the people who were inside the train.

Hence, **option B** is the correct answer.

24. A

Sol. The given passage is about "**Suraj's curiosity about train**".

"Why" as an adverb is used in questions to ask the reason for or purpose of something. Thus, option B is wrong.

"How" as an adverb is used in context of "in what way or manner". Thus, option C is wrong.

"When" as an adverb is used in context of "at what time; on what occasion". Thus, option D is wrong.

“Where” as an adverb is used to show “in or to what place or situation”. Here in the given sentence, it is used to ask about the place where people were going via train.

Hence, **option A** is the correct answer.

25. B

Sol. The given passage is about “**Suraj’s curiosity about train**”.

“Should” as a modal verb is used for giving or asking advice. Thus, option A is wrong.

“Can” as a modal verb is used for showing the ability. Thus, option C is wrong.

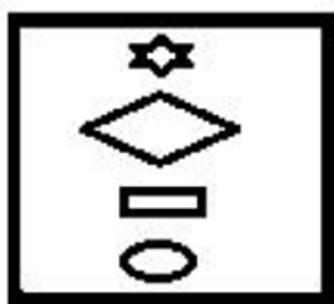
“Will” as a modal verb is used for talking about or predicting the future. Thus, option D is wrong.

“Would” as a modal verb is used for talking about the result of an event that you imagine. Here in the given sentence, it is used to show the result of imagination i.e. how it feels like when someone is inside the moving train.

Hence, **option B** is the correct answer.

26. C

Sol. The figure that is given below will replace the question mark.



Hence, **option C** is the correct answer.

27. C

Sol. Weight of T=20

Weight of P=2*t=2*20=40

$$\text{Weight of Q} = \frac{P}{4} = \frac{40}{4} = 10$$

$$\text{Weight of S} = \frac{P}{2} = \frac{40}{2} = 20$$

$$\text{Weight of R}=2*Q=2*10=20$$

So, weight of Q is lightest among all the rod

Hence, option C is the correct answer.

28. C

Sol. 5 B 3 A 4 B (6 C 2) C (18 D 3) D 2

Replace letter with symbol

$$5 \times 3 + 4 \times (6 - 2) - (18 \div 3) \div 2$$

Apply BODMAS

$$15 + 4 \times 4 - 6 \div 2$$

$$15 + 16 - 3$$

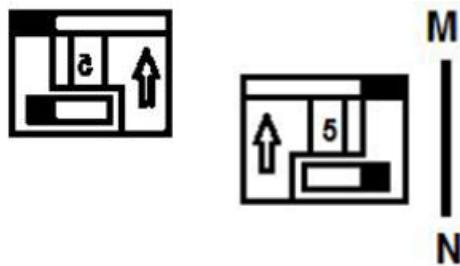
$$15 + 13$$

$$28$$

Hence, option C is the correct answer.

29. D

Sol. The mirror image of the given figure is as below.



Hence, option D is the correct answer.

30. A

Sol. The possible arrangement of given persons as per the question is given below

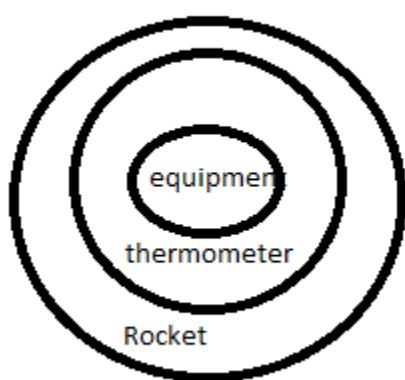
Mohit	Harman	Arjun	Surya	Kartik
-------	--------	-------	-------	--------

So, Mohit and Kartik are sitting at the corners

Hence, option A is the correct answer.

31. B

Sol. The possible pictorial representation of image is given below



Conclusions:

- I. Some rockets are equipment - true as all equipment are thermometers and all thermometers are rockets so some rockets are equipment.
- II. Some rockets are thermometers - true as all thermometers are rockets so some rockets are thermometers also.

Hence, option B is the correct answer.

32. A

Sol. $6 \times 8 + 2 = 48$

Similarly $11 \times 13 + 2 = 143 + 2 = 145$

Hence, option A is the correct answer.

33. A

Sol. The set of classes which is best illustrated by the given Venn diagram is Lawyers, Mothers, Sisters



As some lawyer may be mother and sister both.

Hence, option A is the correct answer.

34. A

Sol. Here the logic is that the difference between the terms is getting doubled in the next term -

$$25+9=34$$

$$34+18=52$$

$$52+36=\mathbf{88}$$

$$88+72=160$$

$$160+144=304$$

Hence, option A is the correct answer.

35. A

Sol. The logic followed here is that first term is multiplied by 2 and next term is multiplied by three and this process is repeating.

$$5*2=10$$

$$10*3=30$$

$$30*2=60$$

$$\mathbf{60*3=180}$$

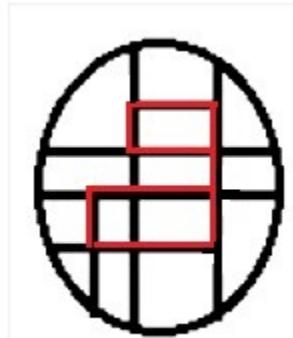
$$180*2=360$$

$$360*3=1080$$

Hence, option A is the correct answer.

36. A

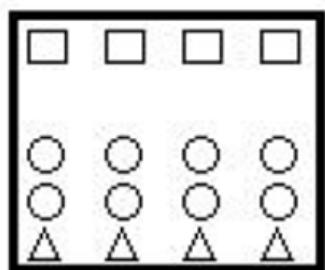
Sol. The given figure X is embedded in -



Hence, option A is the correct answer.

37. D

Sol. When the paper is folded and cut as per the instruction and then unfolded, the figure formed is given below



Hence, option D is the correct answer.

38. A

Sol. Checking option A -

$$8 \times 7 - 42 \div 14 \times 2 + 21 = 66$$

After interchanging

$$8 \times 7 - 42 \div 21 \times 2 + 14 = 66$$

Apply BODMAS

$$56 - 2 \times 2 + 14$$

$$56 - 4 + 14$$

$$52 + 14$$

$$66$$

Hence, option A is the correct answer.

39. A

Sol. The possible arrangement of persons as per the question is

E	B	D	C	A
---	---	---	---	---

So, C is sitting at the third place to the right of E.

Hence, option A is the correct answer.

40. B

Sol. The logic followed here is that write the given words in descending order and add 3 to the positional value of letters.

PRIVATE=ETAVIRP and SIGNIFY=YFINGIS

E+3=H	Y+3=B
T+3=W	F+3=I
A+3=D	I+3=L
V+3=Y	N+3=Q
I+3=L	G+3=J
R+3=U	I+3=L
P+3=S	S+3=V

Hence, option B is the correct answer.

41. D

Sol. The logic is explained below.

U+3=X	M+3=P
S+3=V	O+3=R
E+3=H	R+3=U
F-3=C	S-3=P
U-3=R	E-3=B
L-3=I	L-3=I

Hence, option D is the correct answer.

42. A

Sol. The logic of the given series is that the first letter will be replaced by a letter which is two places ahead. This process will continue for consecutive letters.

B+2=D, DRAIN

R+2=T, DTAIN

A+2=C, DTCIN

I+2=k, DTCKN

N+2=P, DTCKP

So, option A is the correct answer.

43. B

Sol. The logic followed here is that multiply the positional value of first and last alphabet by 2 and write the remaining positional values as it is.

Hence, option B is the correct answer.

P=16*2=32	F=6*2=12
R=18	R=18
O=15	E=5
C=3	E=5
E=5	Z=26
S=19	E=5
S=19*2=38	R=18*2=36

44. B

Sol. The logic followed here is that the alphabets are arranged in order of their occurrence in the dictionary.

So, BUDGET is arranged=BDEGTU

Hence, option B is the correct answer.

45. D

Sol. The logic followed here is that the squares of the numbers in row 1 are added to the squares of the numbers in row 2. The result is doubled to obtain numbers in row 3.

$$5^2 + 7^2 = 74 \text{ and } 74 \times 2 = 148$$

$$9^2 + 3^2 = 90 \text{ and } 90 \times 2 = 180$$

Similarly,

$$5^2 + ?^2 = 146 \text{ and } 146 \times 2 = 292$$

$$?^2 = 121$$

Thus, ? = 11

The number that will replace the question mark is 11.

Hence, option D is the correct answer.

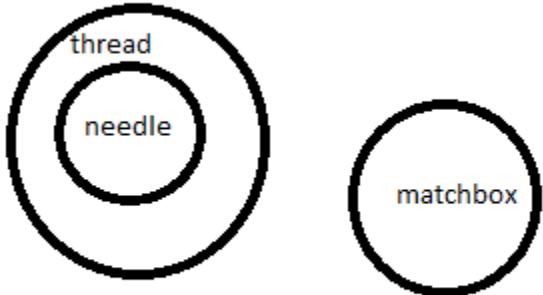
46. D

Sol. Ink is used to write similarly medicine is used to cure diseases.

Hence, option D is the correct answer.

47. D

Sol. The pictorial representation of relationship as per the question is given below -



Conclusions:

- I. No needle is a match-box – true, as there is no relationship between them.
- II. Some threads are needles - true, all needles are threads so some threads are needles.
- III. Some match-boxes are needles - false, as there is no relationship between them.

Hence, option D is the correct answer.

48. B

Sol. Black gram is a type of pulse, similarly Rice is a type of cereal.

Hence, option B is the correct answer.

49. D

Sol. Logic follow here= sum of place value of letter in words+ number equivalent to number of letter of words

$$\text{Mixture} = (13+9+24+20+21+18+5)+7=110+7=117$$

$$\text{FLOWER} = (6+12+15+23+5+18)+6=85$$

$$\text{MERGER} = (13+5+18+7+5+18)+672$$

Hence, option D is the correct answer.

50. D

Sol. The figure given below will replace the question mark



Hence, option D is the correct answer.

51. D

Sol. Let base of triangle = x unit

Height of triangle = y unit

$$\text{Area of triangle} = A = \frac{1}{2}xy \text{ unit}^2$$

$$\Rightarrow y = \frac{2A}{x} \dots\dots\dots(1)$$

The base of a triangle is increased by 30%.

$$\text{Resulting base of triangle} = \left(x + \frac{30x}{100}\right) = \frac{130x}{100} \text{ unit}$$

Resulting height of triangle = z unit

Area of a triangle is increased by 50%.

$$\text{Resulting area of triangle} = \left(A + \frac{50A}{100}\right) = \frac{150A}{100} \text{ unit}^2$$

$$\Rightarrow \frac{150A}{100} = \frac{1}{2}z\left(\frac{130x}{100}\right)$$

$$\Rightarrow z = 2 \times \left(\frac{15A}{13x}\right) = \frac{30A}{13x} \dots\dots\dots(2)$$

Now, Percentage increase in height of triangle

$$\frac{\frac{30A}{13x} - \frac{2A}{x}}{\frac{2A}{x}} \times 100 = \frac{\frac{30-26}{13}}{2} \times 100 = \frac{4}{26} \times 100 = 15.38\%$$

=

52. C

Sol. Selling price of bat = Rs. 954

Gain = 6%

$$\text{Cost price of article} = 954 \times \frac{100}{(100+6)} = \text{Rs. 900}$$

$$\text{If gain is } 8\% \text{ then Selling price of bat} = 900 \times \frac{(108)}{100} = \text{Rs. 972}$$

53. D

Sol. Mean of 11, 10, 12, 13, 15, x and 17, is 15.

$$\Rightarrow \frac{11+10+12+13+15+x+17}{7} = 15$$

$$\Rightarrow \frac{78+x}{7} = 15$$

$$\Rightarrow 78 + x = 105$$

$$\Rightarrow x = 105 - 78 = 27$$

54. A

Sol. A manufacturer marks the price of an article at Rs. 1,200.

He sells it to a trader at a discount of 10%. The trader gets a further discount of 5% on his net payment for paying in cash.

Amount paid by trader to the manufacturer =

$$1200 \times \frac{(100-10)}{100} \times \frac{(100-5)}{100} = 1200 \times \frac{90}{100} \times \frac{95}{100} = \text{Rs. 1026}$$

55. B

Sol. LCM of 0.126, 0.36 and 0.96 = LCM of $\frac{126}{1000}, \frac{36}{100}$ and $\frac{96}{100} = \frac{LCM(126,36,96)}{HCF(1000,100,100)}$

$$\text{Now, } 126 = 2 \times 3 \times 3 \times 7$$

$$36 = 2 \times 2 \times 3 \times 3$$

$$96 = 2 \times 2 \times 2 \times 2 \times 2 \times 3$$

$$\text{LCM} (126, 36, 96) = 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 7 = 2016$$

$$\text{HCF} (1000, 100, 100) = 100$$

$$\text{LCM of } 0.126, 0.36 \text{ and } 0.96 = \frac{\text{LCM}(126, 36, 96)}{\text{HCF}(1000, 100, 100)} = \frac{2016}{100} = 20.16$$

56. A

Sol. The average weight of Sohum and his five friends is 48.5 kg.

$$\text{Sum of weight of Sohum and his five friends} = 6 \times 48.5 = 291 \text{ kg}$$

Sohum is 3 kg more than the average weight of his five friends.

Let average weight of his five friends = x kg

Weight of Sohum = $(x+3)$ kg

According to question:

$$\Rightarrow (x+3) + 5x = 291$$

$$\Rightarrow 6x + 3 = 291$$

$$\Rightarrow 6x = 288$$

$$\Rightarrow x = 48$$

Now, Sohum's weight (in kg) = $48 + 3 = 51$ kg

57. D

Sol. A solid cube of side 15 cm is dropped into a rectangular container of length 25cm, breadth 20 cm and height 18 cm, which is partly filled with water.

Volume of water that is raised above original water level = Volume of cube that is submerged.

Let rise of water level is h cm.

$$\Rightarrow (15)^3 = 25 \times 20 \times h$$

$$\Rightarrow h = \frac{27}{4} = 6.75$$

58. D

Sol. Two trains A and B start with uniform speeds at the same time from points P and Q, respectively, towards each other.

After crossing each other, A takes 16 hours to reach Q and B takes 4 hours to reach P.

Speed of A (in km/h) = 54 km/hr

Speed of B (in km/h) = x km/hr

$$\text{Using: } \frac{s_1}{s_2} = \sqrt{\frac{t_2}{t_1}}$$

$$\Rightarrow \frac{54}{x} = \sqrt{\frac{4}{16}} = \frac{1}{2}$$

$$\Rightarrow x = 108 \text{ km/hr}$$

Speed of B (in km/h) = 108 km/hr

59. B

Sol. A certain sum amounts to Rs. 1,543.50 when invested for 2 years at 5% per annum compound interest.

$$\text{Amount} = P \left(1 + \frac{\text{Rate}}{100}\right)^{\text{time}}$$

\Rightarrow

$$\Rightarrow 1543.50 = P \left(1 + \frac{5}{100}\right)^2 = P \left(\frac{21}{20}\right)^2$$

$$\Rightarrow P = 1543.50 \times \frac{400}{441} = \text{Rs.} 1400$$

Hence, Sum = Rs. 1400

60. B

$$\frac{109 - \{121 \div (11 \text{ of } 11) - (-4) - (3 - \overline{8-1})\}}{125 - (-3)(4 - \overline{6-2}) \div 3 \{5 + (-3) \text{ of } (-6)\}}$$

USING VBODMAS :

$$\Rightarrow \frac{109 - \{121 \div (11 \text{ of } 11) - (-4) - (3 - 9)\}}{125 - (-3)(4 - 4) \div 3 \{5 + (-3) \text{ of } (-6)\}}$$

$$\Rightarrow \frac{109 - \{121 \div (121) - (-4) - (3 - 9)\}}{125 - (-3)(0) \div 3 \{5 + (-3) \text{ of } (-6)\}}$$

$$\Rightarrow \frac{109 - (1 + 4 + 4)}{125} = \frac{100}{125} = \frac{4}{5}$$

61. A

Sol. A certain sum of money, when invested at a certain rate of simple interest, amounts to Rs. 1,102 in 2 years and Rs. 1,600 in 5 years.

$$\text{Simple interest for 3 years} = \text{Rs. } 1600 - \text{Rs. } 1102 = \text{Rs. } 498$$

$$\text{Simple interest for 1 years} = \frac{498}{3} = \text{Rs. } 166$$

$$\text{Simple interest for 2 years} = 2 \times \text{Rs. } 166 = 332$$

$$\text{Principal} = \text{Rs. } 1102 - \text{Rs. } 332 = \text{Rs. } 770$$

62. D

Sol. To do a certain work, the ratio of the efficiencies of A and B is 5:11.

If work is constant then efficiency is inversely proportional to the time taken.

Ratio of time taken by A and B to do the work = 11 : 5

Time taken by A = 11x

Time taken by B = 5x

Working together, they can do the same work in $27\frac{1}{2}$ Days.

$$\text{Now, } \frac{1}{11x} + \frac{1}{5x} = \frac{2}{55}$$

$$\Rightarrow \frac{5+11}{55x} = \frac{2}{55}$$

$$\Rightarrow x = 8$$

Time taken by A = 88

Time taken by B = 40

Let total work = LCM (88, 40) = 440 UNIT

$$\text{Efficiency of A} = \frac{440}{88} = 5 \text{ unit/day}$$

$$\text{Efficiency of B} = \frac{440}{40} = 11 \text{ unit/day}$$

A and B work together for 20 days.

$$\text{Work done by A and B in 20 days} = 20 \times (11 + 5) = 320 \text{ unit}$$

$$\text{Remaining work} = 440 \text{ unit} - 320 \text{ unit} = 120 \text{ unit}$$

C alone completes the remaining work in 18 days.

$$\text{Efficiency of C} = \frac{120}{18} \text{ unit/day}$$

$$\frac{\frac{75}{100} \times 440}{\frac{120}{18}} = 49\frac{1}{2} \text{ days}$$

Time taken by C to complete 75% of same work =

63. A

Sol. Cost price of watch for John = $100x$

John sold a watch to Sue at a gain of 20%.

$$\text{Selling price of watch for John} = 100x \times \frac{120}{100} = 120x$$

Cost price of watch for Sue = $120x$

Sue sold it to Rima at a profit of 10%.

$$\text{Selling price of watch for Sue} = 120x \times \frac{110}{100} = 132x$$

Cost price of watch for Rima = $132x$

If Rima paid Rs. 2,178 for it

$$\Rightarrow 132x = \text{Rs. } 2178$$

$$\Rightarrow x = 16.5$$

Cost price of watch for John = $100x = \text{Rs. } 1650$

64. D

Sol. Increase in sales in 2008-2009 over 2007-2008 of automobiles of company C = $1080 - 1000 = 80$ crores

65. A

Sol. Combined sales of the five companies in 2008-2009 = $1250 + 1100 + 1080 + 1600 + 1050 = 6080$

Combined sales of the five companies in 2007-2008 = $1650 + 1350 + 1000 + 1760 + 1440 = 7200$

$$\text{Required percentage} = \frac{1120}{7200} \times 100 = 15.55\%$$

66. D

Sol. One-third of a journey is covered at a rate of 40 km/h, one-fourth at the 35 KM/HR and rest at

the rate of 45 km/h.

Let total distance = LCM (40,35,45) = 2520 KM

$$\text{Distance covered @ 40 km/hr} = \frac{2520 \times \frac{1}{3}}{3} = 840 \text{ km}$$

$$\text{Time taken in covering this distance} = \frac{\frac{840}{40}}{40} = 21 \text{ hour}$$

$$\text{Distance covered @ 35 km/hr} = \frac{2520 \times \frac{1}{4}}{4} = 630 \text{ km}$$

$$\text{Time taken in covering this distance} = \frac{\frac{630}{35}}{35} = 18 \text{ hour}$$

$$\text{Remaining distance} = 2520 - 840 - 630 = 1050 \text{ km}$$

$$\text{Time taken in covering remaining distance} = \frac{\frac{1050}{45}}{45} \text{ hour} = \frac{70}{3} \text{ hour}$$

$$\frac{2520}{21+18+\frac{70}{3}} = \frac{7560}{63+54+70} = \frac{7560}{187} \text{ km/hr}$$

$$\text{Average speed for the whole journey (in km/h)} =$$

67. B

Sol. P can do a piece of the work in 18 days and Q can do same work in 36 days.

Let total work = LCM (18 , 36) = 36 UNIT

$$\frac{36}{\left(\frac{36}{18} + \frac{36}{36}\right)} = \frac{36}{3} = 12 \text{ DAYS}$$

$$\text{Number of days taken if they both work together} =$$

68. C

Sol. If three numbers are in the proportion of 1:3:4 and two times the sum of the numbers is 80

$$\text{Sum OF the numbers} = \frac{80}{2} = 40$$

According to question :

$$\Rightarrow x + 3x + 4x = 40$$

$$\Rightarrow 8x = 40$$

$$\Rightarrow x = 5$$

Hence, three numbers will be 5 , 15 and 20

Now, proportion of the squares of the numbers = $(5)^2 : (15)^2 : (20)^2 = 25 : 225 : 400 = 1 : 9 : 16$

69. A

Sol. An earthworm of length 18 cm is crawling along a certain path with a speed of 4 cm/s.
An insect overtakes the earthworm in 6 s.

Let speed of insect = x cm/sec

$$\Rightarrow x - 4 = \frac{18}{6} = 3$$
$$\Rightarrow x = 7$$

Hence, speed of insect = 7 cm/sec

70. A

Sol. The sum of the height and radius of the base of a solid right circular cylinder is 46 cm.
 $\Rightarrow r + h = 46$

If the total surface area of the solid cylinder is 6072 cm^2

$$\Rightarrow 2\pi r(r + h) = 6072$$
$$\Rightarrow 2 \times \frac{22}{7} \times r \times (46) = 6072$$
$$\Rightarrow r = 21 \text{ cm}$$

Now, Height of cylinder = 46 cm – 21 cm = 25 cm

$$\text{Volume of cylinder} = \pi r^2 h = \pi \times (21)^2 \times 25 = 11025\pi$$

71. C

Sol. Profit (Revenue - Expenditure) in year 2014 = $120 - 75 = 45$ crores

Profit (Revenue - Expenditure) as a percentage of revenue in year 2014 =

$$\frac{45}{120} \times 100 = 37.5\%$$

Profit (Revenue - Expenditure) in year 2015 = $140 - 100 = 40$ crores

Profit (Revenue - Expenditure) as a percentage of revenue in year 2015 =

$$\frac{40}{140} \times 100 = 28.57\%$$

Profit (Revenue - Expenditure) in year 2016 = $150 - 120 = 30$ crores

Profit (Revenue - Expenditure) as a percentage of revenue in year 2016 =

$$\frac{30}{150} \times 100 = 20\%$$

Profit (Revenue - Expenditure) in year 2017 = 200 – 150 = 50 crores

Profit (Revenue - Expenditure) as a percentage of revenue in year 2017 =

$$\frac{50}{200} \times 100 = 25\%$$

Profit (Revenue - Expenditure) in year 2018 = 250 – 175 = 75 crores

Profit (Revenue - Expenditure) as a percentage of revenue in year 2018 =

$$\frac{75}{250} \times 100 = 30\%$$

Clearly, there are 3 years in which the profit (Revenue - Expenditure) as a percentage of revenue, more than 28%.

72. C

Sol. A solid right circular cone is cut into two parts by a plane parallel to its base and at a point one-third vertically below its vertex.

Let height of the whole cone = 3h unit

Hence, Height of smaller cone = h unit

Let Radius of the whole cone = R unit

Radius of smaller cone = r unit

Also, In such conditions smaller cone will be similar to the whole cone.

$$\text{Therefore, } \frac{R}{r} = \frac{3h}{h} = \frac{3}{1}$$

$$\Rightarrow R = 3r$$

Now, Ratio of the volume of the smaller cone to that of the whole cone =

$$\frac{\frac{1}{3}\pi r^2 h}{\frac{1}{3}\pi R^2 H} = \frac{\frac{1}{3}\pi r^2 h}{\frac{1}{3}\pi(3r)^2(3h)} = \frac{1}{27}$$

73. B

$$\text{Sol. } \frac{13}{70} \div \left[\frac{4}{5} \left(\frac{1}{3} - \frac{1}{4} \times \frac{1}{5} \right) \div 2\frac{5}{6} \right] - 1\frac{9}{28}$$

$$\Rightarrow \frac{13}{70} \div \left[\frac{4}{5} \left(\frac{1}{3} - \frac{1}{4} \times \frac{1}{5} \right) \div \frac{17}{6} \right] - \frac{37}{28}$$

Using BODMAS :

$$\Rightarrow \frac{13}{70} \div \left[\frac{4}{5} \left(\frac{1}{3} - \frac{1}{20} \right) \div \frac{17}{6} \right] - \frac{37}{28}$$

$$\Rightarrow \frac{13}{70} \div \left[\frac{4}{5} \left(\frac{17}{60} \right) \div \frac{17}{6} \right] - \frac{37}{28}$$

$$\Rightarrow \frac{13}{70} \times \left[\frac{4}{5} \times \frac{17}{60} \times \frac{6}{17} \right] - \frac{37}{28} = \frac{13}{70} \times \left[\frac{25}{2} \right] - \frac{37}{28} = \frac{28}{28} = 1$$

74. A

Sol. The ratio of the number of students in science to that in Humanities, in Grade 12 of 360 students, is 2:3.

Let number of students in science in grade 12 = $2x$

Number of students in science in grade 12 = $3x$

$$\Rightarrow 5x = 360$$

$$\Rightarrow x = 72$$

Number of students in science in grade 12 = 144

When some new students are admitted, the number of Science students increase by 18 and ratio of the Science students to humanities students changes to 3:5.

Number of students in science in grade 12 after admission of new students = $144 + 18 = 162$

According to question :

$$\Rightarrow 3m = 162$$

$$\Rightarrow m = 54$$

$$\Rightarrow 5m = 270$$

Number of students in humanities in grade 12 after admission of new students = 270

Number of new Humanities students admitted = $270 - 216 = 54$

75. D

Sol. The capacities of three containers P, Q and R are in the proportion of 5:4:8.

They are completely filled with a mixture of milk and water in the proportions of 1:4, 2:3 and 3:5, respectively.

	Milk	Water
1 st container	1	4
2nd container	2	3
3rd container	3	5

We will first make capacity of all the three containers equal

	Milk	Water
1 st container	8	32
2nd container	16	24
3rd container	15	25

But the capacities of three containers P, Q and R are in the proportion of 5:4: 8.

Ratio of milk and water in first container = $(8 \times 5) : (32 \times 5) = 40 : 160$

Ratio of milk and water in 2nd container = $(16 \times 4) : (24 \times 4) = 64 : 96$

Ratio of milk and water in 3rd container = $(15 \times 8) : (25 \times 8) = 120 : 200$

Proportion of milk to water in the final mixture = $(40 + 64 + 120) : (160 + 96 + 200) = 28 : 57$

76. D

Sol.

- The Supreme Court of India was established on **January 28th, 1950**.
- **Article 124 of the Indian constitution** states the establishment of Supreme Court.
- At Present, the Supreme Court consists of 31 judges (one chief justice and 30 judges).
- **N.V. Ramana** is the current and 48th Chief Justice of India.

77. A

Sol.

- **Madhya Pradesh's Indore** was ranked the cleanest city for the fourth consecutive year under the Swachh Survekshan 2020.
- **Surat in Gujarat and Navi Mumbai in Maharashtra** were ranked second and third, respectively.
- Swachh Survekshan was launched as part of the Swachh Bharat Abhiyan.
- The first survey was undertaken in **2016**.

78. C

Sol.

- **Goods and Services Tax (GST)** is not an instrument of the monetary policy of the Reserve

Bank of India.

- Goods and Services Tax (GST) is an indirect tax.
- **GST Council** is an apex member committee to modify, reconcile or to procure any law or regulation based on the context of goods and services tax in India.
- Reserve Bank of India (RBI) is the sole monetary authority that decides the supply of money in the economy.
- The main instruments of the monetary policy of RBI are Cash Reserve Ratio, Statutory Liquidity Ratio, Bank Rate, Repo Rate, Reverse Repo Rate, and Open Market Operations.

79. C

Sol. The Rajya Sabha (Council of States) is the **upper house** of the bicameral Parliament of India.

- As of 2021 it has a maximum membership of **245**.
- The Rajya Sabha is not subjected to dissolution
- **The Vice President of India** is the **ex-officio Chairman** of the Rajya Sabha.
- Uttar Pradesh (31) has the maximum members in the Rajya Sabha.
- **M. Venkaiah Naidu** is the current and 13th vice president of India.

80. B

Sol. ● **Mahendragiri** is the highest peak in the **Eastern Ghats** (Gajapati, Odisha).

- It is situated at an elevation of 1,501 metres (4,925 ft).
- This is the second highest mountain peak of Odisha after Deomali in Koraput district.

81. C

Sol. ● **Gitanjali** is a collection of poems by the **Bengali poet Rabindranath Tagore**.

- He was awarded the Nobel Prize for Literature in 1913 for Gitanjali.
- Gitanjali (Song Offerings) was published in London in 1912.

82. B

Sol. ● **Reginald Dyer** was responsible for the **Jallianwala Bagh massacre** that took place on **13th April 1919 in Amritsar, Punjab**.

- He has been called "**the Butcher of Amritsar**" because of his order to fire on a peaceful crowd.
- General Dyer passed an act on April 13, 1919, named as Martial Law.
- Under this law, 2 or more people were not allowed to gather in a group in one place.

- This act was made to prevent any kind of mobilized protest against the ruling authorities.

83. C

Sol. • **Dholavira** is a Harappan city.

- It is located in Kutch, Gujarat.
- It is one of the five largest Harappan sites and most prominent archaeological sites in India belonging to the Indus Valley Civilization.
- The site was discovered in **1967-68** by **J. P. Joshi**.

84. B

Sol. • **Soumya Swaminathan** is the Chief Scientist at the World Health Organization.

- She was appointed WHO's first Chief Scientist in March 2019.
- Previously, from October 2017 to March 2019, she was the Deputy Director General of Programmes (DDP) at the World Health Organization.
- She is known for her research on tuberculosis and HIV.
- The World Health Organization (WHO) was established on April 7, 1948.
- It is headquartered in Geneva, Switzerland.
- Tedros Adhanom is the current Director-General of WHO.

85. B

Sol. • The Jal Jeevan Mission was launched by the **Prime Minister Narendra Modi on 15 August 2019**.

- The objective of this mission is to reach pure drinking water to every household in all remote villages of India by **2024**.
- To make the mission successful, the Government of India will spend Rs.3 lakh 60 thousand crores.

86. C

Sol. • **Chief Minister of Odisha, Naveen Patnaik** was conferred with 'Hero to Animals Award' by animal rights body PETA India in 2020.

- He was awarded by People for the Ethical Treatment of Animals (PETA) for allocating funds to feed community animals in Odisha during the lockdown over the novel coronavirus pandemic.
- People for the Ethical Treatment of Animals (PETA) is an American animal rights organization.
- It is headquartered Virginia, USA.

- It was formed in 1980.

87. A

- Sol. • Pandit Shivkumar Sharma is an Indian music composer and santoor player from Jammu.
Pandit Ravi Shankar- Sitarist
Ustad Bismillah Khan- Shehnai
Ustad Zakir Hussain- Tabla

88. B

- Sol. • **Rukmini Devi Arundale is a famous classical dancer of Bharatanatyam.**
• She was the first woman in Indian history to be nominated as a member to the Rajya Sabha.
• She was awarded the Padma Bhushan in 1956 and the Sangeet Natak Akademi Fellowship in 1967.
• Bharatanatyam is the main dance form of Tamil Nadu.

89. D

- Sol. • **The third edition of Khelo India Youth Games** was held from 10 January to 22 January 2020 in **Guwahati, Assam**.
• The first edition of Khelo India Youth Games was held in Delhi.
• The fifth edition of Khelo India Youth Games will be held in Bhopal, Madhya Pradesh.
• On 22 February 2020, Prime Minister Narendra Modi inaugurated the first edition of the Khelo India University Games in Cuttack, Odisha.

90. C

- Sol. • **Census** is an official enumeration of the population from time to time.
• It was done for the first time in **1872** under the **British Viceroy Lord Mayo**.
• The first complete census of India was conducted in **1881**.
• Since 1949, the census is conducted every 10 years by the Registrar General and Census Commissioner of India under the Ministry of Home Affairs.

91. B

- Sol. • The Mattancherry Palace is a Portuguese palace.
• It is popularly known as the Dutch Palace.
• It is situated in **Mattancherry, Kochi Kerala**.
• The palace was built around **1555 A.D.** by the Portuguese.
• The palace has been included in the "tentative list" of UNESCO World Heritage Site.

92. A

- Sol. • **Karnataka (71%)** is the largest producer of coffee, followed by Kerala (21%) and Tamil Nadu (5%).
• Karnataka contributed about 70% of the total coffee production in India during 2019-20 with 203,445 MT coffee production.
• The main variety of coffee grown in Karnataka is "**Robusta**".
• Basavaraj Bommai is the current chief minister of Karnataka.
• Thawarchand Gehlot is the current governor of Karnataka.

93. D

- Sol. • The 15th Finance Commission was constituted by the President of India for a period of five years on **27 November 2017**.
• The commission was constituted to give recommendations for devolution of taxes and other fiscal matters for five fiscal years.
• **Nand Kishore Singh** is the chairman of 15th Finance Commission.
• The Finance Commissions are constituted by the President of India under **Article 280** of the Indian Constitution.
• The First Commission was established in **1951**.

94. B

- Sol. • Minimum Support Price (MSP) is the rate at which the government buys crops from farmers.
• **The Department of Agriculture and Cooperation** declares the Minimum Support Prices (MSP).
• MSP is fixed on the recommendations of the **Commission for Agricultural Costs and Prices (CACP)**.
• Commission for Agricultural Costs and Prices (CACP) is an apex advisory body for pricing policy under the Ministry of Agriculture.
• The Department of Agriculture and Cooperation is the constituent department of Ministry of Agriculture and Farmers' Welfare.
• The Department is headed by Minister of Agriculture and Farmers' Welfare.

95. D

- Sol. • Whitewashed walls appear to be shiny after three to four days due to the formation of **calcium carbonate**.

- Calcium hydroxide is present in whitewash. It reacts slowly with the carbon dioxide in air to form a thin layer of calcium carbonate on the walls. Calcium carbonate is formed after two to three days of white washing.
- Hence the shiny white finish appears after two to three days on the walls.

96. A

- Sol. • **Law of gravitation (Newton's Law of Universal Gravitation)** explains about the tides due to the moon and the sun.
- Gravity is one major force that creates tides.
 - In **1687**, Sir Isaac Newton explained that ocean tides result from the gravitational attraction of the sun and moon on the oceans of the earth.

97. B

- Sol. • **Electoral Roll** is commonly known as the **Voters' List**.
- In India, publishing and updating of the electoral roll is the responsibility of the **Election Commission of India**.
 - The Election Commission operates under the authority of Constitution per **Article 324**.
 - **Sushil Chandra** is the current 24th Chief Election Commissioner of India.

98. D

- Sol. • **Epithelial tissue** is a protective tissue in the animal body.
- Epithelial tissues line the outer surfaces of organs and blood vessels throughout the body.
 - There are three principal shapes of epithelial cell: squamous, columnar, and cuboidal.

99. D

- Sol. • General Dyer passed an act on **April 13, 1919**, named as **Martial Law**.
- Under this law, 2 or more people were not allowed to gather in a group in one place.
 - This act was made to prevent any kind of mobilized protest against the ruling authorities.
 - General Reginald Dyer was responsible for the **Jallianwala Bagh massacre that took place on 13 April 1919 in Amritsar, Punjab**.
 - He has been called "the Butcher of Amritsar" because of his order to fire on a peaceful crowd.

100. A

- Sol. • Rani Rampal is an **Indian field hockey player**.

- At the age of 15, she was the youngest player of the national team to participate in the 2010 World Cup.
- She is currently the Captain for Indian Women's Hockey Team.
- In 2020, she was awarded the Padma Shri, the fourth highest civilian award of India.
- In 2020, she was also awarded the Major Dhyan Chand Khel Ratna, highest sporting honour of India.

Mock Test Solutions in Hindi

Questions

1. Select the most appropriate word for the given group of words.

The cry of a goat

- | | |
|----------|---------|
| A. Bleat | B. Bray |
| C. Croak | D. Yelp |

2. Select the most appropriate meaning of the given idiom.

Bear the brunt

- A. Be first to try something
 - B. Confront a powerful rival
 - C. Know what is going on
 - D. Suffer the worst of something

3. Select the most appropriate ANTONYM of the given word.

PROFUSE

- | | |
|---------------|----------|
| A. Sufficient | B. Lush |
| C. Plenty | D. Scant |

4. Select the INCORRECTLY spelt word.

- A. Preferance
 - B. Predict
 - C. Preface
 - D. Predominant

5. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'.

The workers has called up the strike.

6. Identify the segment that contains a grammatical error. If there is no error, select 'No error'.

One of the apples that you have picked up are rotten.

7. Select the most appropriate meaning of the given idiom.

Behind closed doors

- A. Do something alone
 - B. Be in prison
 - C. Be away from others
 - D. Do something secretly

8. Select the most appropriate option to fill in the blank.

In the morning I leave my house _____ eight o'clock.

- A. in
 - B. at
 - C. on
 - D. for

9. Select the most appropriate ANTONYM of the given word.

DISTANT

- A. Remote
 - B. Removed
 - C. Isolated
 - D. Near

10. Identify the segment that contains a grammatical error. If there is no error, select 'No error'.

Hundred and fifty rupees seem a high price for this little vase.

11. Identify the segment that contains a grammatical error. If there is no error, select 'No error'.

This is one trip whom I will never forget.

- A. No error
 - B. This is one trip
 - C. never forget
 - D. whom I will

12. Select the most appropriate option to fill in the blank.

I am sure that my seeds _____ by next week.

- A. are growing
 - B. will grow
 - C. grow
 - D. grew

13. Select the most appropriate word for the given group of words.

Rub out writing

C. Break

D. Demolish

14. Select the most appropriate option to substitute the underlined segment in the given sentence.

The accused has been tortured before he was brought to the court.

A. was being tortured

B. has tortured

C. had tortured

D. had been tortured

15. Select the INCORRECTLY spelt word.

A. Multiple

B. Murmur

C. Muddel

D. Mumble

16. Select the most appropriate synonym of the given word.

PREVENT

A. Block

B. Allow

C. Open

D. Push

17. Select the most appropriate option to fill in the blank.

Millions of people _____ during the acute famine of Odisha.

A. hungered

B. starved

C. damaged

D. collapsed

18. Select the most appropriate option to fill in the blank.

The trek manager _____ that the trekkers rest for a while before the climb.

A. insisted

B. informed

C. told

D. warned

19. Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'.

The game of cricket is governed by strict laws like other sports where there are merely rules.

A. unlike

B. such like

C. No substitution required

D. quite like

20. Select the most appropriate synonym of the given word.

ELEGANT

- A. Graceful
- B. Intelligent
- C. Common
- D. Rough

21. **Direction:** In the following passage, some words have been deleted. Fill in the blanks with the help of the options given. Select the most appropriate option for each blank.

Suraj waved to a passing train, and kept waving (1) _____ only the spiralling smoke remained. He (2) _____ waving to trains. He wondered (3) _____ the people in them, and about (4) _____ they were going and what it (5) _____ be like there. And when the train had passed, Suraj was lonely.

Select the most appropriate option to fill in blank no. 1

- A. while
- B. when
- C. until
- D. After

22. Select the most appropriate option to fill in blank no. 2

- A. liked
- B. likes
- C. is liking
- D. was liking

23. Select the most appropriate option to fill in blank no. 3

- A. of
- B. about
- C. for
- D. To

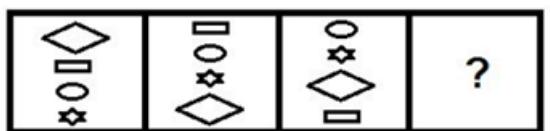
24. Select the most appropriate option to fill in blank no. 4

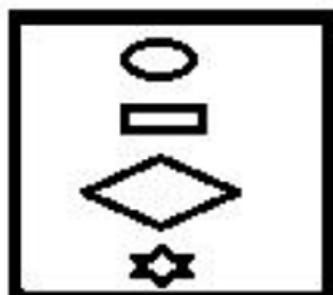
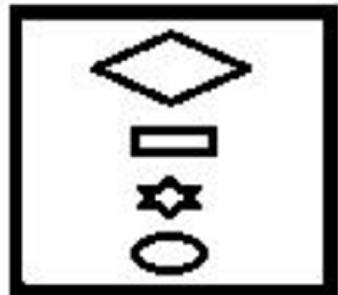
- A. where
- B. why
- C. how
- D. when

25. Select the most appropriate option to fill in blank no. 5

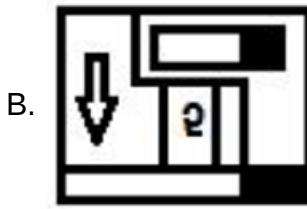
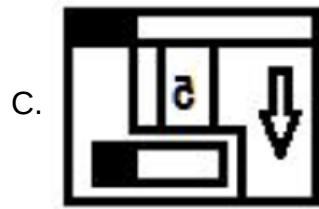
- A. should
- B. would
- C. can
- D. will

26. उस आकृति का चयन करें जो निम्नलिखित आकृति शूरूंखला में प्रश्नवाचक चिन्ह (?) को प्रतिस्थापित करेगी।









कथनः

सभी थर्मामीटर, रॉकेट हैं।

सभी उपकरण, थर्मामीटर हैं।

ନିଷ୍ଠାର୍ଥ

- I. कुछ रॉकेट, उपकरण हैं।

II. कुछ रॉकेट, थर्मामीटर हैं।

A. केवल निष्कर्ष ॥ अनुसरण करता है

C. न तो निष्कर्ष । न ही ॥ अनुसरण करता है

B. दोनों निष्कर्ष । और ॥ अनुसरण करते हैं

D. केवल निष्कर्ष । अनुसरण करता है

उस विकल्प का चयन करें जो तीसरी संख्या से उसी प्रकार संबंधित है जिस प्रकार दूसरी संख्या पहली संख्या से संबंधित है।

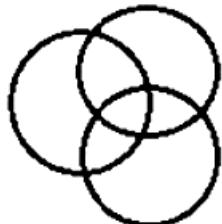
6 : 50 :: 11 : ?

- A. 145 B. 169

C. 104

D. 99

33. वर्गों के उस समुच्चय का चयन करें जिसके बीच का संबंध निम्नलिखित वेन आरेख द्वारा सर्वोत्तम रूप से दर्शाया गया है।



A. वकील, माताएं, बहनें

B. इंजन, कार, पौधे

C. इलायची, मेथी, मसाले

D. आर्किटेक्ट, लड़के, लड़कियाँ

34. निम्नलिखित में से कौन सी संख्या दी गई शृंखला में प्रश्नवाचक चिन्ह (?) को प्रतिस्थापित करेगी?

25, 34, 52, ?, 160, 304

A. 88

B. 80

C. 99

D. 95

35. निम्नलिखित में से कौन सी संख्या दी गई शृंखला में प्रश्नवाचक चिन्ह (?) को प्रतिस्थापित करेगी?

1080, 360, ?, 60, 30, 10, 5

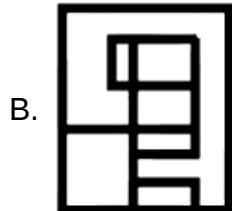
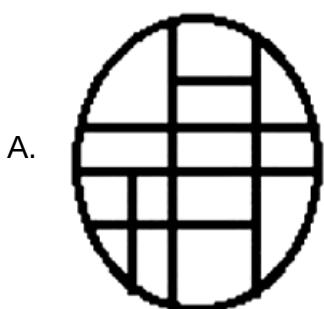
A. 180

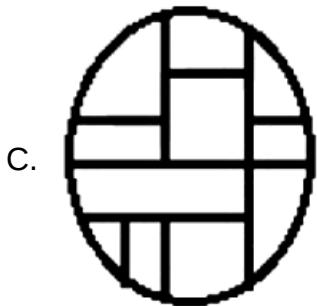
B. 240

C. 170

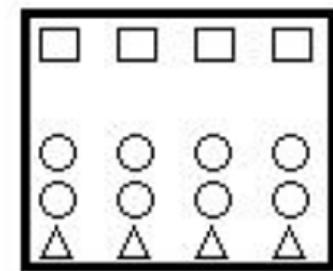
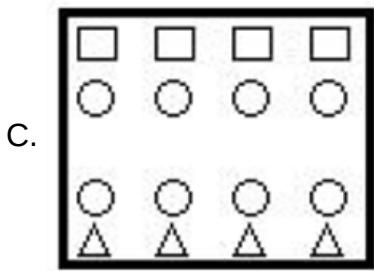
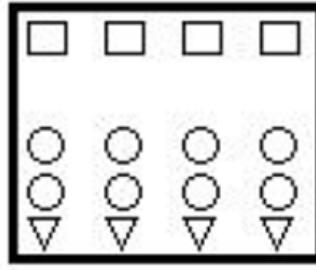
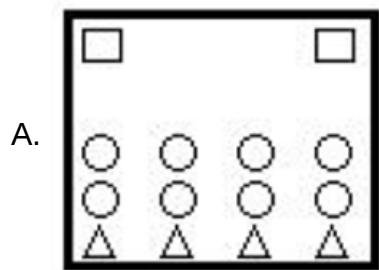
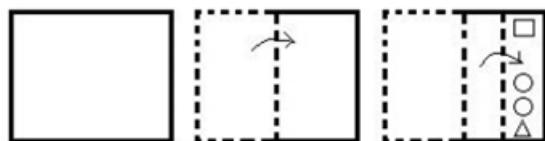
D. 120

36. उस विकल्प का चयन करें जिसमें दी गई आकृति (X) उसके हिस्से के रूप में अंतर्निहित है (रोटेशन की अनुमति नहीं है)।





37. दी गई आकृतियों में दर्शाए अनुसार एक कागज को मोड़ा और काटा जाता है। कागज को खोले जाने पर यह कैसा दिखाई देगा?



38. दिए गए समीकरण को सही बनाने के लिए किन दो संख्याओं को आपस में बदला जाना चाहिए?

$$8 \times 7 - 42 \div 14 \times 2 + 21 = 66$$

A. 14 और 21

B. 2 और 7

C. 14 और 42

D. 7 और 14

39. पांच मित्र अर्थात् A, B, C, D और E एक पंक्ति में उत्तर की ओर मुख करके बैठे हैं। E, B की ठीक बाईं ओर बैठा है। A, C की ठीक दाईं ओर बैठा है। D, B की ठीक दाईं ओर बैठा है। B, A की बाईं ओर से तीसरे स्थान पर है। E की दाईं ओर से तीसरे स्थान पर कौन बैठा है?

A. C

B. A

C. B

D. D

40. उस विकल्प का चयन करें जो तीसरे अक्षर-समूह से उसी प्रकार संबंधित है जिस प्रकार दूसरा अक्षर-समूह पहले अक्षर-समूह से संबंधित है।

PRIVATE : HWDYLUS :: SIGNIFY : ?

A. BKLQJLR

B. BILQJLV

C. ZILQJLW

D. BIKRJLV

41. एक निश्चित कूट भाषा में, 'USEFUL' को 'XVHCRI' के रूप में लिखा जाता है। तो उसी कूट भाषा में 'MORSEL' को किस प्रकार लिखा जाएगा?

A. ORUPCI

B. PRVPBJ

C. QRUQBI

D. PRUPBI

42. निम्नलिखित में से कौन सा अक्षर समूह दी गई शृंखला में प्रश्नवाचक चिन्ह (?) को प्रतिस्थापित करेगा?

BRAIN, DRAIN, DTAIN, ?, DTCKN, DTCKP

A. DTCIN

B. DTCIP

C. DRCIN

D. DTACN

43. एक निश्चित कूट भाषा में 'PROCESS' को '321815351938' के रूप में लिखा जाता है। उसी कूट भाषा में 'FREEZER' को किस प्रकार लिखा जाएगा?

A. 14185526536

B. 12185526536

C. 12195526526

D. 60185526518

44. एक निश्चित कूट भाषा में, 'NORM' को 'MNOR' के रूप में लिखा जाता है, और 'DORSAL' को 'ADLORS' के रूप में लिखा जाता है। तो उसी कूट भाषा में 'BUDGET' को किस प्रकार लिखा जाएगा?

A. DGEBTW

B. BDEGTU

C. BDEGUT

D. FDEGRU

45. दिए गए पैटर्न का ध्यानपूर्वक अध्ययन करें और उस संख्या का चयन करें जो उसमें प्रश्नवाचक चिन्ह (?) को प्रतिस्थापित कर सकती है।

5 9 5

7 3 ?

148 180 292

A. 12

B. 10

C. 9

D. 11

कथनः

सभी नीडल, थरेड हैं।

कोई थरेड, मैच-बॉक्स नहीं है।

ନିଷ୍କର୍ଷ-

- I. कोई नीडल, मैच-बॉक्स नहीं है।

II. कुछ थ्रेड, नीडल हैं।

III. कुछ मैच-बॉक्स, नीडल हैं।

A. केवल निष्कर्ष । और ॥ अनुसरण करते हैं

C. केवल निष्कर्ष ॥ और ॥ अनुसरण करते हैं

B. सभी निष्कर्ष अनुसरण करते हैं

D. केवल निष्कर्ष । और ॥ अनुसरण करते हैं

उस विकल्प का चयन करें जो तीसरे शब्द से उसी प्रकार संबंधित है जिस प्रकार दूसरा शब्द पहले शब्द से संबंधित है।

दालें : काला चना : : अनाज : ?

A. धनिया

C. सरसों

B. चावल

D. उर्वरक

एक निश्चित कूट भाषा में, 'MIXTURE' को '117' के रूप में तथा 'FLOWER' को '85' के रूप में लिखा जाता है। तो उसी भाषा में 'MERGER' को किस प्रकार लिखा जाएगा?

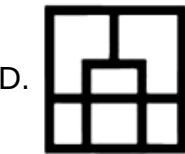
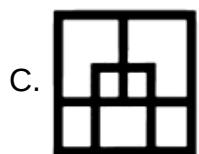
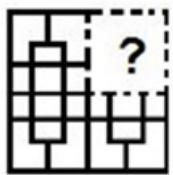
A. 55

C. 86

B. 66

D. 72

उस विकल्प आकृति का चयन करें जो पैटर्न को पूरा करने के लिए नीचे दी गई आकृति में प्रश्नवाचक चिन्ह (?) को प्रतिस्थापित करेगी।

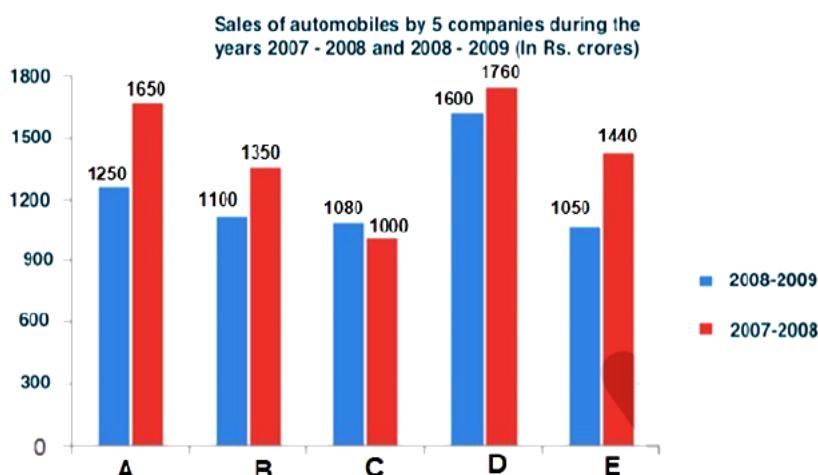


का भुगतान किया, तो जॉन ने घड़ी के लिए कितना भुगतान किया (रुपये में)?

64. **निर्देश:** दिया गया बार ग्राफ वर्ष 2007-2008 और 2008-2009 में पांच कंपनियों A, B, C, D and E द्वारा ऑटोमोबाइल की बिक्री (करोड़ रुपये में) का प्रतिनिधित्व करता है।

बार ग्राफ का अध्ययन करें और नीचे दिए गए परश्न का उत्तर दें।

(नोट: नीचे दिए गये आंकड़े केवल गणितीय अभ्यास के लिए हैं। यह कंपनियों के वास्तविक आंकड़ों का प्रतिनिधित्व नहीं करते हैं)



2008-2009 में कंपनी E की बिक्री (करोड़ रुपये में) कितनी होनी चाहिए ताकि यह 2007-2008 की तुलना में उतनी ही वृद्धि दिखाए, जैसा कि इन वर्षों के दौरान कंपनी C के ऑटोमोबाइल की बिक्री से दिखाया गया है?

- C. $\frac{6570}{187}$

D. $\frac{7560}{187}$

P एक काम को 18 दिनों में कर सकता है और Q उसी काम को 36 दिनों में कर सकता है। यदि वे एक साथ कार्य करते हैं, तो उपर्युक्त कार्य को पूरा करने में उन्हें (दिनों में) कितना समय लगेगा?

A. 24

B. 12

C. 20

D. 10

यदि तीन संख्याएँ 1:3:4 के अनुपात में हैं और इन संख्याओं के योग का दोगुना 80 है, तो इन संख्याओं के वर्गों का अनुपात ज्ञात करें।

A. 4:36:64

B. 25:225:500

C. 1:9:16

D. 9:81:144

18 सेमी लंबाई का एक केंचुआ एक निश्चित पथ पर 4 सेमी/सेकंड की गति से रेंग रहा है। यदि एक कीट 6 सेकंड में इस केंचुए से आगे निकल जाता है। तो यह कीट निम्न में से किस गति से (सेमी/सेकंड में) चल रहा है? मान लीजिए कि वे दोनों समानांतर पथ पर चल रहे हैं।

A. 7.0

B. 6.5

C. 5.5

D. 6.0

एक ठोस लम्ब वृत्तीय बेलन के आधार की ऊँचाई और त्रिज्या का योग 46 सेमी है। यदि ठोस बेलन का कुल पृष्ठीय क्षेत्रफल 6072 सेमी² है, तो इस बेलन का आयतन (सेमी³ में) ज्ञात करें।

$(\pi \frac{22}{7} \text{ का प्रयोग करें})$

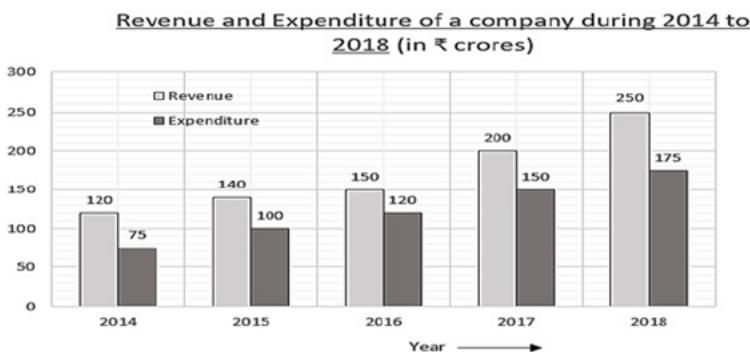
A. 11025π

B. 3036π

C. 11025

D. 3036

दिए गए ग्राफ का अध्ययन करें और नीचे दिए गए प्रश्न का उत्तर दें।



राजस्व के प्रतिशत के रूप में लाभ (राजस्व - व्यय) कितने वर्षों में 28% से अधिक है?

72. एक ठोस लम्ब वृत्तीय शंकु को उसके आधार के समांतर एक तल द्वारा दो भागों में काटा जाता है और एक बिंदु पर इसके शीर्ष से एक तिहाई लंबवत नीचे होता है। तो छोटे शंकु के आयतन और पूरे शंकु के आयतन का अनुपात ज्ञात करें।
- A. $\frac{1}{9}$ B. $\frac{1}{8}$
C. $\frac{1}{27}$ D. $\frac{1}{3}$
73. $\frac{13}{70} \div \left[\frac{4}{5} \left(\frac{1}{3} - \frac{1}{4} \times \frac{1}{5} \right) \div 2\frac{5}{6} \right] - 1\frac{9}{28}$ का मान ज्ञात करें।
- A. 20 B. 1
C. 10 D. 12
74. 360 छात्रों के कक्षा 12 में विज्ञान और मानविकी के छात्रों की संख्या का अनुपात 2:3 है। जब कुछ नए छात्रों को प्रवेश दिया जाता है, तो विज्ञान के छात्रों की संख्या में 18 की वृद्धि होती है और विज्ञान के छात्रों तथा मानविकी के छात्रों का अनुपात 3:5 हो जाता है। तो मानविकी के नए छात्रों की भर्ती की संख्या कितनी है?
- A. 54 B. 45
C. 63 D. 72
75. तीन बर्तनों P, Q और R की क्षमता 5:4:8 के अनुपात में हैं। वे क्रमशः 1:4, 2:3 और 3:5 के अनुपात में दूध और पानी के मिश्रण से पूरी तरह से भरे हुए हैं। यदि तीनों बर्तनों के मिश्रण को एक साथ मिला दिया जाता है, तो अंतिम मिश्रण में दूध और पानी का अनुपात क्या होगा?
- A. 1:2 B. 16:81
C. 25:64 D. 28:57
76. भारत के सर्वोच्च न्यायालय की स्थापना _____ को हुई थी।
- A. 25 जनवरी 1954 B. 30 जनवरी 1950
C. 15 जनवरी 1952 D. 28 जनवरी 1950
77. स्वच्छ सर्वेक्षण लीग 2020 के तहत किस शहर ने भारत के सबसे स्वच्छ शहर के रूप में पहली रैंक हासिल की?
- A. इंदौर B. झांसी
C. भोपाल D. ग्वालियर
78. निम्नलिखित में से कौन भारतीय रिजर्व बैंक की मौद्रिक नीति का एक साधन नहीं है?
- A. चलनिधि समायोजन सुविधा (LAF) B. रेपो दर
C. माल और सेवा कर (जीएसटी) D. नकद आरक्षित अनुपात (CRR)
79. राज्यसभा का सभापति कौन होता है?
- A. भारत के राष्ट्रपति B. भारत के राज्यपाल
C. भारत के उपराष्ट्रपति D. भारत के मुख्य न्यायाधीश
80. महेंद्रगिरि _____ की सबसे ऊँची चोटी है।
- A. पश्चिमी घाट B. पूर्वी घाट

- C. हिमालय श्रेणी
D. सतपुड़ा श्रेणी

81. 'गीतांजलि' पुस्तक किसके द्वारा लिखी गई?

A. गंगा दास B. हरिवंशराय बच्चन
C. रवीन्द्रनाथ टैगोर D. देवकी नंदन खत्री

82. 1919 में हुए जलियांवाला बाग हत्याकांड की जिम्मेदारी ब्रिटिश सेना के किस जनरल पर थी?

A. जनरल किचनर B. जनरल डायर
C. जनरल स्ट्रंगर लॉरेंस D. जनरल रॉबर्ट

83. निम्नलिखित में से कौन सा एक हड्पा शहर है?

A. कोसल B. लुम्बिनी
C. धोलावीरा D. हम्पी

84. निम्नलिखित में से कौन अगस्त 2020 तक विश्व स्वास्थ्य संगठन के मुख्य वैज्ञानिक थे?

A. डॉ. नाओको यामामोटो B. डॉ. सौम्या स्वामीनाथन
C. डॉ. जुज़सन्ना जैकब D. डॉ. समीरा अस्मा

85. भारत में जल जीवन मिशन किस वर्ष शुरू किया गया था? मिशन का उद्देश्य कार्यात्मक घरेलू नल कनेक्शन की इस योजना के माध्यम से पीने योग्य पानी उपलब्ध कराना है।

A. 2015 B. 2019
C. 2009 D. 2010

86. 'द पीपल फॉर द एथिकल ट्रीटमेंट ऑफ एनिमल्स (PETA)', इंडिया ने 2020 में _____ को 'हीरो टू एनिमल्स अवार्ड' से सम्मानित किया।

A. सोनू सूद B. मेनका गांधी
C. नवीन पटनायक D. सदा सईद

87. निम्नलिखित में से कौन प्रसिद्ध संतूर वादक हैं?

A. पंडित शिवकुमार शर्मा B. पंडित रवि शंकर
C. उस्ताद बिस्मिल्लाह खान D. उस्ताद जाकिर हुसैन

88. रुकिमणी देवी अरुंडेल _____ की प्रसिद्ध शास्त्रीय नृत्यांगना हैं।

A. कथक B. भरतनाट्यम
C. मोहिनीअट्टम D. कुचिपुड़ी

89. जनवरी 2020 में गुवाहाटी में खेलो इंडिया यूथ गेम्स का कौन सा संस्करण आयोजित किया गया था?

A. दूसरा प्रकाशन B. पांचवा संस्करण
C. चौथा संस्करण D. तीसरा संस्करण

90. समय-समय पर की जाने वाली जनसंख्या की आधिकारिक गणना को _____ के रूप में जाना जाता है।

- A. नागरिकों का राष्ट्रीय रजिस्टर
C. जनगणना
- B. जनसांख्यिकीय गणना
D. राष्ट्रीय जनसंख्या रजिस्टर
91. मट्टनचेरी महल _____ में स्थित है।
A. ओडिशा
C. आंध्र प्रदेश
- B. केरल
D. तमिलनाडु
92. निम्नलिखित में से कौन सा राज्य कॉफी का सबसे बड़ा उत्पादक है?
A. कर्नाटक
C. आंध्र प्रदेश
- B. तमिलनाडु
D. केरल
93. 15वें वित्त आयोग का गठन भारत के राष्ट्रपति द्वारा _____ वर्षों की अवधि के लिए किया गया।
A. तीन
C. चार
- B. छह
D. पांच
94. भारत सरकार का कौन सा विभाग न्यूनतम समर्थन मूल्य घोषित करता है?
A. आर्थिक मामलों का विभाग
C. विनिवेश विभाग
- B. कृषि एवं सहकारिता विभाग
D. व्यय विभाग
95. सफेदी वाली दीवारें _____ बनने के कारण तीन से चार दिनों के बाद चमकदार दिखाई देने लगती हैं।
A. कैल्शियम नाइट्रेट
C. कैल्शियम ऑक्साइड
- B. कैल्शियम सल्फेट
D. कैल्शियम कार्बोनेट
96. चन्द्रमा और सूर्य के कारण ज्वार भाटा के बारे में कौन सा नियम स्पष्ट करता है ?
A. गुरुत्वाकर्षण का नियम
C. जड़ता का नियम
- B. परावर्तन का नियम
D. अपवर्तन का नियम
97. निर्वाचन सूची को सामान्यतः _____ के रूप में जाना जाता है।
A. चुनाव गणना
C. चुनाव सूची
- B. मतदाता सूची
D. क्रमिक सूची
98. निम्नलिखित में से कौन सा ऊतक पशु शरीर में एक सुरक्षात्मक ऊतक है?
A. पेशीय ऊतक
C. संयोजी ऊतक
- B. तंत्रिका ऊतक
D. उपकला ऊतक
99. जनरल डायर की कमान के दौरान भारत में कौन सा कानून लागू किया गया था?
A. प्रतिबंधक नज़रबंदी
C. साइमन कानून
- B. भेदभाव कानून
D. मार्शल लॉ
100. रानी रामपाल निम्नलिखित में से किस खेल से संबंधित हैं?
A. हॉकी
B. बैडमिंटन

C. किरकेट

D. बॉक्सिंग

Solutions

1. A

Sol. Bleat: a single sound that sheep or goats make.

Bray: a loud unpleasant sound made by a donkey.

Croak: a rough low sound made in the throat, like the sound made by a frog.

Yelp: a sudden short cry, usually of pain.

Hence, **option A** is the correct answer.

2. D

Sol. The idiom "**Bear the brunt**" means to receive the main force of something unpleasant.

Example: Schools will **bear the brunt** of cuts in government spending.

Hence, **option D** is the correct answer.

3. D

Sol. Let's understand the meaning of the given words:

Profuse= produce in large amounts.

E.g.: It was a mistake from my side. Please accept my **profuse** apologies.

Sufficient = enough for a particular purpose.

Lush = beautiful and making you feel pleasure.

Plenty = a lot of

Scant = hardly any; not very much and not as much as there should be.

E.g.: The firefighters went back into the house with **scant** regard for their own safety.

Hence, **option D** is the correct answer.

4. A

Sol. **Option A has incorrectly spelt word.**

“Preference” is the correct spelling of the incorrect word “Preferance”. It means a greater interest in or desire for someone/something than someone/something else.

The meaning of other words are:

Predict: to say that something will happen in the future.

Preface: an introduction to a book, especially one that explains the author's aims.

Predominant: most obvious or easy to notice.

5. D

Sol. **The underlined part of the sentence is grammatically incorrect.**

* Underlined part needs correction in phrasal verb and helping verb.

* “Call something up” as a phrasal verb means to bring something back to your mind.

For example:

The smell of the sea **called up** memories of his childhood.

* “Call something off” as a phrasal verb means to cancel something; to decide that something will not happen.

For example:

The game was **called off** because of bad weather.

* As per the Subject Verb agreement, verb should be in accordance with the subject. Singular verb should be used with singular subject. Plural verb should be used with plural subject.

For example:

The **children have** adapted well to the heat.

- * In the given sentence, we need the sense of “cancellation of strike by the workers”. Phrasal verb “call something off” is suitable for expressing such meaning in the sentence.
- * Also, “workers” is a plural subject but we have erroneously used singular helping verb “has”. As per subject verb agreement, plural helping verb “have” should be used for plural subject.
- * Hence, “**have called off**” is the correct substitution.

Thus, the correct sentence will be:

The workers have called off the strike.

Hence, **option D** is the correct answer.

6. C

Sol. The sentence is grammatically incorrect, and the error lies in **option C**. The error is related to **Verb**.

- * After a subject with “one of”, we use a singular verb.

For example:

One of these letters is for you.

One of the most important political freedoms is freedom of association.

- * “Rotten” is an adjective and it means something that has decayed and cannot be eaten or used.

For example:

They pelted him with **rotten** eggs.

- * In the given sentence, we have erroneously used plural helping verb (used as linking verb) “are” after “one of” structure. Thus, singular helping verb “is” should be used in place of “are”.
- * Also, usage of “rotten” as an adjective is correct because it is acting like a complement for the subject “one of” and helping verb “is” is acting like a linking verb that connects complement with its subject.
- * Hence, “**is rotten**” is the correct substitution.

Thus, the correct sentence will be:

One of the apples that you have picked up is rotten.

7. D

Sol. The idiom “**Behind closed doors**” means without the public being allowed to attend or know what is happening; in private.

Example: The meeting between the two politicians held **behind closed doors**.

Hence, **option D** is the correct answer.

8. B

Sol. Let us understand the meaning of the given words:-

- * In = used to show at a point within an area or a space.
- * At = used to say when something happens.
- * On = used to show “in or into a position covering, touching or forming part of a surface”.
- * For = used to show purpose or function.

Now let's find out the correct fit for the blank:

- * "In" as a preposition is used to show at a point within an area or a space. Thus, option A is incorrect.
- * "On" as a preposition is used in context of "in or into a position covering, touching or forming part of a surface". Thus, option C is incorrect.
- * "For" as a preposition is used to show purpose or function. Thus, option D is incorrect.
- * "At" as a preposition is used to show when something happens. Here in the given sentence, it is used to mention the time when "I" leave the house i.e. "at eight o' clock".

Thus, "At" becomes the correct word to fill in the blank.

Thus, the correct sentence will be:

In the morning I leave my house at eight o'clock.

Hence, **option B** is the correct answer.

9. D

Sol. Let's understand the meaning of the given words:

Distant= far away in space or time.

E.g.: The time we spent together is now a **distant** memory.

Remote = far away from places where other people live.

Removed = to take someone/something away from a place.

Isolated = far away from any others.

Near = a short distance away.

E.g.: His house is very **near**.

Hence, **option D** is the correct answer.

10. A

Sol. The sentence is grammatically incorrect, and the error lies in **option A**. The error is related to **Verb**.

* Singular verb should be used when plural nouns explain specific ‘amount, sum, distance, quantity, time, period’ as a whole.

For example:

Five hundred rupees was a large amount sixty years ago.

Six miles is not a long distance.

* In the given sentence, we have erroneously used plural helping verb “seem” after “Hundred and fifty rupees” which shows the specific amount of money. Thus, singular helping verb “seems” should be used in place of “seem”.

* Hence, “**seems a high price**” is the correct substitution.

Thus, the correct sentence will be:

Hundred and fifty rupees seems a high price for this little vase.

11. D

Sol. The sentence is grammatically incorrect, and the error lies in **option D**. The error is related to

Pronoun.

* "Whom" is objective case of "Who".

For example:

I need colleagues with **whom** I can speak frankly.

He asked me with **whom** I had discussed it.

* "Who" as a relative pronoun is used for persons.

For example:

Only those children **who** are below sixteen can take part in this competition.

* "That" as a relative pronoun is used for referring to someone/something that has already been mentioned or is already known about.

For example:

The watch **that** you gave me keeps perfect time.

* In the given sentence, we have erroneously used "whom" as a relative pronoun because there is no need of an objective case in the sentence. Noun "trip" is already known to the listener because determiner "one" used before it specifies it. Thus, relative pronoun "that" should be used in place of "whom".

* Hence, "**that I will**" is the correct substitution.

Thus, the correct sentence will be:

This is one trip that I will never forget.

12. B

Sol. Let us understand the meaning of the given words:-

- * Are growing = is the structure of verb used in present continuous tense.
- * Will grow = is the structure of verb used in simple future tense.
- * Grow = is the first form of verb. It means to increase in size, number, strength or quality.
- * Grew = is the second form of verb “grow” used in simple past tense.

Now let's find out the correct fit for the blank:

- * “Are growing” is the structure of verb used in present continuous tense but we need future tense in the filler. Thus, option A is incorrect.
- * “Grow” is the first form of verb used in simple present tense but we need future tense in the filler. Thus, option C is incorrect.
- * “Grew” is the second form of verb “grow” used in simple past tense but we need future tense in the filler. Thus, option D is incorrect.
- * “Will grow” is the structure of verb used in simple future tense. It shows what is going to happen in the future. Here in the given sentence, time word “next week” necessitates the use of future tense in the filler. “Will grow” shows that there is possibility of growth in seeds by following week.

Thus, “Will grow” becomes the correct word to fill in the blank.

Thus, the correct sentence will be:

I am sure that my seeds will grow by next week.

Hence, **option B** is the correct answer.

13. A

Sol. Erase: to make a mark or something you have written disappear for example by rubbing it, especially in order to connect it.

Abolish: to officially end a law, a system or an institution.

Break: to be damaged and separated into two or more parts, as a result of force.

Demolish: to pull or knock down a building; to destroy something.

Hence, **option A** is the correct answer.

14. C

Sol. **The underlined part of the sentence is grammatically incorrect.**

* Underlined part needs correction in tense.

* Past perfect tense is used when out of two actions it is necessary to emphasize that the preceding action was completely finished before the succeeding action started. Succeeding action is written in simple past tense.

For example:

We **had gone** to Mumbai last month before our father **came**.

* The structures for active/passive voices for past perfect tense are:

Active Voice: Subject + had + Verb (V3 form) + Object

Passive Voice: Object + had + been + Verb (V3 form) + by + Subject

For example:

Active Voice: The insects **had damaged** most of the goods.

Passive Voice: Most of the goods **had been damaged** by the insects.

- * The given sentence (written in passive voice) is about two actions of the past. Succeeding action identified by verb “was brought” is written correctly in simple past tense (passive voice). But we have erroneously used present perfect tense to show the preceding action. Thus, verb structure of past perfect tense (in passive voice) i.e. “had been tortured” should be used.
- * Hence, “**had been tortured**” is the correct substitution.

Thus, the correct sentence will be:

The accused had been tortured before he was brought to the court.

Hence, **option D** is the correct answer.

15. C

Sol. **Option C has incorrectly spelt word.**

“Muddle” is the correct spelling of the incorrect word “Muddel”. It means to put things in the wrong order or mix them up.

The meaning of other words are:

Multiple: many in number; involving many different people or things.

Murmur: to say something in a soft quiet voice that is difficult to hear or understand.

Mumble: to speak or say something in a quiet voice in a way that is not clear.

16. A

Sol. Let's understand the meaning of the given words:

Prevent= to stop someone from doing something or from happening.

E.g.: The accident could have been **prevented** by the driver.

Block = to stop something from moving or flowing through a pipe, a passage, a road etc. by putting something in it or across it.

E.g.: A truck had overturned and was completely **blocking** the traffic.

Allow = to let someone/something do something.

Open = to move a door, window, lid etc. into a position that is no longer closed.

Push = to use your hands, arms or body in order to make someone/something move forward or away from you.

Hence, **option A** is the correct answer.

17. A

Sol. Let us understand the meaning of the given words:-

* Hungered = (verb) to have strong desire or need for something/someone.

* Starved = (verb) to suffer or die because you do not have enough food to eat; to make someone suffer or die in this way.

* Damaged = (verb) to have a bad or harmful effect on something/someone.

* Collapsed = (verb) to fall down or fall in suddenly often after breaking apart.

Now let's find out the correct fit for the blank:

* "Hungered" as a verb means to have strong desire or need for something/someone. Thus, option A is incorrect.

* "Damaged" as a verb means to have a bad or harmful effect on something/someone. Thus, option C is incorrect.

* "Collapsed" as a verb means to fall down or fall in suddenly often after breaking apart. Thus, option D is incorrect.

* "Starved" as a verb means to suffer or die because you do not have enough food to eat; to make someone suffer or die in this way. Here in the given sentence, it is used to show that millions of people died during acute famine because they do not have enough food to eat.

Thus, "Starved" becomes the correct word to fill in the blank.

Thus, the correct sentence will be:

Millions of people starved during the acute famine of Odisha.

Hence, **option B** is the correct answer.

18. C

Sol. Let us understand the meaning of the given words:-

* Insisted = (verb) to demand that something happen or that someone agree to do something.

* Informed = (verb) to tell someone about something especially in an official way.

* Told = (verb) to give information to someone by speaking or writing.

* Warned = (verb) to tell someone about something especially something dangerous or unpleasant that is likely to happen.

Now let's find out the correct fit for the blank:

* "Informed" as a verb means to share information in an official way. But in the given sentence there is no such official relation. Thus, option B is incorrect.

* "Told" as a verb means to share information to someone either by speaking or by writing. Thus, option C is incorrect.

* "Warned" as a verb means to share information to someone about something dangerous or unpleasant that is going to happen. Thus, option D is incorrect.

* "Insisted" as a verb means demanding something to be followed or to do something. Here in the given sentence, "trek manager" is asked "trekkers" in demanding tone that they should take rest for some time before starting the climbing activity.

Note: Use of "Inform" or "Told" simply shows that information is being shared to the listener. They don't show the sense of "intended action/expected action from receiver". This sense of "expected action" is reflected in the usage of verb "Insisted". Hence, "Insisted" is the best option.

Thus, "Insisted" becomes the correct word to fill in the blank.

Thus, the correct sentence will be:

The trek manager insisted that the trekkers rest for a while before the climb.

Hence, **option A** is the correct answer.

19. A

Sol. **The underlined part of the sentence is grammatically incorrect.**

* Underlined part needs correction in preposition.

* "Unlike" as a preposition is used to show "different from a particular person or thing". Thus, it is used to contrast someone/something with another person or thing.

For example:

Music is quite **unlike** any other art form.

Unlike most systems, this one is very easy to install.

* “Like” as a preposition is used to show “similar to someone/something”.

For example:

She looks nothing **like** her mother.

She is wearing a dress **like** mine.

* The given sentence is setting up a “contrast” between the nature of rules/laws in “cricket” and “other sports”. It is erroneous to use preposition “like” that is used to show the similarity between two entities. Thus, preposition “unlike” should be used in place of preposition “like”

* Hence, “**unlike**” is the correct substitution.

Thus, the correct sentence will be:

The game of cricket is governed by strict laws unlike other sports where there are merely rules.

Hence, **option A** is the correct answer.

20. A

Sol. Let's understand the meaning of the given words:

Elegant= attractive and showing a good sense of style.

E.g.: She looked **elegant** in a simple black dress.

Graceful = moving in an attractive way that shows control OR polite and kind in your behaviour especially in a difficult situation.

E.g.: He gave a **graceful** bow to the audience.

Intelligent = good at learning, understanding and thinking in a logical way about things.

Common = happening often.

Rough = having a surface that is not even or regular.

Hence, **option A** is the correct answer.

21. C

Sol. The given passage is about "**Suraj's curiosity about train**".

"While" as a conjunction is used to show "during the time that something is happening". Thus, option A is wrong.

"When" as a conjunction is used to show "at or during the time that". Thus, option B is wrong.

"After" as a conjunction is used to show "at a time later than something". Thus, option D is wrong.

"Until" as a conjunction is used to show up to the point in time or the event mentioned. Here in the given sentence, it is used to mention that Suraj kept waving to a passing train up to the event (i.e. till the continuous circles of smoke of train were visible).

Hence, **option C** is the correct answer.

22. A

Sol. The given passage is about "**Suraj's curiosity about train**".

"Likes" is the first form of verb. Thus, option B is wrong.

"Is liking" is the structure of verb used in present continuous tense. Thus, option C is wrong.

"Was liking" is the structure of verb used in past continuous tense. Thus, option D is wrong.

"Liked" is the second form of verb used in simple past tense. It means to find someone/something pleasant, attractive or of a good enough standard; to enjoy something.

Here in the given sentence, it is used to show that Suraj enjoys waving to the trains. Since the entire passage is set in past tense that's why second form of verb is chosen.

Hence, **option A** is the correct answer.

23. C

Sol. The given passage is about "**Suraj's curiosity about train**".

"Of" as a preposition is used to show the location which is relatively small or unknown or not so popular. Thus, option A is wrong.

"For" as a preposition is used in context of "purpose or function". Thus, option C is wrong.

"To" as a preposition is used in context of "in the direction of something; towards something". Thus, option D is wrong.

"About" as a preposition is used to show "on the subject of someone/something" or "in connection with someone/something". Here in the given sentence, it is used to establish connection of verb "wondered" with "people". Thus, Surag wondered about the people who were inside the train.

Hence, **option B** is the correct answer.

24. A

Sol. The given passage is about "**Suraj's curiosity about train**".

"Why" as an adverb is used in questions to ask the reason for or purpose of something. Thus, option B is wrong.

"How" as an adverb is used in context of "in what way or manner". Thus, option C is wrong.

"When" as an adverb is used in context of "at what time; on what occasion". Thus, option D is wrong.

“Where” as an adverb is used to show “in or to what place or situation”. Here in the given sentence, it is used to ask about the place where people were going via train.

Hence, **option A** is the correct answer.

25. B

Sol. The given passage is about “**Suraj’s curiosity about train**”.

“Should” as a modal verb is used for giving or asking advice. Thus, option A is wrong.

“Can” as a modal verb is used for showing the ability. Thus, option C is wrong.

“Will” as a modal verb is used for talking about or predicting the future. Thus, option D is wrong.

“Would” as a modal verb is used for talking about the result of an event that you imagine. Here in the given sentence, it is used to show the result of imagination i.e. how it feels like when someone is inside the moving train.

Hence, **option B** is the correct answer.

26. C

Sol. नीचे दी गई आकृति प्रश्नवाचक चिन्ह को प्रतिस्थापित करेगी।



इसलिए, विकल्प C सही उत्तर है।

27. C

Sol. T का भार =20

$$P \text{ का भार} = 2 \times t = 2 \times 20 = 40$$

$$Q \text{ का भार} = \frac{P}{4} = \frac{40}{4} = 10$$

$$S \text{ का भार} = \frac{P}{2} = \frac{40}{2} = 20$$

$$R \text{ का भार} = 2 * Q = 2 * 10 = 20$$

अतः Q का भार सभी छड़ों में सबसे हल्का है

इसलिए, विकल्प C सही उत्तर है।

28. C

Sol. 5 B 3 A 4 B (6 C 2) C (18 D 3) D 2

अक्षर को प्रतीक से बदलें

$$5 \times 3 + 4 \times (6 - 2) - (18 \div 3) \div 2$$

BODMAS नियम लागू करने पर

$$15 + 4 \times 4 - 6 \div 2$$

$$15 + 16 - 3$$

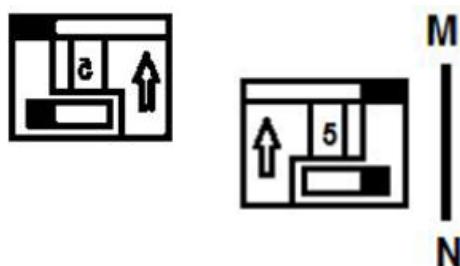
$$15 + 13$$

$$28$$

इसलिए, विकल्प C सही उत्तर है।

29. D

Sol. दी गई आकृति का दर्पण प्रतिबिम्ब नीचे दिए अनुसार है।



इसलिए, विकल्प D सही उत्तर है।

30. A

Sol. प्रश्न के अनुसार दिए गए व्यक्तियों की संभावित व्यवस्था नीचे दी गई है:

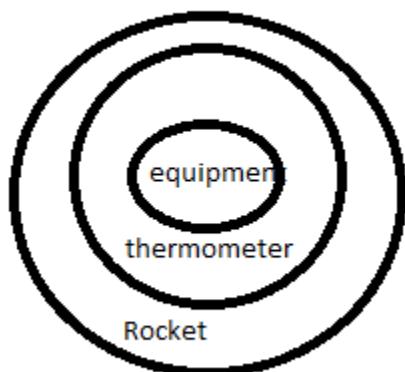
मोहित	हरमन	अर्जुन	सूर्या	कार्तिक
-------	------	--------	--------	---------

अतः, मोहित और कार्तिक कोनों पर बैठे हैं।

इसलिए, विकल्प A सही उत्तर है।

31. B

Sol. आकृति का संभावित सचित्र प्रतिनिधित्व नीचे दिया गया है:



निष्कर्षः

I. कुछ रॉकेट, उपकरण हैं - सही है क्योंकि सभी उपकरण, थर्मामीटर हैं और सभी थर्मामीटर, रॉकेट हैं इसलिए कुछ रॉकेट, उपकरण हैं।

II. कुछ रॉकेट, थर्मामीटर हैं – सही है क्योंकि सभी थर्मामीटर, रॉकेट हैं इसलिए कुछ रॉकेट, थर्मामीटर भी हैं।

इसलिए, विकल्प B सही उत्तर है।

32. A

Sol. $6 \times 8 + 2 = 48$

इसी प्रकार, $11 \times 13 + 2 = 143 + 2 = 145$

इसलिए, विकल्प A सही उत्तर है।

33. A

Sol. दिए गए वेन आरेख द्वारा सबसे अच्छी तरह से चित्रित वर्गों का समूह वकील, माताओं, बहनों का है:



जैसा कि कुछ वकील माता और बहन दोनों हो सकती हैं।

इसलिए, विकल्प A सही उत्तर है।

34. A

Sol. यहां तर्क यह है कि अगले पद में पदों के बीच का अंतर दोगुना हो जाता है -

$$25+9=34$$

$$34+18=52$$

$$52+36=88$$

$$88+72=160$$

$$160+144=304$$

इसलिए, विकल्प A सही उत्तर है।

35. A

Sol. यहां तर्क यह है कि पहले पद को 2 से गुणा किया जाता है और अगले पद को तीन से गुणा किया जाता है तथा यह प्रक्रिया दोहराई जाती है।

$$5*2=10$$

$$10 \times 3 = 30$$

$$30 \times 2 = 60$$

$$60 \times 3 = 180$$

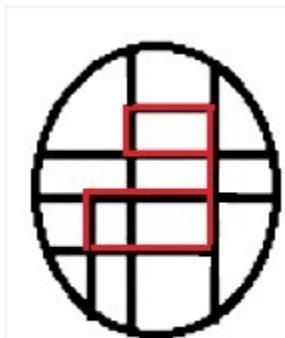
$$180 \times 2 = 360$$

$$360 \times 3 = 1080$$

इसलिए, विकल्प A सही उत्तर है।

36. A

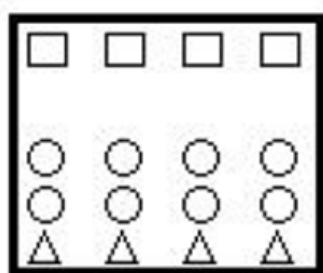
Sol. दी गई आकृति X निम्नलिखित में अंतर्निहित है -



इसलिए, विकल्प A सही उत्तर है।

37. D

Sol. जब कागज को निर्देश के अनुसार मोड़ा और काटा जाता है और फिर खोल दिया जाता है, तो निर्मित होने वाली आकृति नीचे दी गई है:



इसलिए, विकल्प D सही उत्तर है।

38. A

Sol. विकल्प A की जांच करने पर -

$$8 \times 7 - 42 \div 14 \times 2 + 21 = 66$$

परस्पद बदलाव के बाद

$$8 \times 7 - 42 \div 21 \times 2 + 14 = 66$$

BODMAS नियम लागू करने पर

$$56 - 2 \times 2 + 14$$

$$56 - 4 + 14$$

$$52 + 14$$

$$66$$

इसलिए, विकल्प A सही उत्तर है।

39. A

Sol. प्रश्न के अनुसार व्यक्तियों की संभावित व्यवस्था है :

E	B	D	C	A
---	---	---	---	---

अतः C, E की दाईं ओर से तीसरे स्थान पर बैठा है।

इसलिए, विकल्प A सही उत्तर है।

40. B

Sol. यहां तर्क यह है कि दिए गए शब्दों को अवरोही क्रम में लिखें और अक्षरों के स्थितीय मान में 3 जोड़ें।

PRIVATE=ETAVIRP और SIGNIFY=YFINGIS

E+3=H	Y+3=B
T+3=W	F+3=I
A+3=D	I+3=L
V+3=Y	N+3=Q
I+3=L	G+3=J
R+3=U	I+3=L
P+3=S	S+3=V

इसलिए, विकल्प B सही उत्तर है।

41. D

Sol. तर्क नीचे समझाया गया है:

U+3=X	M+3=P
S+3=V	O+3=R
E+3=H	R+3=U
F-3=C	S-3=P
U-3=R	E-3=B
L-3=I	L-3=I

इसलिए, विकल्प D सही उत्तर है।

42. A

Sol. दी गई श्रृंखला का तर्क यह है कि पहले अक्षर को एक अक्षर से बदल दिया जाएगा जो दो स्थान आगे है। यह प्रक्रिया निरंतर अक्षरों के लिए जारी रहेगी।

B+2=D, DRAIN

R+2=T, DTAIN

A+2=C, DTCIN

I+2=k, DTCKN

N+2=P, DTCKP

इसलिए, विकल्प A सही उत्तर है।

43. B

Sol. यहां तर्क यह है कि पहले और अंतिम अक्षर के स्थितीय मान को 2 से गुणा करें और शेष स्थितीय मानों को जैसा है वैसा ही लिखें।

P=16*2=32	F=6*2=12
R=18	R=18
O=15	E=5
C=3	E=5
E=5	Z=26
S=19	E=5
S=19*2=38	R=18*2=36

इसलिए, विकल्प B सही उत्तर है।

44. B

Sol. यहां तर्क यह है कि अक्षरों को शब्दकोश में उनके आने के क्रम में व्यवस्थित किया जाता है।

तो, BUDGET को व्यवस्थित किया जाता है = BDEGTU

इसलिए, विकल्प B सही उत्तर है।

45. D

Sol. यहां तर्क यह है कि पंक्ति 1 में संख्याओं के वर्गों को पंक्ति 2 में संख्याओं के वर्गों में जोड़ा जाता है। परिणाम को पंक्ति 3 में संख्याएं प्राप्त करने के लिए दोगुना किया जाता है।

$$5^2 + 7^2 = 74 \text{ और } 74 \times 2 = 148$$

$$9^2 + 3^2 = 90 \text{ और } 90 \times 2 = 180$$

इसी प्रकार,

$$5^2 + ?^2 = 146 \text{ और } 146 \times 2 = 292$$

$$?^2 = 121$$

इस प्रकार, $? = 11$

प्रश्नवाचक चिन्ह को प्रतिस्थापित करने वाली संख्या 11 है।

इसलिए, विकल्प D सही उत्तर है।

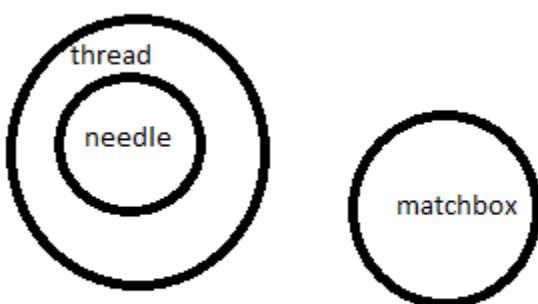
46. D

Sol. जिस प्रकार लिखने के लिए स्याही का प्रयोग किया जाता है उसी प्रकार रोगों को ठीक करने के लिए औषधि का प्रयोग किया जाता है।

इसलिए, विकल्प D सही उत्तर है।

47. D

Sol. प्रश्न के अनुसार संबंध का सचित्र प्रतिनिधित्व नीचे दिया गया है -



निष्कर्षः

- I. कोई नीडल, मैच-बॉक्स नहीं है – सही है, क्योंकि इनके बीच कोई संबंध नहीं है।
- II. कुछ थ्रेड, नीडल हैं – सही है, सभी है, नीडल, थ्रेड है इसलिए कुछ थ्रेड, नीडल हैं।
- III. कुछ मैच-बॉक्स, नीडल हैं – गलत है, चूंकि इनके बीच कोई संबंध नहीं है।

इसलिए, विकल्प D सही उत्तर है।

48. B

Sol. काला चना एक प्रकार की दाल है, इसी प्रकार, चावल एक प्रकार का अनाज है।

इसलिए, विकल्प B सही उत्तर है।

49. D

Sol. यहां तर्क यह है = शब्दों में अक्षर के स्थानीय मान का योग + शब्दों के अक्षरों की संख्या के बराबर संख्या

$$\text{Mixture} = (13+9+24+20+21+18+5)+7=110+7=117$$

$$\text{FLOWER} = (6+12+15+23+5+18)+6=85$$

$$\text{MERGER} = (13+5+18+7+5+18)+672$$

इसलिए, विकल्प D सही उत्तर है।

50. D

Sol. नीचे दी गई आकृति प्रश्नवाचक चिन्ह को प्रतिस्थापित करेगी:



इसलिए, विकल्प D सही उत्तर है।

51. D

Sol. माना त्रिभुज का आधार = x इकाई

$$\text{त्रिभुज की ऊँचाई} = y \text{ इकाई}$$

$$\text{त्रिभुज का क्षेत्रफल} = A = \frac{1}{2} xy \text{ unit}^2$$

$$\Rightarrow y = \frac{2A}{x} \dots\dots\dots(1)$$

एक त्रिभुज के आधार में 30% की वृद्धि की जाती है।

$$\text{त्रिभुज का परिणामी आधार} = \left(x + \frac{30x}{100}\right) = \frac{130x}{100} \text{ unit}$$

तिरभुज की परिणामी ऊँचाई = इकाई

एक तिरभुज के क्षेत्रफल में 50% की वृद्धि की जाती है।

$$\text{त्रिभुज का परिणामी क्षेत्रफल} = \left(A + \frac{50A}{100} \right) = \frac{150A}{100} \text{ unit}^2$$

$$\Rightarrow \frac{150A}{100} = \frac{1}{2} z \left(\frac{130x}{100} \right)$$

$$\Rightarrow z = 2 \times \left(\frac{15A}{13x} \right) = \frac{30A}{13x} \quad \dots \dots \dots (2)$$

अब, तिरभूज की ऊँचाई में प्रतिशत वृद्धि =

$$\frac{\frac{30A}{13x} - \frac{2A}{x}}{\frac{2A}{x}} \times 100 = \frac{\frac{30-26}{13}}{\frac{2}{2}} \times 100 = \frac{4}{26} \times 100 = 15.38\%$$

52. C

Sol. बैट का विकरय मूल्य = 954 रुपये

लाभ = 6%

$$\text{वस्तु का लागत मूल्य} = 954 \times \frac{100}{(100+6)} = \text{Rs. } 900$$

$$\text{यदि लाभ } 8\% \text{ है तो बैट का विक्रय मूल्य} = 900 \times \frac{(108)}{100} = \text{Rs. 972}$$

53 D

Sol. 11, 10, 12, 13, 15, x और 17 का माध्य 15 है।

$$\Rightarrow \frac{11+10+12+13+15+x+17}{7} = 15$$

$$\Rightarrow \frac{78+x}{7} = 15$$

$$\Rightarrow 78 + x = 105$$

$$\Rightarrow x = 105 - 78 = 27$$

54. A

Sol. निर्माता एक वस्तु की कीमत 1,200 रुपये अंकित करता है।

वह इसे एक व्यापारी को 10% की छूट पर बेचता है। व्यापारी को नकद भुगतान करने पर उसके शुद्ध भुगतान पर 5% की अतिरिक्त छूट मिलती है।

व्यापारी द्वारा निर्माता को भुगतान की गई राशि

$$= 1200 \times \frac{(100-10)}{100} \times \frac{(100-5)}{100} = 1200 \times \frac{90}{100} \times \frac{95}{100} = \text{Rs. } 1026$$

55. B

Sol. 0.126, 0.36 and 0.96 का ल.स. = ल.स. $\frac{126}{1000}, \frac{36}{100}$ and $\frac{96}{100} =$

ल.स. (126, 36, 96) / म.स. (1000, 100, 100)

$$\text{अब, } 126 = 2 \times 3 \times 3 \times 7$$

$$36 = 2 \times 2 \times 3 \times 3$$

$$96 = 2 \times 2 \times 2 \times 2 \times 2 \times 3$$

$$\text{ल.स. (} 126, 36, 96) = 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 7 = 2016$$

$$\text{म.स. (} 1000, 100, 100) = 100$$

0.126, 0.36 और 0.96 का ल.स. = ल.स. (126, 36, 96) / म.स. (1000, 100, 100)

$$= \frac{2016}{100} = 20.16$$

56. A

Sol. सोहम और उसके पांच मित्रों का औसत वज़न 48.5 किलोग्राम है।

सोहम और उसके पांच मित्रों के वज़न का योग = $6 \times 48.5 = 291 \text{ kg}$

सोहम अपने पांच मित्रों के औसत वज़न से 3 किलोग्राम अधिक है।

माना उसके पांच मित्रों का औसत वज़न = x किलोग्राम

सोहम का वज़न = $(x+3)$ किलोग्राम

प्रश्न के अनुसार:

$$\Rightarrow (x+3) + 5x = 291$$

$$\Rightarrow 6x + 3 = 291$$

$$\Rightarrow 6x = 288$$

$$\Rightarrow x = 48$$

अब, सोहम का वज़न (किलोग्राम में) = $48 + 3 = 51$ किलोग्राम

57. D

Sol. 15 सेमी भुजा वाले एक ठोस घन को 25 सेमी लंबाई, 20 सेमी चौड़ाई और 18 सेमी ऊँचाई वाले एक आयताकार बर्तन में गिराया जाता है, जो आंशिक रूप से पानी से भरा हुआ है।

मूल जल स्तर से ऊपर उठे हुए पानी का आयतन = ढूबे हुए घन का आयतन।

माना जल स्तर का बढ़ना h सेमी है।

$$\Rightarrow (15)^3 = 25 \times 20 \times h$$

$$\Rightarrow h = \frac{27}{4} = 6.75$$

58. D

Sol. दो ट्रेनें A और B एक ही समय पर क्रमशः बिंदु P और Q से एक-दूसरे की ओर एक समान गति से चलना शुरू करती हैं।

एक दूसरे को पार करने के बाद, A को Q तक पहुंचने में 16 घंटे लगते हैं और B को P तक पहुंचने में 4 घंटे लगते हैं।

A की गति (किमी/घंटा में) = 54 किमी/घंटा

B की गति (किमी/घंटा में) = x किमी/घंटा

$\frac{s_1}{s_2} = \sqrt{\frac{t_2}{t_1}}$ का उपयोग करते हुए:

$$\Rightarrow \frac{54}{x} = \sqrt{\frac{4}{16}} = \frac{1}{2}$$

$$\Rightarrow x = 108 \text{ km/hr}$$

B की गति (किमी/घंटा में) = 108 किमी/घंटा

59. B

Sol. 5% प्रति वर्ष के चक्रवृद्धि ब्याज पर 2 वर्षों के लिए निवेश करने पर एक निश्चित राशि 1,543.50 रुपये हो जाती है।

$$\text{राशि} = P \left(1 + \frac{\text{Rate}}{100} \right)^{\text{time}}$$

\Rightarrow

$$\Rightarrow 1543.50 = P \left(1 + \frac{5}{100} \right)^2 = P \left(\frac{21}{20} \right)^2$$

$$\Rightarrow P = 1543.50 \times \frac{400}{441} = Rs. 1400$$

अतः, राशि = 1400 रुपये

60. B

$$\frac{109 - \{121 \div (11 \text{ of } 11) - (-4) - (3 - \overline{8-1})\}}{125 - (-3)(4 - \overline{6-2}) \div 3 \{5 + (-3) \text{ of } (-6)\}}$$

VBODMAS का प्रयोग करने पर:

$$\Rightarrow \frac{109 - \{121 \div (11 \text{ of } 11) - (-4) - (3 - 9)\}}{125 - (-3)(4 - 4) \div 3 \{5 + (-3) \text{ of } (-6)\}}$$

$$\Rightarrow \frac{109 - \{121 \div (121) - (-4) - (3 - 9)\}}{125 - (-3)(0) \div 3 \{5 + (-3) \text{ of } (-6)\}}$$

$$\Rightarrow \frac{109 - (1 + 4 + 4)}{125} = \frac{100}{125} = \frac{4}{5}$$

61. A

Sol. एक निश्चित राशि, जब साधारण ब्याज की एक निश्चित दर पर निवेश की जाती है, तो यह 2 वर्षों में 1,102 रुपये और 5 वर्षों में 1,600 रुपये हो जाती है।

3 वर्षों के लिए साधारण ब्याज = 1600 रुपये – 1102 रुपये = 498 रुपये

$$1 \text{ वर्ष के लिए साधारण ब्याज} = \frac{498}{3} = \text{Rs. } 166$$

$$2 \text{ वर्षों के लिए साधारण ब्याज} = 2 \times \text{Rs. } 166 = 332$$

$$\text{मूलधन} = 1102 \text{ रुपये} - 332 \text{ रुपये} = 770 \text{ रुपये}$$

62. D

Sol. एक निश्चित कार्य को करने के लिए A और B की दक्षताओं का अनुपात 5:11 है।

यदि कार्य स्थिर है तो दक्षता लिए गए समय के व्युत्क्रमानुपाती होती है।

$$A \text{ और } B \text{ द्वारा कार्य करने में लिए गए समय का अनुपात} = 11 : 5$$

$$A \text{ द्वारा लिया गया समय} = 11x$$

$$B \text{ द्वारा लिया गया समय} = 5x$$

एक साथ कार्य करते हुए, वे इसी कार्य को 27 1/2 दिनों में कर सकते हैं।

$$\text{अब, } \frac{1}{11x} + \frac{1}{5x} = \frac{2}{55}$$

$$\Rightarrow \frac{5+11}{55x} = \frac{2}{55}$$

$$\Rightarrow x = 8$$

$$A \text{ द्वारा लिया गया समय} = 88$$

$$B \text{ द्वारा लिया गया समय} = 40$$

$$\text{माना कुल कार्य} = \text{ल.स. } (88, 40) = 440 \text{ इकाई}$$

$$A \text{ की दक्षता} = \frac{440}{88} = 5 \text{ unit/day}$$

$$B \text{ की दक्षता} = \frac{440}{40} = 11 \text{ unit/day}$$

A और B एक साथ 20 दिनों तक कार्य करते हैं।

A और B द्वारा 20 दिनों में किया गया कार्य = $20 \times (11 + 5) = 320$ unit

शेष कार्य = 440 इकाई - 320 इकाई = 120 इकाई

C अकेला शेष कार्य को 18 दिनों में पूरा करता है।

C की दक्षता = $\frac{120}{18}$ इकाई/दिन

C द्वारा समान कार्य का 75% पूरा करने में लिया गया समय = $\frac{\frac{75}{100} \times 440}{\frac{120}{18}} = 49\frac{1}{2}$ days

63. A

Sol. जॉन के लिए घड़ी का क्रय मूल्य = $100x$

जॉन ने सू को एक घड़ी 20% के लाभ पर बेची।

जॉन के लिए घड़ी का विक्रय मूल्य = $100x \times \frac{120}{100} = 120x$

सू के लिए घड़ी का क्रय मूल्य = $120x$

सू ने इसे रीमा को 10% के लाभ पर बेच दिया।

सू के लिए घड़ी का विक्रय मूल्य = $120x \times \frac{110}{100} = 132x$

रीमा के लिए घड़ी का क्रय मूल्य = $132x$

यदि रीमा ने इसके लिए 2,178 रुपये का भुगतान किया

$\Rightarrow 132x = 2178$ रुपये

$\Rightarrow x = 16.5$

जॉन के लिए घड़ी का क्रय मूल्य = $100x = 1650$ रुपये

64. D

Sol. कंपनी C के ऑटोमोबाइल की 2007-2008 की तुलना में 2008-2009 में बिक्री में वृद्धि = $1080 - 1000 = 80$ करोड़

65. A

Sol. 2008-2009 में पांच कंपनियों की संयुक्त बिक्री = $1250 + 1100 + 1080 + 1600 + 1050 = 6080$ 2007-2008 में पांच कंपनियों की संयुक्त बिक्री = $1650 + 1350 + 1000 + 1760 + 1440 = 7200$

$$\text{आवश्यक प्रतिशत} = \frac{1120}{7200} \times 100 = 15.55\%$$

66. D

Sol. यात्रा का एक तिहाई हिस्सा 40 किमी/घंटा की दर से, एक-चौथाई हिस्सा 35 किमी/घंटा की दर से और शेष हिस्सा 45 किमी/घंटा की दर से तय किया जाता है।

माना कुल दूरी = ल.स. (40, 35, 45) = 2520 किमी

$$40 \text{ किमी/घंटा की गति से तय की गई दूरी} = 2520 \times \frac{1}{3} = 840 \text{ km}$$

$$\text{इस दूरी को तय करने में लगा समय} = \frac{840}{40} = 21 \text{ hour}$$

$$35 \text{ किमी/घंटा की गति से तय की गई दूरी} = 2520 \times \frac{1}{4} = 630 \text{ km}$$

$$\text{इस दूरी को तय करने में लगा समय} = \frac{630}{35} = 18 \text{ hour}$$

शेष दूरी = $2520 - 840 - 630 = 1050$ किमी

$$\text{शेष दूरी तय करने में लगा समय} = \frac{1050}{45} \text{ hour} = \frac{70}{3} \text{ hour}$$

$$\text{पूरी यात्रा की औसत गति (किमी/घंटा में)} = \frac{2520}{21 + 18 + \frac{70}{3}} = \frac{7560}{63 + 54 + 70} = \frac{7560}{187} \text{ km/hr}$$

67. B

Sol. P एक काम को 18 दिनों में कर सकता है और Q उसी काम को 36 दिनों में कर सकता है।

माना कुल कार्य = ल.स. (18 , 36) = 36 इकाई

$$\text{यदि वे दोनों एक साथ कार्य करते हैं तो लिए गए दिनों की संख्या} = \frac{36}{\left(\frac{36}{18} + \frac{36}{36}\right)} = \frac{36}{3} = 12 \text{ DAYS}$$

68. C

Sol. यदि तीन संख्याएँ 1:3:4 के अनुपात में हैं और इन संख्याओं के योग का दोगुना 80 है।

$$\text{संख्याओं का योग} = \frac{80}{2} = 40$$

प्रश्नानुसार :

$$\Rightarrow x + 3x + 4x = 40$$

$$\Rightarrow 8x = 40$$

$$\Rightarrow x = 5$$

अतः, ये तीन संख्याएँ 5, 15 और 20 होंगी।

$$\text{अब, संख्याओं के वर्गों का अनुपात} = (5)^2 : (15)^2 : (20)^2 = 25 : 225 : 400 = 1 : 9 : 16$$

69. A

Sol. 18 सेमी लंबाई का एक केंचुआ एक निश्चित पथ पर 4 सेमी/सेकंड की गति से रेंग रहा है।

एक कीट 6 सेकंड में इस केंचुए से आगे निकल जाता है।

माना कीट की चाल = x सेमी/सेकंड

$$\Rightarrow x - 4 = \frac{18}{6} = 3$$

$$\Rightarrow x = 7$$

अतः, कीट की गति = 7 सेमी/सेकंड

70. A

Sol. एक ठोस लम्ब वृत्तीय बेलन के आधार की ऊँचाई और त्रिज्या का योग 46 सेमी है।

$$\Rightarrow r + h = 46$$

ठोस बेलन का कुल पृष्ठीय क्षेत्रफल 6072 सेमी² है

$$\Rightarrow 2\pi r(r + h) = 6072$$

$$\Rightarrow 2 \times \frac{22}{7} \times r \times (46) = 6072$$

$$\Rightarrow r = 21 \text{ cm}$$

अब, बेलन की ऊँचाई = 46 सेमी - 21 सेमी = 25 सेमी

$$\text{बेलन का आयतन} = \pi r^2 h = \pi \times (21)^2 \times 25 = 11025\pi$$

71. C

Sol. वर्ष 2014 में लाभ (राजस्व - व्यय) = 120 - 75 = 45 करोड़

वर्ष 2014 में राजस्व के प्रतिशत के रूप में लाभ (राजस्व - व्यय)=

$$\frac{45}{120} \times 100 = 37.5\%$$

वर्ष 2015 में लाभ (राजस्व - व्यय) = 140 - 100 = 40 करोड़

वर्ष 2015 में राजस्व के प्रतिशत के रूप में लाभ (राजस्व - व्यय) =

$$\frac{40}{140} \times 100 = 28.57\%$$

वर्ष 2016 में लाभ (राजस्व - व्यय) = 150 - 120 = 30 करोड़

वर्ष 2016 में राजस्व के प्रतिशत के रूप में लाभ (राजस्व - व्यय)=

$$\frac{30}{150} \times 100 = 20\%$$

वर्ष 2017 में लाभ (राजस्व - व्यय) = 200 - 150 = 50 करोड़

वर्ष 2017 में राजस्व के प्रतिशत के रूप में लाभ (राजस्व - व्यय)=

$$\frac{50}{200} \times 100 = 25\%$$

वर्ष 2018 में लाभ (राजस्व - व्यय) = 250 - 175 = 75 करोड़

वर्ष 2018 में राजस्व के प्रतिशत के रूप में लाभ (राजस्व - व्यय)=

$$\frac{75}{250} \times 100 = 30\%$$

स्पष्ट रूप से, ऐसे 3 वर्ष हैं जिनमें राजस्व के प्रतिशत के रूप में लाभ (राजस्व-व्यय) 28% से अधिक है।

72. C

Sol. एक ठोस लम्ब वृत्तीय शंकु को उसके आधार के समांतर एक तल द्वारा दो भागों में काटा जाता है और एक बिंदु पर इसके शीर्ष से एक तिहाई लंबवत नीचे होता है।

माना पूरे शंकु की ऊँचाई = $3h$ इकाई

अतः, छोटे शंकु की ऊँचाई = h इकाई

माना पूरे शंकु की तिरज्या = R इकाई

छोटे शंकु की तिरज्या = r इकाई

साथ ही, ऐसी स्थितियों में छोटा शंकु पूरे शंकु के समान होगा।

$$\text{इसलिए, } \frac{R}{r} = \frac{3h}{h} = \frac{3}{1}$$

$$\Rightarrow R = 3r$$

अब, छोटे शंकु के आयतन और पूरे शंकु के आयतन का अनुपात =

$$\frac{\frac{1}{3}\pi r^2 h}{\frac{1}{3}\pi R^2 H} = \frac{\frac{1}{3}\pi r^2 h}{\frac{1}{3}\pi(3r)^2(3h)} = \frac{1}{27}$$

73. B

$$\text{Sol. } \frac{13}{70} \div \left[\frac{4}{5} \left(\frac{1}{3} - \frac{1}{4} \times \frac{1}{5} \right) \div 2 \frac{5}{6} \right] - 1 \frac{9}{28}$$

$$\Rightarrow \frac{13}{70} \div \left[\frac{4}{5} \left(\frac{1}{3} - \frac{1}{4} \times \frac{1}{5} \right) \div \frac{17}{6} \right] - \frac{37}{28}$$

BODMAS नियम का प्रयोग करने पर:

$$\Rightarrow \frac{13}{70} \div \left[\frac{4}{5} \left(\frac{1}{3} - \frac{1}{20} \right) \div \frac{17}{6} \right] - \frac{37}{28}$$

$$\Rightarrow \frac{13}{70} \div \left[\frac{4}{5} \left(\frac{17}{60} \right) \div \frac{17}{6} \right] - \frac{37}{28}$$

$$\Rightarrow \frac{13}{70} \times \left[\frac{4}{5} \times \frac{17}{60} \times \frac{6}{17} \right] - \frac{37}{28} = \frac{13}{70} \times \left[\frac{25}{2} \right] - \frac{37}{28} = \frac{28}{28} = 1$$

74. A

Sol. 360 छात्रों के ग्रेड 12 में विज्ञान और मानविकी के छात्रों की संख्या का अनुपात 2:3 है।

माना कक्षा 12 में विज्ञान के छात्रों की संख्या = $2x$

कक्षा 12 में विज्ञान के छात्रों की संख्या = $3x$

$$\Rightarrow 5x = 360$$

$$\Rightarrow x = 72$$

कक्षा 12 में विज्ञान के छात्रों की संख्या = 144

जब कुछ नए छात्रों को प्रवेश दिया जाता है, तो विज्ञान के छात्रों की संख्या में 18 की वृद्धि होती है और विज्ञान के छात्रों तथा मानविकी के छात्रों का अनुपात 3:5 हो जाता है।

नए छात्रों के प्रवेश के बाद कक्षा 12 में विज्ञान के छात्रों की संख्या = $144 + 18 = 162$

प्रश्नानुसार :

$$\Rightarrow 3m = 162$$

$$\Rightarrow m = 54$$

$$\Rightarrow 5m = 270$$

नए छात्रों के प्रवेश के बाद कक्षा 12 में मानविकी में छात्रों की संख्या = 270

भर्ती किए गए नए मानविकी के छात्रों की संख्या = $270 - 216 = 54$

75. D

Sol. तीन बर्तनों P, Q और R की क्षमता 5:4:8 के अनुपात में हैं।

वे क्रमशः 1:4, 2:3 और 3:5 के अनुपात में दूध और पानी के मिश्रण से पूरी तरह से भरे हुए हैं।

	दूध	पानी
पहला बर्तन	1	4
दूसरा बर्तन	2	3
तीसरा बर्तन	3	5

हम पहले तीनों बर्तनों की क्षमता को बराबर करेंगे

	दूध	पानी
पहला बर्तन	8	32
दूसरा बर्तन	16	24
तीसरा बर्तन	15	25

लेकिन तीन बर्तनों P, Q और R की क्षमता 5:4:8 के अनुपात में है।

पहले बर्तन में दूध और पानी का अनुपात = $(8 \times 5) : (32 \times 5) = 40 : 160$

दूसरे बर्तन में दूध और पानी का अनुपात = $(16 \times 4) : (24 \times 4) = 64 : 96$

तीसरे बर्तन में दूध और पानी का अनुपात = $(15 \times 8) : (25 \times 8) = 120 : 200$

अंतिम मिश्रण में दूध और पानी का अनुपात = $(40 + 64 + 120) : (160 + 96 + 200) = 28 : 57$

76. D

Sol. • भारत के सर्वोच्च न्यायालय की स्थापना 28 जनवरी 1950 को हुई थी।

• भारतीय संविधान के अनुच्छेद 124 में सर्वोच्च न्यायालय की स्थापना का उल्लेख है।

• वर्तमान में, सर्वोच्च न्यायालय में 31 न्यायाधीश (एक मुख्य न्यायाधीश और 30 न्यायाधीश) होते हैं।

• एन.वी. रमण भारत के वर्तमान और 48वें मुख्य न्यायाधीश हैं।

77. A

Sol. • स्वच्छ सर्वेक्षण 2020 के तहत मध्य प्रदेश के इंदौर को लगातार चौथे वर्ष सबसे स्वच्छ शहर का दर्जा दिया गया ।

- गुजरात में सूरत और महाराष्ट्र में नवी मुंबई क्रमशः दूसरे और तीसरे स्थान पर रहे ।
- स्वच्छ भारत अभियान के हिस्से के रूप में स्वच्छ सर्वेक्षण शुरू किया गया था ।
- पहला सर्वेक्षण 2016 में किया गया था ।

78. C

Sol. • वस्तु एवं सेवा कर (जीएसटी) भारतीय रिजर्व बैंक की मौद्रिक नीति का एक साधन नहीं है ।

- वस्तु एवं सेवा कर (जीएसटी) एक अप्रत्यक्ष कर है ।
- जीएसटी परिषद भारत में माल और सेवा कर के संदर्भ के आधार पर किसी भी कानून या विनियमन को संशोधित करने, समाधान या प्राप्त करने के लिए एक शीर्ष सदस्य समिति है ।
- भारतीय रिजर्व बैंक (RBI) एकमात्र मौद्रिक प्राधिकरण है जो अर्थव्यवस्था में धन की आपूर्ति का फैसला करता है ।
- आरबीआई की मौद्रिक नीति के मुख्य साधन नकद आरक्षित अनुपात, वैधानिक तरलता अनुपात, बैंक दर, रेपो दर, रिवर्स रेपो दर और खुले बाजार संचालन हैं ।

79. C

Sol. राज्य सभा (राज्यों की परिषद) भारत की द्विसदनीय संसद का ऊपरी सदन है ।

- 2021 तक इसकी अधिकतम सदस्यता 245 है ।
- राज्यसभा भंग नहीं होती है ।
- भारत का उपराष्ट्रपति राज्यसभा का पदेन सभापति होता है ।
- उत्तर प्रदेश (31) में राज्यसभा में सबसे अधिक सदस्य हैं ।
- एम. वैकैया नायडू भारत के वर्तमान और 13वें उपराष्ट्रपति हैं ।

80. B

Sol. • महेंद्रगिरि पूर्वी घाट (गजपति, ओडिशा) की सबसे ऊँची चोटी है ।

- यह 1,501 मीटर (4,925 फीट) की ऊँचाई पर स्थित है ।
- कोरापुट जिले में देवमाली के बाद यह ओडिशा की दूसरी सबसे ऊँची पर्वत चोटी है ।

81. C

Sol. • गीतांजलि बंगाली कवि रवींद्रनाथ टैगोर की कविताओं का संग्रह है।

• उन्हें 1913 में गीतांजलि के लिए साहित्य का नोबेल पुरस्कार दिया गया था।

• गीतांजलि (गीत भेंट) 1912 में लंदन में प्रकाशित हुई थी।

82. B

Sol. • पंजाब के अमृतसर में 13 अप्रैल 1919 को हुए जलियांवाला बाग हत्याकांड के लिए रेजिनाल्ड डायर जिम्मेदार था।

• शांतिपूर्ण भीड़ पर गोली चलाने के उनके आदेश के कारण उन्हें "अमृतसर का कसाई" कहा गया।

• जनरल डायर ने 13 अप्रैल, 1919 को एक अधिनियम पारित किया, जिसे मार्शल लॉ नाम दिया गया।

• इस कानून के तहत एक स्थान पर दो या दो से ज्यादा लोगों को इकट्ठा होने की इजाजत नहीं थी।

• यह अधिनियम सत्तारूढ़ अधिकारियों के खिलाफ किसी भी तरह के लामबंद विरोध को रोकने के लिए बनाया गया था।

83. C

Sol. • धोलावीरा हड्डपा का एक शहर है।

• यह गुजरात के कच्छ में स्थित है।

• यह सिंधु धाटी सभ्यता से संबंधित भारत के पांच सबसे बड़े हड्डपा स्थलों और सबसे प्रमुख पुरातात्त्विक स्थलों में से एक है।

• इस स्थल की खोज 1967-68 में जे. पी. जोशी ने की थी।

84. B

Sol. • सौम्या स्वामीनाथन विश्व स्वास्थ्य संगठन की मुख्य वैज्ञानिक हैं।

• उन्हें मार्च 2019 में WHO की पहली मुख्य वैज्ञानिक नियुक्त किया गया था।

• इससे पहले, अक्टूबर 2017 से मार्च 2019 तक, वह विश्व स्वास्थ्य संगठन में कार्यक्रम की उप महानिदेशक (DDP) थीं।

• वह तपेदिक और HIV पर अपने शोध के लिए जानी जाती है।

• विश्व स्वास्थ्य संगठन (WHO) की स्थापना 7 अप्रैल 1948 को हुई थी।

• इसका मुख्यालय जिनेवा, स्विट्जरलैंड में है।

• टेड्रोस एडहानाम डब्ल्यूएचओ के वर्तमान महानिदेशक हैं।

85. B

Sol. • जल जीवन मिशन 15 अगस्त 2019 को प्रधानमंत्री नरेंद्र मोदी द्वारा शुरू किया गया था।

• इस मिशन का उद्देश्य 2024 तक भारत के सभी दूरदराज के गांवों में प्रत्येक घर में शुद्ध पेयजल पहुंचाना है।

• मिशन को सफल बनाने के लिए भारत सरकार 3 लाख 60 हजार करोड़ रुपये खर्च करेगी।

86. C

Sol. • ओडिशा के मुख्यमंत्री, नवीन पटनायक को 2020 में पशु अधिकार निकाय पेटा (PETA) इंडिया द्वारा 'हीरो टू एनिमल्स अवार्ड' से सम्मानित किया गया।

• नोवेल कोरोनावायरस महामारी पर लॉकडाउन के दौरान ओडिशा में सामुदायिक जानवरों को भोजन कराने हेतु धन आवंटित करने के लिए पीपुल फॉर द एथिकल ट्रीटमेंट ऑफ एनिमल्स (PETA) द्वारा उन्हें सम्मानित किया गया।

• पीपुल फॉर द एथिकल ट्रीटमेंट ऑफ एनिमल्स (PETA) एक अमेरिकी पशु अधिकार संगठन है।

• इसका मुख्यालय वर्जीनिया, यूएसए है।

• इसका गठन 1980 में हुआ था।

87. A

Sol. • पंडित शिवकुमार शर्मा जम्मू के एक भारतीय संगीतकार और संतूर वादक हैं।

पंडित रविशंकर- सितारवादक

उस्ताद बिस्मिल्लाह खां - शहनाई

उस्ताद जाकिर हुसैन – तबला

88. B

Sol. • रुकिमणी देवी अरुणेल भरतनाट्यम की प्रसिद्ध शास्त्रीय नृत्यांगना हैं।

• वह भारतीय इतिहास की पहली महिला थीं जिन्हें राज्यसभा के सदस्य के रूप में नामित किया गया था।

• उन्हें 1956 में पद्म भूषण और 1967 में संगीत नाटक अकादमी फैलोशिप से सम्मानित किया गया था।

• भरतनाट्यम तमिलनाडु का प्रमुख नृत्य रूप है।

89. D

Sol. • खेलो इंडिया यूथ गेम्स का तीसरा संस्करण 10 जनवरी से 22 जनवरी 2020 तक गुवाहाटी, असम में आयोजित किया गया था।

- खेलो इंडिया यूथ गेम्स का पहला संस्करण दिल्ली में आयोजित किया गया था।
- खेलो इंडिया यूथ गेम्स का पांचवां संस्करण भोपाल, मध्य प्रदेश में आयोजित किया जाएगा।
- 22 फरवरी 2020 को, प्रधानमंत्री नरेंद्र मोदी ने ओडिशा के कटक में खेलो इंडिया यूनिवर्सिटी गेम्स के पहले संस्करण का उद्घाटन किया।

90. C

Sol. • जनगणना समय-समय पर जनसंख्या की आधिकारिक गणना है।

- यह पहली बार 1872 में ब्रिटिश वायसराय लॉर्ड मेयो के अधीन किया गया था।
- भारत की पहली पूर्ण जनगणना 1881 में हुई थी।
- 1949 से, जनगणना प्रत्येक 10 वर्ष में गृह मंत्रालय के तहत भारत के रजिस्ट्रार जनरल और जनगणना आयुक्त द्वारा आयोजित की जाती है।

91. B

Sol. • मट्टनचेरी पैलेस एक पुर्तगाली महल है।

- यह लोकप्रिय रूप से डच पैलेस के रूप में जाना जाता है।
- यह मट्टनचेरी, कोच्चि केरल में स्थित है।
- इस महल का निर्माण लगभग 1555 ई. में पुर्तगालियों द्वारा किया गया था।
- महल को यूनेस्को की विश्व धरोहर स्थल की "अस्थायी सूची" में शामिल किया गया है।

92. A

Sol. • कर्नाटक (71%) कॉफी का सबसे बड़ा उत्पादक है, इसके बाद केरल (21%) और तमिलनाडु (5%) का स्थान आता है।

- कर्नाटक ने 2019-20 के दौरान 203,445 मीट्रिक टन कॉफी उत्पादन के साथ भारत में कुल कॉफी उत्पादन का लगभग 70% योगदान दिया।
- कर्नाटक में उगाई जाने वाली कॉफी की मुख्य किस्म "रोबस्टा" है।
- बसवराज बोम्मई कर्नाटक के वर्तमान मुख्यमंत्री हैं।
- थावरचंद गहलोत कर्नाटक के वर्तमान राज्यपाल हैं।

93. D

- Sol. • 15वें वित्त आयोग का गठन भारत के राष्ट्रपति द्वारा 27 नवंबर 2017 को पांच वर्ष की अवधि के लिए किया गया था ।
• आयोग का गठन पांच वित्तीय वर्षों के लिए करों और अन्य वित्तीय मामलों के हस्तांतरण हेतु सिफारिशें देने के लिए किया गया था ।
• नंद किशोर सिंह 15वें वित्त आयोग के अध्यक्ष हैं ।

- भारतीय संविधान के अनुच्छेद 280 के तहत भारत के राष्ट्रपति द्वारा वित्त आयोगों का गठन किया जाता है ।
• पहला आयोग 1951 में स्थापित किया गया था ।

94. B

- Sol. • न्यूनतम समर्थन मूल्य (MSP) वह दर है जिस पर सरकार किसानों से फसल खरीदती है ।

- कृषि और सहकारिता विभाग न्यूनतम समर्थन मूल्य (MSP) की घोषणा करता है ।
• MSP कृषि लागत और मूल्य आयोग (CACP) की सिफारिशों पर तय किया गया है ।
• कृषि लागत और मूल्य आयोग (CACP) कृषि मंत्रालय के तहत मूल्य निर्धारण नीति के लिए एक शीर्ष सलाहकार निकाय है ।
• कृषि और सहकारिता विभाग कृषि और किसान कल्याण मंत्रालय का घटक विभाग है ।
• विभाग का नेतृत्व कृषि और किसान कल्याण मंत्री करते हैं ।

95. D

- Sol. • कैलिशयम कार्बोनेट बनने के कारण सफेदी वाली दीवारें तीन से चार दिन बाद चमकदार दिखने लगती हैं ।

- सफेदी में कैलिशयम हाइड्रॉक्साइड मौजूद होता है । यह हवा में कार्बन डाइऑक्साइड के साथ धीरे-धीरे प्रतिक्रिया करता है और दीवारों पर कैलिशयम कार्बोनेट की एक पतली परत बनाता है । सफेदी करने के दो से तीन दिन बाद कैलिशयम कार्बोनेट बनता है ।
• इसलिए दीवारों पर दो से तीन दिनों के बाद चमकदार सफेद रंग दिखाई देता है ।

96. A

- Sol. • गुरुत्वाकर्षण का नियम (न्यूटन का सार्वभौमिक गुरुत्वाकर्षण का नियम) चंद्रमा और सूर्य के कारण होने वाले ज्वार के बारे में बताता है ।

- गुरुत्वाकर्षण एक प्रमुख बल है जो ज्वार पैदा करता है ।
• 1687 में, सर आइजैक न्यूटन ने समझाया कि महासागरीय ज्वार पृथ्वी के महासागरों पर सूर्य और चंद्रमा के गुरुत्वाकर्षण आकर्षण का परिणाम है ।

97. B

- Sol. • निर्वाचन सूची को आमतौर पर मतदाता सूची के रूप में जाना जाता है ।

- भारत में, मतदाता सूची का प्रकाशन और अद्यतन करना भारत के चुनाव आयोग की जिम्मेदारी है।
- चुनाव आयोग अनुच्छेद 324 के अनुसार संविधान के अधिकार के तहत कार्य करता है।
- सुशील चंद्रा भारत के वर्तमान 24वें मुख्य चुनाव आयुक्त हैं।

98. D

Sol. ● उपकला ऊतक पशु शरीर में एक सुरक्षात्मक ऊतक होता है।

- उपकला ऊतक पूरे शरीर में अंगों और रक्त वाहिकाओं की बाहरी सतहों को रेखाबद्ध करते हैं।
- एपिथेलियल सेल स्क्वैमस, कॉलमर और क्यूबोइडल के तीन प्रमुख आकार हैं।

99. D

Sol. ● जनरल डायर ने 13 अप्रैल, 1919 को एक अधिनियम पारित किया, जिसे मार्शल लॉ नाम दिया गया।

- इस कानून के तहत एक स्थान पर दो या दो से ज्यादा लोगों को इकट्ठा होने की इजाजत नहीं थी।
- यह अधिनियम सत्तारूढ़ अधिकारियों के खिलाफ किसी भी तरह के लामबंद विरोध को रोकने के लिए बनाया गया था।
- जनरल रेजिनाल्ड डायर 13 अप्रैल 1919 को अमृतसर, पंजाब में हुए जलियांवाला बाग हत्याकांड के लिए जिम्मेदार थे।
- शांतिपूर्ण भीड़ पर गोली चलाने के उनके आदेश के कारण उन्हें "अमृतसर का कसाई" कहा गया।

100. A

Sol. ● रानी रामपाल एक भारतीय फील्ड हॉकी खिलाड़ी हैं।

- 15 वर्ष की आयु में, वह 2010 विश्व कप में भाग लेने वाली राष्ट्रीय टीम की सबसे कम आयु की खिलाड़ी थीं।
- वह वर्तमान में भारतीय महिला हॉकी टीम की कप्तान हैं।
- 2020 में, उन्हें भारत के चौथे सर्वोच्च नागरिक पुरस्कार पद्म शरी से सम्मानित किया गया।
- 2020 में, उन्हें भारत के सर्वोच्च खेल सम्मान मेजर ध्यानचंद खेल रत्न से भी सम्मानित किया गया।