

MPPSC OPEN MOCK TEST (SOLUTION)

Q 1. Answer: (a) 3

Solution:

We know that, the relation between mean, median and mode

$$\text{Mode} = 3 \times \text{Median} - 2 \times \text{Mean}$$

$$Z = 3M - 2\bar{x}$$

$$Z - M = 2M - 2\bar{x}$$

$$Z - M = 2(M - \bar{x})$$

$$M - \bar{x} = Z - M / 2$$

According to the question

$$\text{Given } Z - M = 6$$

$$\text{Therefore, } M - \bar{x} = Z - M / 2$$

$$= 6/2$$

$$= 3 \text{ Answer}$$

Q 2. Answer: (c) Request them to refrain from talking and ask whether they have any difficulty in standing.

Q 3. Answer: (b) Associate

Q 4. Answer: (a) Asking

Q 5. Answer: (a) Unhappy, because the work did not go as expected

Q 6. Answer: (a) smash

Q 7. Answer: (d) 240

Solution:

According to the question,

The smallest natural number which is divisible by 40, 16, 8 and 24 = LCM of (40, 16, 8 and 24)

$$40 = 2^3 \times 5$$

$$16 = 2^4$$

$$8 = 2^3$$

$$24 = 2^3 \times 3$$

$$\text{LCM of (40, 16, 8 and 24)} = 2^4 \times 3 \times 5 = 240$$

Q 8. Answer: (a) 56

Solution:

Logic: Number of letters in the word \times (Number of letters in the word + 1) = The given number

$$\text{CAMERA} \Rightarrow 6 \times (6 + 1) = 6 \times 7 = 42$$

$$\text{HINDI} \Rightarrow 5 \times (5 + 1) = 5 \times 6 = 30$$

Similarly,

$$\text{STUDIES} \Rightarrow 7 \times (7 + 1) = 7 \times 8 = 56$$

Q 9. Answer: (b) 17

Solution:

According to the question,

Arranging in ascending order = 5, 8, 9, 13, 17, 19, 26, 26, 29

Total number of terms (n) = 9 (odd number)

$$\text{Median} = \left(\frac{n+1}{2} \right) \text{th term}$$

$$\text{Median} = \left(\frac{9+1}{2} \right) = 5\text{th term} = 17$$

Q 10. Answer: (a) ₹50,400

Solution:

According to the question,

Monthly expenditure on house rent = 15% = ₹18,000

$$\Rightarrow 1\% = ₹1200$$

Sum of expenditures on food and education =

$$30\% + 12\% = 42\%$$

$$\Rightarrow 42\% = 42 \times ₹1200 = ₹50,400$$

Q 11. Answer: (c) 315

Solution:

According to the question,

Let 4 consecutive odd numbers = n, (n+2), (n+4), (n+6)

Sum of 4 consecutive odd numbers = $18 \times 4 = 72$

$$\Rightarrow n + (n+2) + (n+4) + (n+6) = 72$$

$$\Rightarrow 4n = 60$$

$$\Rightarrow n = 15$$

Smallest number (n) = 15

Largest number (n+6) = (15+6) = 21

Product of numbers = $15 \times 21 = 315$

Q 12. Answer: (b) 137

Solution:

38	65	98	137	182
+27	+33	+39	+45	
	+6	+6	+6	

137 is the number that can replace the question mark (?) in the given series.

Q 13. Answer: (c) EIXAMI

Solution:

CARD \Rightarrow	BOTTLE \Rightarrow	Similarly,
C + 1 = D	B + 1 = C	DIWALI \Rightarrow
A = A	O = O	D + 1 = E
R + 1 = S	T + 1 = U	I = I
D + 1 = E	T + 1 = U	W + 1 = X
	L + 1 = M	A = A
	E = E	L + 1 = M
		I = I

Q 14. Answer: (a) Develop an action plan

Explanation:

- Problem-solving is a learner-centered approach that emphasizes the active participation of the learner in the learning process for meaningful learning.

- **The key components of problem solving include:**
 - ✓ **Understanding the problem:** Understanding what the problem actually is.
 - ✓ **Generating Potential Solutions:** Brainstorming on different ways to solve it.
 - ✓ **Developing an Action Plan**
 - ✓ **Evaluation of Options:** Evaluating the pros and cons of each potential solution.
 - ✓ **Implementation of the Solution:** Implementing your chosen method.
 - ✓ **Reviewing the results:** Assessing the effectiveness of the solution and learning from the experience.

Q 15. Answer: (c) Decision Making

Explanation:

- **Problem-solving is a learner- centered approach that emphasizes the active participation of the learner in the learning process for meaningful learning. The processes involved in problem-solving include:**
 - ✓ **Guessing**
 - ✓ **Identifying**
 - ✓ **Comparing**
 - ✓ **Classification of objects and data**
 - ✓ **Using trial and error**
 - ✓ **Decision making-** Selection of a solution (identification and selection of a process involving the planning of two or more courses of action related to the resolution of a problem)
 - ✓ **Implementation of the solution**
 - ✓ **Evaluation of the result.**

Q 16. Answer: (b) Who is not involved?

Explanation:

- **Problem-solving** is the process of finding a permanent solution to a specific problem. This process begins with properly defining the problem and identifying all possible root causes that may generate the problem.
 - ✓ Eliminating the root cause that is ineffective for a particular problem. Simulating different scenarios that may lead to the problem and ultimately deriving a permanent solution to eliminate the root cause are the stages involved in problem-solving.
- In the context of problem-solving, getting stuck on a single way of representing a problem is called a response set.
- A response set arises when the problem-solver relies excessively on rules of thumb or common sense rather than attempting to find the most effective solution.
- A response set is a human tendency to respond to questions in ways that are more socially desirable or flattering, rather than providing the complete truth.
- Effective problem-solvers lack a response set, as they think divergently and attempt to analyze every possible outcome before responding to or solving a problem.
- Therefore, in the context of problem-solving, becoming fixed on one mode of representing a problem is termed a response set.

- In verbalization, learners articulate their thoughts verbally while solving a problem. They are first instructed on how to use a strategy and are then asked to verbalize their thinking during problem-solving.
- In means–ends analysis, a problem is solved by breaking it down into multiple sub-goals. This is an example of an effective problem-solving strategy.
- **Analogical thinking** can be defined as a specific way of thinking that if two or more things are similar in some respects, they are probably similar in some other respects as well.
- **Stages of problem-solving:**
 - ✓ Identifying the problem
 - ✓ Collection of data (**What is happening? What is at stake? Who is involved?**)
 - ✓ Formulating a hypothesis
 - ✓ Testing the hypothesis
 - ✓ Generalization

Q 17. Answer: (b) Brainstorming

Explanation:

- **Brainstorming is a group creativity technique often used to generate solutions to a specific problem.**
- Emphasis is typically placed on the quantity and diversity of ideas, including those that may appear “unusual.” During the activity, ideas are recorded, but they are not immediately evaluated or criticized.
- The absence of criticism and evaluation is intended to prevent inhibition in participants’ idea generation.

Q 18. Answer: (d) Repetition

Explanation:

- **Repetition refers to the repeated execution of a process. It is a procedure in which multiple operations or steps are performed repeatedly. It is analogous to performing an activity multiple times in order to improve it.**
- This process may be undertaken to achieve a specific goal or outcome. Repetition is utilized across various domains, such as iteration in computing, iteration in project management, and repetition in education.

Q 19. Answer: (a) Individual decision

Explanation:

- **If a decision is taken collectively with reference to organizational objectives, it is regarded as an organizational decision. If a manager takes a decision in an individual capacity (affecting his personal life), it is termed an individual decision.**
- **Meaning of decision-making:** Decision-making, in its literal sense, refers to selecting from two or more possible alternatives or arriving at a conclusion. Decisions are generally expressed in the form of policies, rules, orders, or directives.
- Civil servants are required to select the most appropriate alternative from among possible options so that

objectives may be achieved in a planned manner with minimum time and cost.

- **According to Manley Jones**, “A decision is a solution selected after examining several alternatives.” It is the step that determines that the chosen alternative is more effective than others in achieving objectives, while reaching outcomes with minimal objections.
- **Ernest Dale stated regarding administrative decisions**: “Administrative decisions refer to those decisions that are taken during essential administrative functions such as planning, organizing, staffing, directing, controlling, innovation, and representation.”
- **Based on the decision-making process, decisions can be of the following types**:
 - ✓ Individual decisions
 - ✓ Organizational decisions
 - ✓ Policy Decisions
 - ✓ Administrative and political decisions

Q 20. Answer: (d) Totality (comprehensiveness)

Explanation:

- **Peter Drucker identified five stages in the decision-making process**:
 - ✓ Defining the problem
 - ✓ Analyzing the Problem
 - ✓ Developing alternative means
 - ✓ Selecting the best solution
 - ✓ Translating the decision into effective action
- **The qualities of an effective decision-maker include totality (comprehensiveness).**

Q 21. Answer: (a) Known

Explanation:

- **The outcomes of mechanical decisions are known.**
- **An important advantage of mechanical decision-making is that decision-makers can maintain complete transparency regarding how a decision is reached. Clearly defined and transparent rules for selecting candidates, along with feedback on the quality of selected candidates, enable evaluation and improvement of the process.**
- **Characteristics of decision-making**:
 - ✓ It is the process of selecting one option from among various alternatives.
 - ✓ There is complete freedom in choosing the best alternative from the available options; no external element interferes in this selection.
- It is essentially a human process (not mechanical).
- It is an intellectual activity.
- It encompasses all actions that must be undertaken prior to the final selection of an alternative.
 - ✓ It is the focal point where appropriate choices regarding plans, policies, and objectives are made.
 - ✓ It is a universal function of administration.
 - ✓ It operates as a process for resolving conflicts.
 - ✓ A decision may also be negative, or even not

making a decision may itself constitute a decision.

- ✓ Objectives are included in decisions because decisions are taken only to achieve the objectives.

Q 22. Answer: (b) Only 2

Explanation:

- **Communication** is the process of transmitting meaningful messages from one person to another. This process is dynamic, complex, and scientific in nature. In this process, the sender of the message is referred to as the source or sender, while the person receiving the information is called the receiver.
- **According to Theo Haimann**, “Communication is the process through which information and messages reach from one person to another. Communication fulfils the human curiosity to know and to convey.”
- **Main elements of communication**:
 - ✓ **Source/Sender**: The sender of the message
 - ✓ **Encoding**: Converting the message into symbolic form
 - ✓ **Message**: Thoughts, information, experiences, and oral or written messages.
 - ✓ **Medium**: The channel through which the message is transmitted from sender to receiver
 - ✓ **Decoding**: Interpreting the message into meaningful information
 - ✓ **Receiver**: The recipient of the message
 - ✓ **Feedback**: Feedback constitutes the final stage of the communication process. When the message recipient provides a reaction or response to the message, it is termed feedback. Feedback helps in improving communication.
 - ✓ **Noise**: Any disturbance that interferes with the transmission or reception of the message is called 'noise'.
- **Formal Communication-**
 - ✓ **Formal communication** is defined as communication conducted through formal or official channels and routes.
 - ✓ Formal communication involves strict standards and rules.
 - ✓ Official communication is another term for formal communication.
 - ✓ Information in formal communication is more reliable.
 - ✓ Generally, in written form.
 - ✓ In this, the route (process) of the message is usually fixed.
 - ✓ The speed of this communication is slow.
 - ✓ This communication is complete. It is not misinterpreted.
 - ✓ The information of the source of the communication is known.
 - ✓ Information authenticity is maintained.
 - ✓ It does not have flexibility.
 - ✓ It is stable.

● **Informal Communication-**

- ✓ **Informal communication** is described as communication that takes place between two or more individuals in an informal manner.
- ✓ There are no rigid rules in **informal communication**.
- ✓ “**Grapevine communication**” is another term for informal communication.
- ✓ The level of reliability of information is low.
- ✓ **It is generally oral form.**
- ✓ The route (process) of the message is uncertain.
- ✓ The speed of this communication is fast.
- ✓ This form of communication is incomplete. This can be misinterpreted.
- ✓ The source of the communication is usually not identifiable.
- ✓ The authenticity of information is not assured.
- ✓ It has flexibility.
- ✓ It is unstable.

- ✓ It is understood as the process of communication through the transmission and reception of messages without the use of words.
- ✓ It involves the use of visual cues such as **body language (kinesics), distance (proxemics), physical environment/appearance, voice (paralanguage), and touch (haptics).**
- ✓ Scholars argue that non-verbal communication can convey more meaning than verbal communication.
- ✓ This is informal because it does not follow the lines of authority, unlike formal communication.

● **Verbal Communication:**

- ✓ Verbal communication involves the use of language to transmit information through speaking or writing. For example, written instructions on a question paper, participation in an online class, and a yoga instructor teaching posture.
- ✓ The term “verbal” refers to the use of words in the communication process and in the design and construction of messages.
- ✓ Verbal communication employs the use of words.
- ✓ It is formal and precise, as it is frequently utilized in corporate settings, educational institutions, governmental organizations, etc.

Q 23. Answer: (a) 36

Solution:

It is given, two men or three women can complete the work in the same number of days.

So, $2 \times \text{Male} = 3 \times \text{Female}$.

Male: Female = 3:2

Time = 42 days

Total work = Time \times Efficiency \times Time

Total work = $2 \times 3 \times 42 = 252$ units

Efficiency of one man and two women = $(1 \times 3 + 2 \times 2) = 7$ units

Time = $252/7 = 36$ days

Q 24. Answer: (d) 45

Solution:

It is given,

Ratio of the three numbers = 5 : 2 : 7

Numbers = 5x, 2x and 7x

LCM of (5x, 2x, 7x) = $5 \times 2 \times 7 \times x = 70x$

$\Rightarrow 70x = 630 \Rightarrow x = 9$

Largest number (7x) = $7 \times 9 = 63$

Smallest number (2x) = $2 \times 9 = 18$

Required difference = $63 - 18 = 45$

Q 25. Answer: (d) 6%

Solution:

According to the question,

Simple interest for 4 years = ₹ 9,300 - ₹ 7,500 = ₹ 1,800

Simple interest = $P \times R \times T/100$

$\Rightarrow 1,800 = 7500 \times R \times 4/100$

$\Rightarrow R = 6\%$

Therefore, the simple interest rate is 6%.

Q 26. Answer: (b) Only 2

Explanation:

● **Non-verbal communication-**

Q 27. Answer: (a) 153

Solution:

Given equation : $64 - 576 \times 16 \div 4 + 55$

According to the question, after interchanging the signs:

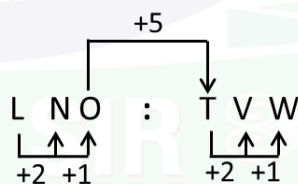
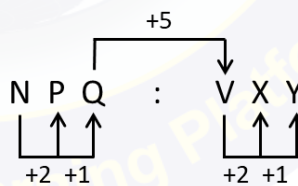
$64 + 576 \div 16 \times 4 - 55$

$= 64 + 36 \times 4 - 55$

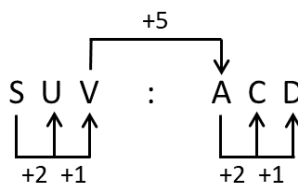
$= 64 + 144 - 55 = 153$

Q 28. Answer: (b) SUV: ACD

Solution:

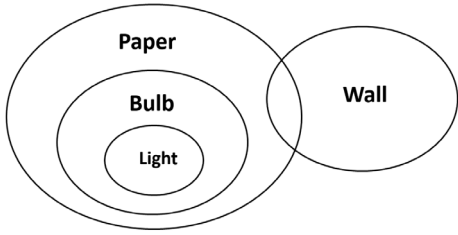


Similarly,



Q 29. Answer: (d) None of the conclusions follow.

Solution:



As we can see, none of the conclusions follow.

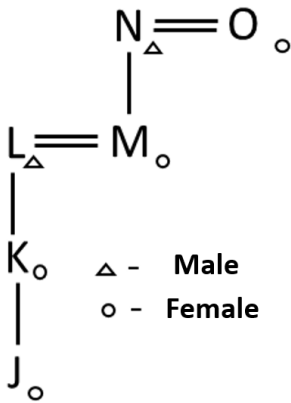
Q 30. Answer: (b) Yen

Solution:

Countries and their currencies are given. The Rupee is the currency of India, the Taka is the currency of Bangladesh; similarly, the Yen is the currency of Japan.

Q 31. Answer: (b) Daughter's daughter

Solution:

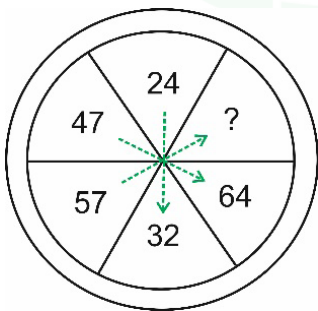


As we can see, K is the daughter of N's daughter.

Q 32. Answer: (d) 65

Solution:

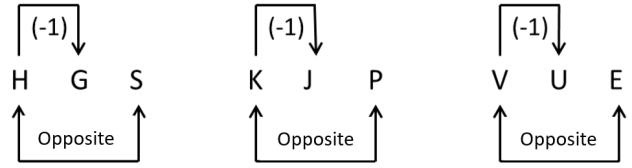
The number obtained by interchanging the digits of the smaller number of the opposite numbers is - 10



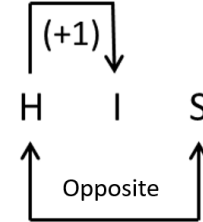
47 → 74 ⇒ 74 - 10 = 64
 24 → 42 ⇒ 42 - 10 = 32
 Similarly,
 57 → 75 ⇒ 75 - 10 = 65

Q 33. Answer: (d) HIS

Solution:

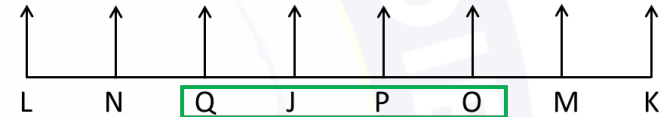


But,



Q 34. Answer: (a) More than 3

Solution:



As we can see, there are more than three members between N and M.

Q 35. Answer: (d) 30

Solution:

The total number of people who like more than one beverage is:

$$7 + 8 + 4 + 11 = 30$$

Q 36. Answer: (a) 8 years

Solution:

According to the question, Let the ratio of their ages x years ago be 3 : 4

$$\Rightarrow 44 - x / 56 - x = 3 / 4$$

$$\Rightarrow 176 - 4x = 168 - 3x$$

$$\Rightarrow x = 8 \text{ years}$$

Q 37. Answer: (a) 9/5

Solution:

$$9 \div [1 + \{4 \times (5/6 - 1/3 + 1/2)\}]$$

$$\Rightarrow 9 \div [1 + \{4 \times (5 - 2 + 3 / 6)\}]$$

$$\Rightarrow 9 \div [1 + \{4 \times (6/6)\}]$$

$$\Rightarrow 9 \div (1+4)$$

$$\Rightarrow 9 \div 5 = 9/5$$

Q 38. Answer: (a) Evacuate Area 'J' first due to high risk.

Solution:

- In such an emergency, the level of risk should be prioritized over the population size as zone 'J' is at

higher risk, meaning the potential for loss of life or serious damage is higher and delaying evacuation in this area could result in deaths.

Q 39. Answer: (d) 80.4%

Solution:

Let the concentration of acid in the resulting solution be N%.

$$\Rightarrow 75\% \times 20 + 84\% \times 30 = N\% \times (20+30)$$

$$\Rightarrow 75 \times 20 + 84 \times 30 = N \times 50$$

$$\Rightarrow 50N = 1500 + 2520$$

$$\Rightarrow N = 80.4$$

Therefore, the concentration of acid in the new solution is 80.4%.

Q 40. Answer: (b) 6,104.7

Solution:

According to the question,

Discount = 15%, 10% and 5%

Selling Price of the Item =

$$\text{₹}8,400 \times 85/100 \times 90/100 \times 95/100$$

$$\Rightarrow \text{₹ } 6,104.7$$

Q 41. Answer: (c) Thursday

Solution:

Number of odd days from January 1, 2005, to January 1, 2020 = 15 + 3 (for leap years) = 18.

Number of odd days from January 2, 2020, to September 9, 2020 = 30 + 29 + 31 + 30 + 31 + 30 + 31 + 31 + 9 = 252

Therefore, total odd days = 18 + 252 = 270.

When 270 is divided by 7, remainder = 4

Hence, the required day = Sunday + 4 = Thursday.

Q 42. Answer: (c) + & ÷, 88 & 52

Solution:

Given equation: $32 + 64 \times 96 \div 88 - 52$

Checking the options one by one, option 'c' is satisfied.

Therefore,

$$= 32 \div 64 \times 96 + 52 - 88$$

$$= 12 \times 96 + 52 - 88$$

$$= 48 + 52 - 88$$

$$= 12$$

Q 43. Answer: (b) 5

Solution:

According to the question,

$$\Rightarrow 3x + 5 = 20$$

$$\Rightarrow 3x = 15$$

$$\Rightarrow x = 5$$

The value of x will be 5.

Q 44. Answer: (a) 32

Solution:

$$2, \xrightarrow{\times 2} 4, \xrightarrow{\times 2} 8, \xrightarrow{\times 2} 16, \xrightarrow{\times 2} \boxed{32}$$

Q 45. Answer: (d) 7.5 degrees

Solution:

Note: To determine the angle between the hands of a clock, it is necessary to first evaluate the positions of the minute and hour hands.

Position of the minute hand:

- The minute hand advances by 6 degrees every minute, because a clock comprises 360 degrees and 60 minutes ($360^\circ \div 60 = 6^\circ$ per minute).
- When the time is 3:15, the minute hand is at 15 minutes, i.e., $15 \times 6 = 90$ degrees.
- Therefore, the minute hand will be at 90 degrees from 12 o'clock.

Position of the hour hand:

- The hour hand advances 30 degrees every hour, because a clock has 12 hours and 360 degrees ($360^\circ \div 12 = 30^\circ$ per hour).
- At 3:00, the hour hand will be at $3 \times 30 = 90$ degrees.
- However, since the time is 3:15, the hour hand will have moved forward by 15 minutes ($1/4$ hour). In $1/4$ hour, the hour hand will advance by $30^\circ \div 4 = 7.5^\circ$.
- Therefore, the hour hand will be 7.5° ahead of 3:00, i.e., $90^\circ + 7.5^\circ = 97.5^\circ$.

Angle between the two hands:

- The minute hand is at 90° , and the hour hand is at 97.5° .
- The angle between the two hands will be $97.5^\circ - 90^\circ = 7.5^\circ$.
- Hence, the correct answer is (D) 7.5 degrees.

Or

$$\text{Angle } \emptyset = (11/2)M - (30)H$$

H = hour M = minute, \emptyset = The angle between the hour hand and the minute hand.

$$\text{Angle } \emptyset = (11/2)15 - (30)3$$

$$= 165/2 - 90$$

$$= (165 - 180)/2 = 15/2 = 7.5$$

Q 46. Answer: (a) 2

Solution:

According to the question,

The number 571p348 is divisible by 12 (3×4).

571p348 is divisible by 4 because the last two digits (48) are divisible by 4.

Divisibility law of 3 = The sum of the digits is divisible by 3.

$$\text{Sum of digits} = 5 + 7 + 1 + p + 3 + 4 + 8 = (28 + p)$$

The nearest multiple of 3 that is greater than 28.

$$\Rightarrow 28 + p = 30$$

$$\Rightarrow p = 2$$

Minimum value of p = 2

Q 47. Answer: (c) P is taller than R.

Solution:

$$P > Q > R$$

Hence, it is clear that P is taller than R.

Q 48. Answer: (b) 3 hours

Solution:

According to the question,
Speed of the train = 80 km/hr
Distance = 240 km
Time = Distance/Speed
 $\Rightarrow 240/80 = 3$ hours

Q 49. Answer: (b) 15 sq cm

Solution:

Given,
Width (b) = 3 cm
Perimeter of the rectangle = 16 cm
 $\Rightarrow 2(l + b) = 16$ cm
 $\Rightarrow 2(l + 3) = 16$
 $\Rightarrow l + 3 = 8$
Length (l) = 5 cm
Area of a rectangle = $l \times b$
 $\Rightarrow 5 \times 3 = 15$ sq cm

Q 50. Answer: (b) 216 cubic cm

Solution:

Side = 6 cm
We know that,
Volume of the cube = (side)³
 $\Rightarrow (6)^3 = 216$ cubic cm

Q 51. Answer: (a) 25

Solution:

1, 4, 9, 16, **25**
↓ ↓ ↓ ↓ ↓
1² 2² 3² 4² 5²

Q 52. Answer: (b) 11/15

Solution:

According to the question,
Total number of balls = $5 + 4 + 6 = 15$
Probability of getting a red or a green ball =
 $\frac{5_{c_1} + 6_{c_1}}{15_{c_1}} = \frac{5+6}{15} = \frac{11}{15}$

Q 53. Answer: (b) 6 hours

Solution:

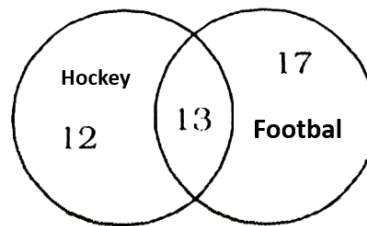
According to the question,
Time = Distance/Speed
Time = 540/90 = 6 hours

Q 54. Answer: (c) 13

Solution:

There are 25 students who play hockey.
30 students play soccer.

8 Students do not play any sports.
Students who play hockey, football and both sports.
 $= 50 - 8 = 42$
Number of students who played both Hockey and Football = $(25 + 30) - 42 = 55 - 42 = 13$



Q 55. Answer: (c) 1/2

Solution:

According to the question,
Total outcomes (1, 2, 3, 4, 5, 6) = 6
Favourable outcomes (2, 4, 6) = 3

Probability of getting an even number = $\frac{3}{6} = \frac{1}{2}$

Q 56. Answer: (d) 20

Solution:

According to the question,
Sum of 5 numbers = $16 \times 5 = 80$
Sum of 4 numbers = $15 \times 4 = 60$
Removed number = $80 - 60 = 20$

Q 57. Answer: (b) 25%

Solution:

According to the question,
Cost price = Rs. 1200
Profit = $1500 - 1200 =$ Rs. 300
Profit percentage = $300/1200 \times 100\% = 25\%$

Q 58. Answer: (b) 17.5 km/hr

Solution:

Given,
Downstream speed of the boat (D) = 20 km/hr
Upstream speed (U) of the boat = 15 km/hr
Speed of boat in still water = $(D+U)/2 = 35/2 = 17.5$ km/hr

Q 59. Answer: (a) 81 sq cm

Solution:

Given,
Perimeter of the square (4a) = **36 cm**
Side of the square (a) = **9 cm**
Area of the square = $(a)^2 = (9)^2 = 81$ sq. cm

Q 60. Answer: (a) Rs 720

Solution:

Given,
Ratio of total amount distributed among 4 persons =
3 : 4 : 5 : 6

Total amount = Rs. 2160
 $\Rightarrow 3x + 4x + 5x + 6x = \text{Rs. } 2160$
 $\Rightarrow x = \text{Rs. } 120$
 Share of the person with the largest ratio = $6x$
 $\Rightarrow 6x = 6 \times 120 = \text{Rs. } 720$

Q 61. Answer: (c) 26

Solution:

Let three consecutive odd numbers = $n, (n+2), (n+4)$
 Sum of three consecutive odd numbers = 72
 $\Rightarrow n + (n+2) + (n+4) = 72$
 $\Rightarrow 3n = 66$
 $\Rightarrow n = 22$
 Largest number = $(n+4) = (22+4) = 26$

Q 62. Answer: (b) 24/7 hours

Solution:

According to the question,
 Ratio of time taken by the first and second man = $6 : 8 = 3 : 4$
 Ratio of efficiency of first and second man = $4 : 3$
 Total work = $6 \times 4 = 24$

$$\text{Time required} = \frac{24}{4+3} = \frac{24}{7} \text{ hours}$$

Q 63. Answer: (a) Rs 1800

Solution:

Given,
 Price of the watch = Rs. 2000
 Discount = 10%

$$\text{Purchase price of the watch} = \text{Rs. } 2000 \times \frac{100-10}{100} = 1800$$

Q 64. Answer: (b) Rs 1000

Solution:

Given,
 Original price of the article = Rs. 800
 Price increase = 25%

$$\text{New price of the article} = 800 \times \frac{100+25}{100} = 1000 \text{ Rs.}$$

Q 65. Answer: (a) 300 cm²

Solution:

We know,
 Area of a rectangle = length \times width
 $\Rightarrow 20 \times 15 = 300 \text{ cm}^2$

Q 66. Answer: (a) Rs 60

Solution:

According to the question,
 Price of 5 kg of oranges = Rs. 100
 Price of 1 kg of oranges = $100/5 = \text{Rs. } 20$
 Price of 3 kg of oranges = $3 \times 20 = \text{Rs. } 60$

Q 67. Answer: (c) 100%

Solution:

According to the question,
 $A \times 20\% = B \times 10\%$
 $\Rightarrow A : B = 10 : 20 = 1 : 2$

$$\text{Required Percentage} = \frac{2-1}{1} \times 100\% = 100\%$$

Q 68. Answer: (a) 80

Solution:

Given,
 Ratio of number of rabbits and pigeons = $4 : 9$
 Ratio of the number of legs of each rabbit and pigeon = $4 : 2 = 2 : 1$
 Ratio of total number of legs of rabbits and pigeons = $(4 \times 2) : (9 \times 1) = 8 : 9$
 Total number of feet (17 units) = 680
 1 unit = 40
 Total number of rabbits feet (8 units) = $8 \times 40 = 320$
 Number of rabbits = $320/4 = 80$

Q 69. Answer: (d) 18

Solution:

Let original number = N
 According to the question,
 $\Rightarrow (N - 9.6) \times 15 = 7 \times N$
 $\Rightarrow 15N - 144 = 7N$
 $\Rightarrow 8N = 144$
 $\Rightarrow N = 18$
 Hence, the original number is 18.

Q 70. Answer: (a) 7.5

Solution:

According to the question,
 If Ram doubles his speed, time saved by him =
 3 hours + 90 minutes = 4.5 hours
 Ratio of speed of Ram = $1 : 2$
 The distance is constant, so the ratio of time will be the inverse of the ratio of speed.
 Ratio of time taken by Ram = $2 : 1$
 Time difference = $(2 - 1)$ units = 1 unit
 1 unit = 4.5 hours
 Actual time taken by Ram (2 units) = 2×4.5 hours = 9 hours
 Time taken by Ravi = $9 - 3 = 6$ hours
 Distance = 45 km
 Speed of Ravi = $45/6 = 7.5 \text{ km/hr}$

Q 71. Answer: (d) 4 only

Explanation:

- The kind of language we hear is the same kind of language we pronounce by imitation. The spoken and read language forms the basis of the accuracy of our spelling. All the four skills of language are interrelated with each other, they should be studied in an integrated manner.

- **Four Types of Language Skills:**
 - ✓ **Listening Skills:** The skill of grasping meaning by listening is called listening skills.
 - ✓ **Speaking Skills:** The expression of emotions and thoughts is called Speaking skills.
 - ✓ **Reading Skills:** The skill of grasping meaning by reading is called reading skills.
 - ✓ **Writing Skills:** Writing skills refer to the ability to express thoughts in written form.
- Human beings exchange their thoughts by listening, speaking, reading and writing, the ability to use these four processes related to language is called language skills.
- Here, listening and reading are related to receiving ideas, and speaking and writing are related to expressing ideas. These four skills are interrelated with each other and extend linguistic development in human beings.
- It is imperative to study all the four skills in an integrated manner for the development of these skills. Hence, it is concluded that linguistic skills are learned simultaneously, not in sequence.
- **Persuasion is a skill that involves persuading your listener to agree with your point of view or idea. Also, when you persuade someone, you encourage them to take action.**

Q 72. Answer: (d) All of the above

Explanation:

- **The functions of communication can be divided into two categories based on their nature.**
 - ✓ **Primary function** – which includes to inform, educate, direct.
 - ✓ **Secondary work** – which includes discussions, seminars, seminars, discussions, talks, etc.
 - ✓ **The functions of communication include controlling the behaviour of the employee, motivating the employees, fulfilling social needs, etc.**

Q 73. Answer: (c) 2, 1, 3, 4, 5, 6, 7

Explanation:

- **According to Theo Haimann,** "Communication is the process by which information and messages are transmitted from one person to another. Communication satisfies a person's curiosity to know and tell."
- **Key Elements of Communication-**
 - ✓ **Source/Sender:** who sends the message
 - ✓ **Encoding:** Converting sending messages into used signals.
 - ✓ **Message:** Thoughts, information, experiences, and oral or written messages.
 - ✓ **Medium:** The means by which a message reaches the sender to the receiver.
 - ✓ **Decoding:** Converting a message into meaningful messages.
 - ✓ **Receiver:** who receive the message.

- ✓ **Feedback:** Feedback is the final step in the communication process. When the message is an action or response from the recipient to the message, it is called feedback. Feedback is helpful in improving communication.
- ✓ **Noise:** The barrier in communication that interferes with the receiver receiving the message is called 'noise'.

Q 74. Answer: (d) KING

Solution:

- Option (D) KING cannot be formed from the given original word 'TRAINING' as the letter K is not used in the original word .

Q 75. Answer: (d) 'NAC' means 'green'

Solution:

Bir le **nac** → **green** and tasty
Pic **nac** hor → tomato is **green**

Q 76. Answer: (b) 43

Solution:

2, ⁺⁷ → 9, ⁺⁹ → 18, ⁺¹¹ → 29, ⁺¹³ → ~~43~~, ⁺¹⁵ → 57, ⁺¹⁷ → 74
42

Q 77. Answer: (d) आशीर्वाद

व्याख्या:

- **शुद्ध वर्तनी** - जिस शब्द में जितने वर्ण या अक्षर जिस अनुक्रम में प्रयुक्त होते हैं, उन्हें उसी क्रम में लिखना ही वर्तनी है। उदाहरण - अहार - आहार, अत्याधिक - अत्यधिक, अलोचना - आलोचना, आशीर्वाद आदि।

Q 78. Answer: (d) उल्लास

व्याख्या:

- **इच्छा के पर्याय:** - अभिलाषा, अभिप्राय, चाह, कामना, ईप्सा, स्पृहा, ईहा, वांछा, लिप्सा, लालसा, मनोरथ आदि।
- **अमिय का पर्याय :** पियूष, सोम, अमी, जीवनोदक, अमृत, सुधा आदि।
- **हर्ष का पर्याय :-** प्रसन्नता, आह्लाद, प्रमोद, उल्लास, आनंद, सुख, आमोद, मोद आदि।
- **रश्मि का पर्याय :-** अंशु, मयूख, आभा, छवि, द्युति, दीप्ति, प्रभा, भा, रुचि, रोचि, रश्मि, मरीचि, किरण आदि।

Q 79. Answer: (a) नष्ट कर देना

व्याख्या:

- **मुहावरा** शब्द अरबी भाषा का शब्द है। हिन्दी में ऐसे वाक्यांशों को मुहावरा कहा जाता है, जो अपने साधारण अर्थ को छोड़कर विशेष अर्थ को व्यक्त करते हैं। अंक भरना- स्नेह से लिपटा लेना। वाक्य- माँ ने स्नेह से अपने पुत्र को अंक में भर लिया।

- ईट से ईट बजाना
 - ✓ अर्थ - पूरी तरह से नष्ट करना
 - ✓ वाक्य प्रयोग - जगमोहन चाहता था कि वह अपने शत्रु के घर की ईट से ईट बजा दे।

Q 80. Answer: (a) उर्वी

व्याख्या:

- 'पुत्री' शब्द का पर्यायवाची शब्द: लड़की, बालिका, किशोरी, बाला, कन्या, बेटी, सुता, आत्मजा, अंगजा, तनया, तनुजा, नंदना, नन्दिनी, कुमारी।
- अचला का पर्यायवाची: धरती, पृथ्वी, मेदिनी, भूमि, वसुधा, भू, भूमि, धरा, धरती, धरिणी, धरणी, पृथ्वी, वसुंधरा, वसुमति, इला, उर्वी आदि।
- लाली का पर्यायवाची: अरुणता, ललाई, लालिमा, राग, लालपन।
- अबला का पर्यायवाची: स्त्री, औरत, नारी, महिला, ललना, रमणी, स्त्री, तिय, भामा, काम्या, भामिनी, अंगना, कलत्र, तरुणी, लिया, भालिनी, श्यामा, तन्वंगी, कान्ता।
- यमुना के पर्यायवाची
 - ✓ जमुना, सूर्यसुता, कृष्णा, अर्कजा, रवितनया, कालिंदी, अकसुता।

Q 81. Answer: (b) अव्ययीभाव समास

व्याख्या:

- समास का अर्थ है 'संक्षिप्तीकरण'। दो या दो से अधिक शब्दों से मिलकर बने एक सार्थक शब्द को समास कहते हैं। इस विधि से बने शब्द को समस्त-पद कहते हैं। जब समस्त-पदों को अलग-अलग किया जाता है, तो इस प्रक्रिया को समास-विग्रह कहते हैं।
- समास के भेद: समास के 6 भेद होते हैं, जो इस प्रकार हैं-

अव्ययीभाव समास

- तत्पुरुष समास
- द्विगु समास
- द्वन्द्व समास
- कर्मधारय समास
- बहुव्रीहि समास

अव्ययीभाव समास

- इसमें दोनों शब्दों में से पहले होने वाला शब्द कोई अव्यय होता है और उसके बाद का शब्द वास्तविकता में प्रयोग होता है, उसे अव्ययीभाव समास कहते हैं।
- जैसे-
 - ✓ आजीवन - जीवन-भर
 - ✓ यथासामर्थ्य - सामर्थ्य के अनुसार
 - ✓ यथाशक्ति - शक्ति के अनुसार
 - ✓ यथाविधि - विधि के अनुसार
 - ✓ यथाक्रम - क्रम के अनुसार
 - ✓ भरपेट - पेट भरकर
 - ✓ हररोज़ - रोज़-रोज़
 - ✓ हाथोहाथ - हाथ ही हाथ में
 - ✓ रातोंरात - रात ही रात में

तत्पुरुष समास

- तत्पुरुष समास में उत्तरपद प्रधान होता है, पूर्वपद अप्रधान होता है। इसी के साथ दोनों पदों के मध्य में कारक का लोप रहता है, तो इस प्रकार के समास को तत्पुरुष समास तत्पुरुष समास कहते हैं। तत्पुरुष समास में विशेषणीय पद और मुख्य पद का संबंध एक निश्चित भावना को प्रकट करता है।

जैसे-

- ✓ तुलसीदासकृत- तुलसीदास द्वारा कृत (रचित)
- ✓ तत्पुरुष समास के 6 भेद होते हैं, जो इस प्रकार हैं-
 - कर्म तत्पुरुष
 - करण तत्पुरुष
 - संप्रदान तत्पुरुष
 - अपादान तत्पुरुष
 - संबंध तत्पुरुष
 - अधिकरण तत्पुरुष

कर्म तत्पुरुष समास-

- कर्म तत्पुरुष समास 'को' चिन्ह के लोप से बनता है। जैसे-
 - ✓ बसचालक - बस को चलाने वाला
 - ✓ गगनचुंबी - गगन को चूमने वाला
- करण तत्पुरुष समास- करण तत्पुरुष समास 'से' और 'के द्वारा' के लोप से बनता है। जैसे-
 - ✓ मदांध - मद से अंध
 - ✓ रेखांकित - रेखा द्वारा अंकित

सम्प्रदान तत्पुरुष समास-

- सम्प्रदान तत्पुरुष समास 'के लिए' के लोप से बनता है। जैसे-
 - ✓ हथकड़ी - हाथ के लिए कड़ी

अपादान तत्पुरुष समास-

- अपादान तत्पुरुष समास 'से' के लोप से बनता है। जैसे-
 - ✓ पथभ्रष्ट - पथ से भ्रष्ट
 - ✓ ऋणमुक्त - ऋण से मुक्त

सम्बन्ध तत्पुरुष समास-

- सम्बन्ध तत्पुरुष समास 'का', 'के' व 'की' के लोप से बनता है। जैसे-

- ✓ घुड़दौड़ - घोड़ों की दौड़
- ✓ पूँजीपति - पूँजी का पति

अधिकरण तत्पुरुष समास-

- अधिकरण तत्पुरुष समास 'में' और 'पर' के लोप से बनता है। जैसे-
 - ✓ शरणागत शरण में आगत
 - ✓ आत्मविश्वास आत्मा पर विश्वास

कर्मधारय समास

- इसमें दो शब्दों में से पहले शब्द का अर्थ एक विशेष गुण से लिया जाता है, इसे कर्मधारय समास कहा जाता है। जैसे -
 - ✓ चंद्रमुख- चंद्र जैसा मुख
 - ✓ कमलनयन- कमल के समान नयन
 - ✓ देहलता- देह रूपी लता

द्विगु समास

- इसमें पूर्वपद संख्या वचक है, उत्तरपद प्रधान हो, तो द्विगु समास कहते हैं। इसको विग्रह करने पर संख्या का बोध होता है। जैसे -
 - ✓ नवग्रह- नौ ग्रहों का समूह
 - ✓ दोपहर- दो पहरों का समाहार
 - ✓ त्रिलोक- तीन लोकों का समाहार
 - ✓ चौमासा- चार मासों का समूह

द्वन्द्व समास

- इसमें दो शब्दों का संयुक्त रूप बनता है, जिनमें से प्रत्येक स्वतंत्र होता है, वह द्वन्द्व समास कहलाता है। जैसे-
 - ✓ पाप-पुण्य- पाप और पुण्य
 - ✓ अन्न-जल- अन्न और जल
 - ✓ सीता-राम- सीता और राम

बहुव्रीहि समास

- इसमें दो शब्दों में से पहले शब्द प्रयोज्य संख्या के रूप में प्रयोग होता है और उसके बाद का शब्द उसी शब्द के लिए प्रयुक्त होता है, उसे बहुव्रीहि समास कहते हैं। जैसे -

- ✓ दशानन- दश है आनन जिसके- रावण
- ✓ नीलकंठ- नीला है कंठ जिसका- शिव
- ✓ पीतांबर- पीला है अम्बर जिसका- श्रीकृष्ण

Q 82. Answer: (c) विगत

व्याख्या:

- 'आगामी' शब्द का उचित विलोम शब्द 'विगत' होगा।
- 'आगामी' का अर्थ आगे आने वाला।
- 'विगत' का अर्थ बीता हुआ।
- विलोम/ विपरीतार्थक - विपरीत अर्थ बताने वाले (उल्टा) शब्दों को विलोम शब्द कहते हैं। विलोम शब्दों को विपरीतार्थक शब्द भी कहते हैं।
- ✓ नीचे-ऊपर, धरती- आकाश

Q 83. उत्तर: (b) जीवन की इच्छा रखना

Q 84. उत्तर: (c) बहुज्ञ

Q 85. Answer: (b) कृतज्ञ

Q 86. Answer: (d) लक्ष-उद्देश्य

Q 87. Answer: (d) क्योंकि बाघ, बच्चे को पकड़ने और मारने में जितनी ऊर्जा खर्च करेगा उसकी अपेक्षा उसे बहुत कम भोजन मिलेगा।

Q 88. Answer: (b) सामान्य भोजन उपलब्ध होने के बावजूद।

Q 89. Answer: (a) बाघों की गाँव अथवा घरों में भी प्रवेश करने की सम्भावना अधिक होती है।

Q 90. Answer: (d) बाघ सज्जन हैं।

Q 91. Answer: (d) कुत्ते, बकरियों, मुर्गों और बच्चों को खाते हैं।

Q 92. Answer: (a) चीटियाँ और तितलियाँ दोनों परागणकर्ता की भूमिका निभाती हैं।

Q 93. Answer: (b) पर्यावरण बदलाव की अच्छी संकेतक हैं।

Q 94. Answer: (d) वे मुख्य रूप से मिट्टी को उलट-पलट करने वाली और ऊर्जा चैनल को देने वाली होती हैं।

Q 95. Answer: (b) उष्णकटिबंधीय कीट हैं

Q 96. Answer: (c) उनको वर्गीकरण विज्ञान में अच्छी तरह से जाना जाता है।

Q 97. Answer: (a) Nukkad Nataks and dramas that are based on this problem should be shown and later explained with arguments about good health and improvement in the standard of living through family planning.

Q 98. Answer: (a) An inquiry committee will be set up to investigate the matter.

Q 99. Answer: (c) 64

Solution:

Let the number = x

From the question,

$$\sqrt{x} = 2 \times \sqrt[3]{x}$$

Now, let's write this in terms of powers:

$$x^{1/2} = 2x^{1/3}$$

Divide both sides by $x^{1/3}$:

$$x^{1/2-1/3} = 2$$

$$x^{1/6} = 2$$

Now, raise both sides to the power of 6:

$$x = 2^6 = 64$$

Q 100. Answer: (d) ग्राम + उन्नति

व्याख्या:

- **गुण संधि (Gun Sandhi):** हिंदी व्याकरण में स्वर संधि का एक प्रकार है, जहाँ अ/आ के बाद इ/ई, उ/ऊ या ऋ आने पर वे क्रमशः ए, ओ और अर में बदल जाते हैं।
 - ✓ नियम: अ/आ + इ/ई = ए, अ/आ + उ/ऊ = ओ, अ/आ + ऋ = अर्
 - ✓ गुण संधि के प्रमुख उदाहरण:
 - ए (अ/आ + इ/ई):
 - ♦ नर + इंद्र = नरेन्द्र
 - ♦ महा + ईश = महेश
 - ♦ ज्ञान + इन्द्रिय = ज्ञानेन्द्रिय
 - ओ (अ/आ + उ/ऊ):
 - ♦ सूर्य + उदय = सूर्योदय
 - ♦ महा + उत्सव = महोत्सव
 - ♦ पर + उपकार = परोपकार
 - ♦ ग्राम + उन्नति = ग्रामोन्नति
 - अर् (अ/आ + ऋ):
 - ♦ देव + ऋषि = देवर्षि
 - ♦ महा + ऋषि = महर्षि
 - ♦ सप्त + ऋषि = सप्तर्षि