

ENGLISH LANGUAGE AND COMPREHENSION

1. (1) 2. (3) 3. (4) 4. (1) 5. (4) 6. (4) 7. (1) 8. (1) 9. (2)
 10. (3) 11. (3) 12. (1) 13. (2) 14. (3) 15. (4) 16. (1) 17. (1) 18. (2)
 19. (1) 20. (2) 21. (4) 22. (2) 23. (3) 24. (1) 25. (3)

EXPLANATION:-

3. (4) Replace 'is' with 'are'.
 Plural subjects (Ajay And Vijay) takes a plural verb (are).
 8. (1) 'Among' is used for more than two persons.
 10. (3) Replace 'of learning' with 'to learning'.
 15. (4) 'Blister' is the correct word here, means-a small painful area of skin that looks like a bubble and contains clear liquid
 18. (2) 'Revenge' is incorrectly spelt here, means- something that you do to punish somebody who has hurt you.

WORD	MEANING IN ENGLISH	MEANING IN HINDI
Abandonment	The act of leaving someone or something	त्याग देने की प्रक्रिया
Bastion	A part of the wall of a castle which sticks out and from which attacks can be made in all directions	बुर्ज
Bulwark	A defensive wall	बांध
Coda	A separate passage at the end of something such as a book or a speech that finishes it off.	किसी पुस्तक के अंत में जोड़ा गया अनुच्छेद
Concoct	To make something unusual by mixing different things together	विभिन्न वस्तुओं को मिलाकर कुछ मिश्रित पदार्थ तैयार करना
Culmination	The point at which an event or series of events ends	अंतिम परिणति; पराकाष्ठा
Dereliction	The state of being abandoned or neglected	निरादर; परित्याग; उपेक्षा
Fabricate	To invent something false in order to deceive people	मनगढ़त बातें/घटना गढ़ना
Fortification	Walls, towers, etc. Built especially in the past to protect a place against attack	किलाबंदी
Genesis	The origin or birth of a thing	उत्पत्ति
Iconoclast	A person who attacks or criticizes cherished beliefs or institutions	रिवाज तोड़नेवाला
Impregnable	Unable to be captured or broken into	अभेद्य
Insolvent	Not having enough money to pay what you owe, bankrupt	दिवालिया
Levitate	To rise or float in or as if in the air especially in seeming defiance of gravitation	उत्तोलित
Mimic	To imitate or copy	नकल करना
Profanity	Behaviour that shows a lack of respect for god or holy things	अपमान (ईश्वर का)
Quietus	Final settlement (as of a debt)	अंतिम निपटान (कर्ज का)
Rampart	A high thick wall made of stone or earth, usually with a path on top, that has been built around a castle, town, etc. In order to protect it	किले की दीवार
Rusticate	Suspend (a student) as a punishment	दंडस्वरूप निष्कासित करना
Sanctity	Holiness of life and character	पवित्रता

GENERAL INTELLIGENCE & REASONING

1. (3) Caterpillar is baby of Butterfly. Similarly, Lamb is baby of sheep.

2. (2)

3. (4) P $\xrightarrow{+3}$ S $\xrightarrow{+3}$ V $\xrightarrow{+3}$ Y $\xrightarrow{+3}$ B

Q $\xrightarrow{-6}$ K $\xrightarrow{-6}$ E $\xrightarrow{-6}$ Y $\xrightarrow{-6}$ S

S $\xrightarrow{+9}$ B $\xrightarrow{+9}$ K $\xrightarrow{+9}$ T $\xrightarrow{+9}$ C

4. (2) S $\xrightarrow{-12}$ G $\xrightarrow{-12}$ U $\xrightarrow{-12}$ I $\xrightarrow{-12}$ W

5. (3) I.

$$4 \times 3 - 7 + 8 \div 2 = 23$$

Interchanging 7 and 4

$$7 \times 3 - 4 + 8 \div 2$$

$$= 7 \times 3 - 4 + 4$$

$$= 21 - 4 + 4$$

$$= 21$$

II. $7 \times 5 - 9 \div 3 + 4 = 24$

Interchanging 7 and 4

$$4 \times 5 - 9 \div 3 + 7$$

$$= 4 \times 5 - 3 + 7$$

$$= 20 - 3 + 7$$

$$= 24$$

Statement is correct.

6. (4) $64 + 13 \div 65 \times 15 - 48 \div 4$

$$= 64 + \frac{13}{65} \times 15 - 2$$

$$= 64 + 3 - 12$$

$$= 61$$

7. (2) $9 : 730 \Rightarrow (9)^3 = 729 + 1 = 730$
 $5 : 126 \Rightarrow (5)^3 = 125 + 1 = 126$
 Now,
 $7 : ? \Rightarrow (7)^3 = 343 + 1 = 344$

8. (1) $D^- \leftrightarrow E^+ - F^- - G^-$
 |
 H

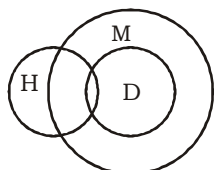
E is maternal uncle of H.

9. (2)
 10. (4) There are maximum 17 triangles.

11. (1) A N S W E R
 $+0 \downarrow +2 \downarrow -3 \downarrow +0 \downarrow +2 \downarrow -3 \downarrow$
 A P P W G o
 Similarly,
 D E F I N E
 $+0 \downarrow +2 \downarrow -3 \downarrow +0 \downarrow +2 \downarrow -3 \downarrow$
 D G C I P B

12. (2)
 13. (1) $392, 29, 449 \Rightarrow 392 + 449 \Rightarrow$
 $841 \Rightarrow (29)^2$
 $395, 31, 566 \Rightarrow 395 + 566 \Rightarrow$
 $961 \Rightarrow (31)^2$
 Similarly,
 $486, 32, 538 \Rightarrow 486 + 536 \Rightarrow$
 $1022 \Rightarrow (32)^2$

14. (4)
 15. (3)



So, all conclusion follow.

16. (3) $3926 - 7852 \rightarrow 3926 \times 2$
 $= 7852$
 $7624 - 15248 \rightarrow 7624 \times 2$
 $= 15248$
 $5826 - 11652 \rightarrow 5826 \times 2$
 $= 11652$
 But,
 $1658 - 3216 \rightarrow 1658 \times 2$
 $= 3316 \neq 3216$
17. (3) $260 - 1560 \rightarrow 260 \times 6 = 1560$
 $540 - 3240 \rightarrow 540 \times 6 = 3240$
 $320 - 1920 \rightarrow 320 \times 6 = 1920$
 But $480 - 2860 \rightarrow 480 \times 6$
 $= 2880 \neq 2860$

18. (1)
 19. (2) $47, 49, 53, 61, 77, 109, 173$
 $+2 \quad +4 \quad +8 \quad +16 \quad +32 \quad +64$

20. (4) N R
 $+1 \downarrow +2 \downarrow$
 O T
 Similarly,
 P S
 $+1 \downarrow +2 \downarrow$
 Q U

21. (1)
 22. (3) R T W F H K
 $18 \quad 20 \quad 23 \quad 6 \quad 8 \quad 11$
 $+2 \quad +3 \quad +2 \quad +3$
 S V Y K M P
 $19 \quad 22 \quad 25 \quad 11 \quad 13 \quad 16$
 $+3 \quad +3 \quad +2 \quad +3$

23. (4)
 24. (3) $\frac{\text{Would}}{5} + \frac{\text{All}}{3} = 8$

↑
 Number of letters
 $\frac{\text{MAJOR}}{5} + \frac{\text{EXAMS}}{5} = 10$
 ↑
 Number of letters
 $\frac{\text{COMMON}}{6} + \frac{\text{NOW}}{3}$
 \therefore Total number of letters
 $= 6 + 3 = 9$

25. (2) 5. Mig
 3. Might
 2. Migrant
 1. Migrate
 4. Migrator

ANSWER KEY

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QUANTITATIVE APTITUDE

1. (3) 1^{st} 8 positive even numbers divisible by 9 are $\rightarrow 18, 36, 72, 54, 90, 108, 126, 144$
 Sum of 8 even numbers = $18 + 36 + 54 + 72 + 90 + 108 + 126 + 144 = 648$
 \therefore Average of 8 even numbers
 $= \frac{648}{8} \Rightarrow 81$
2. (1) $\csc\theta + \cot\theta = S$
 We know
 $\csc^2\theta + \cot^2\theta = 1$
 Or, $\csc\theta - \cot\theta = \frac{1}{S}$
 $\csc\theta + \cot\theta = S$
 $\csc\theta - \cot\theta = \frac{1}{S}$

 $\csc\theta = \frac{1}{2} \left(S + \frac{1}{S} \right)$
 $\csc\theta = \frac{S^2 + 1}{2S}$
 $\sin\theta = \frac{2S}{S^2 + 1}$

$\therefore \cos\theta = \sqrt{1 - \sin^2\theta}$

$\sqrt{\frac{(S^2+1)^2 - 4S^2}{(S^2+1)^2}} \Rightarrow \sqrt{\frac{(S^2-1)^2}{(S^2+1)^2}}$

$\sqrt{\frac{(S^2-1)^2}{S^2+1}} \Rightarrow \frac{S^2-1}{S^2+1}$

3. (3) Selling price of L = $(800+300) = 1100$
 Selling price of M = $(700+250) = 950$
 Selling price of N = $500+400 = 900$
 Selling price of O = $600 + 500 = 1100$
 Selling price of P = $400 + 350 = 750$
 Selling price of Q = $900 + 450 = 1350$

\therefore Total selling price = $1100 + 950 + 900 + 1100 + 750 + 1350 = 6150$
 \therefore Average selling price (A_1)
 $= \frac{4050}{4} \Rightarrow 1025$

Total cost price of L, M, N, O = $800 + 700 + 500 + 600 = 2600$
 \therefore Average of cost price (A_2)
 $= \frac{2600}{4}$

$\therefore A_1 + A_2 = 1025 + 650 = 1675$

4. (1) $\frac{p^3+q^3+r^3-3pqr}{p+q+r}$
 $= \frac{p+q+r}{2} [(p-1)^2+(r-q)^2+(r-p)^2]$
 $= \frac{1}{2} [(6)^2+(5)^2+(3)^2]$
 $= \frac{1}{2} (36+25+9)$
 $= \frac{1}{2} \times 70 = 35$
5. (2) We know,
 Angle made by chord on major arc + angle made by chord on minor arc = 180°
 Angle made by chord on minor arc = $180^\circ - 50^\circ = 130^\circ$

6. (2) $\frac{\sin\theta}{\cos\theta + \csc\theta} = 1$
 If $\theta = 90^\circ$ the both sides satisfy.
7. (4) For simple interest.
 Where P = Principal

R = Rate of Interest.

T = Time

$$SI = \frac{P \times R \times T}{100}$$

$$1200 = \frac{300 \times 10 \times T}{100}$$

Time = 4 years

∴ Time = 4 × 12 = 48 months

8. (3) Total population of A = 500 + 700 + 550 + 400 + 300 = 2450

∴ Average population of A = $\frac{2450}{5} \Rightarrow 490$

Total population of B = 800 + 600 + 450 + 350 + 500 = 2700

∴ Average population of B

$$= \frac{2700}{5} \Rightarrow 540$$

Difference of population = 540 - 490 = 50

9. (2) Speed of boat in still water = 25 - 3 = 22 km/h

∴ Speed of boat in upstream = 22 - 3 = 19 km/h

∴ Time taken by boat

$$= \left(\frac{100}{25} + \frac{57}{19} \right) \text{ hrs.}$$

= 4 + 3 = 7 hrs.

10. (1) There are 435 numbers present between 17 to 457.

We know,

1 number in every 5 number is divisible by 5 and 1 number in every 3 number is divisible by 3.

∴ Total number which are divisible by 5 and 3.

$$= 435 \times \frac{1}{5} \times \frac{1}{3} = 29$$

11. (2) $\frac{(a+b)^2}{a^2-b^2} = \frac{(10+3)^2}{(10)^2-(3)^2} = \frac{169}{100-9}$

$$= \frac{169}{91}$$

12. (2) Let, Two consecutive prime numbers are x and y.

ATQ,

$$xy = 7387$$

$$xy = 89 \times 83$$

∴ x = 89, y = 83

∴ Difference between them = (89 - 83) = 6

13. (1) For school A,

$$100\% \equiv 8400$$

$$10\% \equiv 840$$

Ratio of male and female = 2 : 5

$$2 \equiv 840$$

$$5 \equiv \frac{840}{2} \times 5$$

$$5 = 2100$$

∴ Female faculties in school A = 2100

For school B,

$$20\% \equiv \frac{8400}{100} \times 20 = 1680$$

Ratio of male and female = 4 : 3

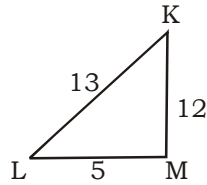
$$4 \equiv 1680$$

$$3 \equiv 1260$$

Female faculties in school B = 1260

$$\therefore \text{Difference} = 2100 - 1260 = 840$$

14. (4) $\sec L = \frac{KL}{LM} = \frac{13}{5}$



15. (3) Ratio of investments of Anuj, Ajay and Ankit

$$30000 : 45000 : 60000$$

$$= 2 : 3 : 4$$

Ratio of time of Anuj, Ajay and Ankit = 12 : 6 : 3

$$4 : 2 : 1$$

∴ Ratio of profit = (2 × 4) : (3 × 2) : (4 × 1)

$$8 : 6 : 4$$

$$4 : 3 : 2$$

ATQ,

$$9 \equiv 18000$$

$$4 \equiv \frac{18000}{9} \times 4$$

$$\equiv 8000$$

∴ Share of Anuj in the profit = 8000

16. (4) As the water of the solution remains constant.

Therefore,

$$\text{Initial water} \times \frac{70}{100} = \text{Final water} \times \frac{40}{100}$$

$$\text{Or, } \frac{\text{Initial water}}{\text{Final water}} = \frac{40}{70} = \frac{4}{7}$$

Difference = 3

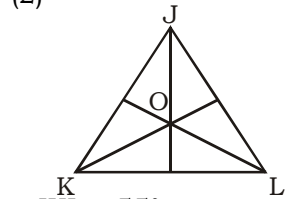
ATQ,

$$4 \equiv 150$$

$$3 \equiv \frac{150}{4} \times 3 = 112.5$$

∴ 112.5 l of milk must be added.

17. (2)



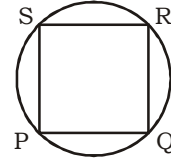
$$\angle JKL = 55^\circ$$

$$\angle KOL = 120^\circ$$

$$\angle KJL = 180^\circ - \angle KOL = 60^\circ$$

$$\therefore \angle JKL = 180^\circ - (55^\circ + 60^\circ) = 65^\circ$$

18. (3) For cyclic quadrilaterals



$$\angle P + \angle R = 180^\circ$$

$$3x + 5 + 4x = 180^\circ$$

$$7x = 175^\circ$$

$$x = 25^\circ$$

∴ x is 25°

19. (1) Let radius of cylinder = r
Height of cylinder = h

∴ Surface area of cylinder = $2\pi rh + 2\pi r^2$ units²

After bisecting along height, New surface area

$$= 2 \left[2\pi r \frac{h}{2} + 2\pi r^2 \right]$$

$$= (2\pi rh + 4\pi r^2)$$

∴ Increase in area = $(2\pi rh + 4\pi r^2) - (2\pi rh + 2\pi r^2)$ units² = $2\pi r^2$

$$\% \text{ increase} = \frac{2\pi r^2}{2\pi r(r+h)} \times 100$$

$$= \frac{r}{r+h} \times 100 = \frac{7}{12} \times 100 = 58.33$$

20. (3) 2000
↓ -5000 (25%)
15000

$$\downarrow -3000$$

$$12000$$

∴ Discount = 3000

$$\therefore \text{Discount \%} = \frac{3000}{15000} \times 100 = 20\%$$

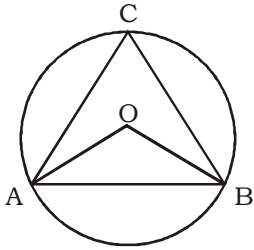
21. (4) Ratio of efficiency of Anju and Vinod = 150 : 100

∴ Total work = 3 × 20 = 60 = 60 units

∴ They complete work in

$$= \frac{60}{3+2} \text{ days} = 12 \text{ days}$$

22. (4) $(a+b)^2 + (a-b)^2$
 $= a^2+b^2+2ab+a^2-2ab+b^2$
 $= 2(a^2+b^2)$
 23. (4) We know



$$\angle ACB = \frac{1}{2} \angle AOB$$

ATQ,
 $\angle ACB + \angle AOB = 270^\circ$
 $3\angle ACB = 270^\circ$
 $\angle ACB = 90^\circ$

Therefore chord is diameter of circle.

\therefore Length of chord = diameter of circle = $2 \times 24 = 48$ cm

- 24.(4) Total number of works having less than Rs. 450 wages = 30

Total number of workers having wages Rs. 650 = 35

\therefore Ratio of above two = 30 : 35
 6 : 7

25. (4) Let, income Of C, D are $3x$, $4x$ respectively and S_c , E_c are savings and expenditure of C respectively and S_d , E_d are savings and expenditure of D respectively.

ATQ,
 $S_c = E_d$
 And, $E_c + E_d = 12000$
 $E_c + S_c = 12000$
 $3x = 12000$

\therefore Income of C = 12000

Income of D = 16000

Sum of savings of C and D =
 $S_c + S_d = 12000 - E_c + 16000 - E_d$
 $28000 - (E_c + E_d) = 16000$

ANSWER KEY

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 11. (2) 12.(2) 13. (1) 14.(4) 15. (3)
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GENERAL AWARENESS

- 1.(1)
 2.(2) Boiling points increase when the number of carbons increase. Branching decrease the boiling

point.

- 3.(1)
 4.(4) Poverty lines are estimated annually. Using the Consumer Price Index, and adjusted for family size, composition, and age of the householder. Poverty lines differ due to change in inflation rates.

5.(2)

6.(4)

7.(2)

52nd Amendment, 1985 - Amended articles 101, 102, 190 and 191 and Insert schedule 10.
72nd Amendment 1992 - Provide reservation to Scheduled Tribes in Tripura State Legislative Assembly.

80th Amendment, 2000 - Implemented Tenth Finance Commission recommendation to simplify the tax structures by pooling and sharing all taxes between states and the centre.

72th Amendment Act, 1992 - Provide reservation to Scheduled Tribes in Tripura State Legislative Assembly.

- 8.(3) **97th Amendment Act, 2011** - gave constitutional status and protection to cooperative societies.

69th Amendment Act, 1992 - provide for a legislative assembly and council of ministers for National Capital Territory of Delhi. Delhi continues to be a Union Territory.

71th Amendment Act, 1992 - Include Konkani, Manipuri and Nepali as official languages.

9.(2)

- 10.(3) Secondary memory is computer memory that is non-volatile and persistent in nature.

- 11.(4) The members of the G20 are: Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Türkiye, the United Kingdom, the United States, and the European Union.

Capital - Jakarta

Parliament - Majelis Permusyawaratan Rakyat
 President - Joko Widodo

- 12.(1) Virat Kohli holds the world record for being the fastest batsman to 8,000, 9,000, 10,000, and 11,000 runs in ODI cricket, reaching the milestones in 175, 194, 205, and 222 innings respectively. He became the first-ever Indian cricketer to score a hundred in this ICC World Cup fixture against Pakistan.

13.(4)

14.(4)

- 15.(1) Cotton - 20° to 30° C

Maize - 25° to 28° C

Rubber - 25° to 34° C

- 16.(1) Alt + P - Display the preview panel

- 17.(3) In January 1928, farmers in Bardoli invited Vallabhai Patel to launch the protest movement wherein all of them resolved not to pay taxes. They also assured Gandhiji of their commitment to non-violence

18.(3)

19.(3)

- 20.(4) Kamarajar port is located in Ennore in Tamil Nadu was formed in 2001.

21.(1)

22.(2)

- 23.(1) A budget set is the collection of all bundles of goods that a consumer wants to buy.

Budget constraint-Budget constraint is the total amount of items you can afford within a current budget. Budget constraint illustrates the range of choices available within that budget. Opportunity cost is the amount or item you give up in exchange for something else. Sunk cost is the amount spent in the past and cannot be recovered.

Budget line-The budget line is a graphical delineation of all possible combinations of the two commodities that can be bought with provided income and cost so that the price of each of these combinations is equivalent to the monetary earnings of the customer.

- 24.(3) Iodine deficiency occurs when the soil is poor in iodine, causing a low concentration in food products and insufficient iodine intake in the population. Iodine deficiency is the most common cause of goiter

- 25(4) Rajasthan - Keoladeo National Park, The Jantar Mantar, Jaipur, Hill Forts of Rajasthan, Jaipur

Madhya Pradesh - Khajuraho Group of Monuments, Buddhist Monuments at Sanchi, Rock Shelters of Bhimbetka

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