

ENGLISH LANGUAGE AND COMPREHENSION

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

EXPLANATION:-

1. (1) 'Category' is incorrectly spelt here, means- a group of people or things that are similar to each other (व्यक्तियों या वस्तुओं का वर्ग; संवर्ग, कोटि)
 4. (1) Replace 'lead' with 'led'. 'Sub +has/have + V₃' is the correct structure.
 10. (1) Replace 'five first' with 'first five'. Ordinal Adjective precedes Cardinal Adjective.
 14. (4) Singular Subject (The weather) takes a Singular Verb.

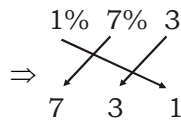
WORD

MEANING IN ENGLISH

MEANING IN HINDI

Anarchist	A person who rebels against any authority, established order, or ruling power	अराजकतावादी
Decipherable	Capable of being read or decoded	पठनीय
Extrovert	One who shares one's feeling with others	बहिर्मुखी
Famish	To cause to suffer severely from hunger.	भूखें मरना
Fanatic	A person who is very enthusiastic about something and may have extreme or dangerous opinions (especially about religion or politics)	कट्टर
Farce	Something important or serious that is not organized well or treated with respect	स्वांग, ढोंग, तमाशा
Fastidious	Difficult to please	जिसको खुश करना मुश्किल हो
Fugitive	A person who has escaped from captivity or is in hiding.	भगोड़ा
Heap	A large quantity of something	ढेर
Hostility	Very strong feelings against somebody/something.	शत्रुता
Illegible	Incapable of being read	अस्पष्ट, जो पढ़ा न जा सके
Incendiary	That causes fire	आग लगानेवाला
Inspid	Having too little taste, flavour or colour bland	फीका, स्वादहीन
Intelligible	Possible or easy to understand	सुगम
Libertine	An unethical person.	कामुक
Mendicant	A beggar.	भिक्षुक
Oblivious	Not noticing or realizing what is happening around you	बेखबर
Pessimist	One who looks at the dark side of life	निराशावादी
Preservationist	A supporter or advocate of the preservation of something, especially of historic buildings and artefacts.	परिरक्षक
Refrain	To keep oneself from doing, feeling, or indulging in something, abstain.	रोकना, करने से बचना
Saboteur	A person who deliberately destroys or obstructs something, Vandal	नुकसान पहुंचानेवाला
Sage	A mature or venerable person of sound judgment	समझदार
Suspect	To believe that something may happen or be true, especially something bad	शंका करना

GENERAL INTELLIGENCE & REASONING

- (3)
- (3) $8\% \ 3\% \ 2 = 328$
 $4\% \ 2\% \ 6 = 268$
 Similarly,
 $1\% \ 7\% \ 3$

 \Rightarrow
- (1) 10
- (1) Karnataka \rightarrow Bengaluru
 As all other states are in northern part India.

- (3) For equation (i) interchanging \times and $+$
 We have,
 $7 - 6 \times 2 \div 1 + 9$
 $= 7 - 6 \times 2 + 9$
 $= 7 - 12 + 9$
 $= 16 - 12$
 $= 4 \neq 2$
 Again for equation (ii) interchanging \times and $+$, We have

$$16 \times 4 - 9 + 1 \div 3$$

$$= 16 \times 4 - 9 + \frac{1}{3}$$

$$= 64 - 9 + \frac{1}{3}$$

$$= \frac{192+1}{3} - 9$$

$$= 55.34 \neq 60$$

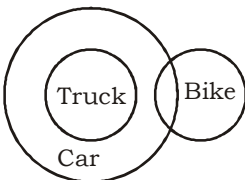
Therefore, Both equation do not satisfy.

- (2) $N \xrightarrow{+6} T \xrightarrow{+6} Z \xrightarrow{+6} F \xrightarrow{+6} L$
 $T \xrightarrow{+2} V \xrightarrow{+2} X \xrightarrow{+2} Z \xrightarrow{+2} B$
 $R \xrightarrow{+8} Z \xrightarrow{+8} H \xrightarrow{+8} P \xrightarrow{+8} X$

7. (4)

8. (3)

9. (4)



So, Only conclusion II and III follow.

- (1) $68, 82, 110, 124, 152, 166, 194$
 $+14 \ +28 \ +14 \ +28 \ +14 \ +28$

- (3) $18, 66, 48 \Rightarrow 18 + 48 = 66$
 $52, 144, 92 \Rightarrow 52 + 92 = 144$
 Similarly,
 $24, 56, 32 \Rightarrow 24 + 32 = 56$

$$12. (4) 3, 2, 162 \Rightarrow \frac{162}{2} = 81 = (3)^4$$

$$6, 3, 3888 \Rightarrow \frac{3888}{3} = 1296$$

$$= (6)^4$$

Similarly,

$$7, 2, 4802 \Rightarrow \frac{4802}{2} = 2401$$

$$= (7)^4$$

$$13. (4) \begin{array}{ccc} E & A & W \\ 5 & 1 & 23 \\ \hline & -4 & -4 \end{array} \quad \begin{array}{ccc} H & D & Z \\ 8 & 4 & 26 \\ \hline & -4 & -4 \end{array}$$

$$\begin{array}{ccc} Y & U & Q \\ 25 & 21 & 17 \\ \hline & -4 & -4 \end{array} \quad \begin{array}{ccc} W & S & M \\ 23 & 19 & 13 \\ \hline & -4 & -6 \end{array}$$

$$14. (1) 378 \times 4 \rightarrow 1512$$

$$648 \times 4 \rightarrow 2592$$

$$278 \times 4 \rightarrow 1112 \neq 1122$$

$$588 \times 4 \rightarrow 2352$$

Therefore odd pair is 278 - 1122

15. (2)

16. (1)

	G	A	R	M	E	N	T	S
Opp. Value	Same Value	Opp. Value	Same Value	Opp. Value	Same Value	Opp. Value	Same Value	Opp. Value
	20	1	9	13	22	14	7	19

and

	H	Y	D	R	O	G	E	N
Opp. Value	Same Value	Opp. Value	Same Value	Opp. Value	Same Value	Opp. Value	Same Value	Opp. Value
	19	25	23	18	12	7	22	14

Similarly,

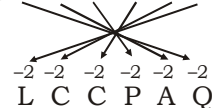
	I	N	V	A	S	I	V	E
Opp. Value	Same Value	Opp. Value	Same Value	Opp. Value	Same Value	Opp. Value	Same Value	Opp. Value
	18	14	5	1	8	9	5	5

17. (3)

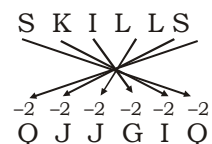
$$18. (4) L^+ + P^-$$

$M^+ \leftrightarrow N^- \leftrightarrow O$
 P is mother of N.

$$19. (2) \text{S C R E E N}$$



Similarly,



20. (4) Force

21. (3)

$$22. (1) \begin{array}{ccc} A & M & G \\ \hline -4 & -4 & -4 \\ \hline W & I & C \end{array}$$

Similarly,

$$\begin{array}{ccc} N & Z & T \\ \hline -4 & -4 & -4 \\ \hline J & V & P \end{array}$$

23. (1) Diestock

$$24. (3) 6 : 12 \rightarrow \frac{(6)^2}{3} = \frac{36}{3} = 12$$

$$15 : 17 \rightarrow \frac{(15)^2}{3} = \frac{225}{3} = 75$$

Similarly,

$$\frac{(18)^2}{3} = \frac{324}{3} = 108$$

18 : 108

25. (1) The Letter 'O' is opposite to the symbol '@'.

ANSWER KEY

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

QUANTITATIVE APTITUDE

- (4) Total calculators sold by L = $350 + 340 + 320 + 315 + 305 = 1630$
 Average calculators sold by L = $\frac{1630}{5} = 326$

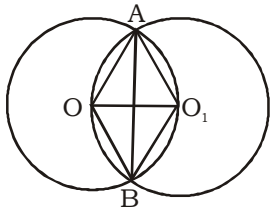
Total calculators sold by M = $305 + 310 + 360 + 330 + 325 = 1630$

$$\therefore \text{Diff. } (J_2) = 1630 - 1630 = 0$$

$$\therefore \text{Value of } \frac{J_2}{J_1} = \frac{0}{326} = \frac{0}{326} = 0$$

- (3) Selling price of 18 pens = 360
 As there is loss of cost price of 3 pens.
 \therefore Cost price of 15 pens = 360
 \therefore Cost price of each Pen = $\frac{360}{15} = 24$

- (4) As radius of two circles are equal and each circle passes through centre of another circle.



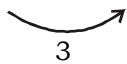
So, Length of common chord
 $= \sqrt{3} \times \text{radius} = 21\sqrt{3} \text{ cm}$

4. (1) Let, Speed of car A = 100 km/h.

\therefore Speed of another train B = 130 km/h

Ratio of speed of A and B
 $= 100 : 130$
 $10 : 13$

Ratio of time of A and B
 $= 13 : 10$



ATQ, $3 = \frac{30}{60} = 1 = \frac{1}{2 \times 3} = 1 = \frac{1}{6}$

Time of B = $\frac{10}{6}$

\therefore Speed of B (train) = $\frac{130}{6}$ km/h

$= \frac{130 \times 6}{10}$ km/h

$= 78$ km/h

5. (1) $5x + y = 17$ $xy = 6$

Squaring both sides

$25x^2 + y^2 + 10xy = 289$

$25x^2 + y^2 = 289 - (10 \times 6)$

$[\because xy = 6]$

$25x^2 + y^2 = 229$

Now,

$125x^3 + y^3$

$= (5x)^3 + (y)^3$

$= (5x + y)(25x^2 + 5xy + y^2)$

$= 17 [229 + (5 \times 6)]$

$= 17 \times 259 = 3383$

6. (2) $(\sec A - \tan A + 1)(\sec A - \tan A - 1)$

$[\{(\sec A - \tan A) + 1\}(\sec A - \tan A) - 1]$

$= (\sec A - \tan A)^2 - 1$

$= \sec^2 A + \tan^2 A - 2\sec A \tan A - 1$

$= \sec^2 A + \tan^2 A - 2\sec A \tan A - (\sec^2 A - \tan^2 A)$

$= 2\tan^2 A - 2\tan A \sec A$

$= 2\tan A (\tan A - \sec A)$

7. (4) $a^2 + b^2 + c^2 - 2ab - 2bc + 2ca$
 $= (a - b + c)^2$

8. (3) Composite number is a positive integer that can be formed by multiplying two smaller positive integers.

Composite numbers between 23 and 43 are \rightarrow 24, 25, 26, 27, 28, 30, 32, 33, 34, 35, 36, 38, 39, 40, 42.

So there are 15 composite numbers.

9. (4) Let, Q invests money after t month.

Ratio of investment amount of P and Q = 4000 : 600
 $= 4 : 6$

Ratio of investment time of P and Q = 12 : t

\therefore Ratio of profit of P and Q = 48 : 6

ATQ,

$\frac{48}{6t} = \frac{4}{3} \quad t = \frac{48 \times 3}{24}$

$t = 6$

Q invests money after 6 month.

10. (2) For B,

$SI_B = 1200 \times \frac{R}{100} \times 3 = 360R$

For C,

$SI_C = 1000 \times \frac{R}{100} \times 4 = 400R$

ATQ,

$SI_B + SI_C = 6080$

$R = \frac{6080}{760} = R = 8$

11. (4) We know

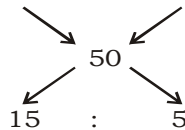
$\frac{\text{Men}_1 \times \text{Day}_1}{\text{Wrok}_1} = \frac{\text{Men}_2 \times \text{Day}_2}{\text{Wrok}_2}$

or, $\frac{10 \times 20}{1/2} = \frac{M_2 \times 10}{1/2}$

or, $M_2 = 20$

\therefore More women required = $(20 - 10) = 10$

12. (3) Average marks of passed students : Average Marks of failed students
 $55 : 35$



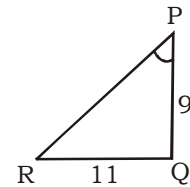
\therefore Number of passed students = 15

\therefore Total marks of passed students = $15 \times 55 = 825$

Number of failed students = 5

\therefore Ratio of marks of passed and failed students = $825 : 175$
 $= 33 : 7$

13. (1) $\cot P = \frac{PQ}{RQ} \Rightarrow \frac{9}{11}$



14. (3) Let, radius of hemisphere = r unit

\therefore Radius of sphere = 3r units
 Ratio volume of hemisphere

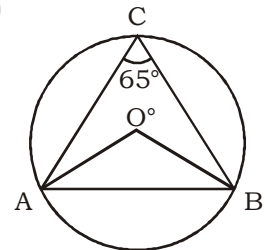
and sphere = $\frac{2}{3} \pi r^3 : \frac{4}{3} \pi (3r)^3$

$= 1 : 2 \times 27$

$= 1 : 54$

\therefore Ratio of sphere and hemisphere = 54 : 1

15. (2)



We know that, $\angle AOB = 2\angle ACB$
 $= 2 \times 65^\circ = 130^\circ$

16. (3) $\tan \theta + \cot \theta = 8$

$\tan^2 \theta + \cot^2 \theta$

$= (\tan \theta + \cot \theta)^2 - 2 \tan \theta \cot \theta$

$= (8)^2 - 2 \Rightarrow 62$

17. (2) The temperature of the patient is highest at 1 PM.

18. (1) Marked price = 2000

Selling price = 14000

\therefore Discount = 6000

\therefore Discount percentage

$= \frac{6000}{20000} \times 100 = 30\%$

19. (2) Radius of incircle = $9\sqrt{3}$

We know, In radius = $\frac{a}{2\sqrt{3}}$

a = Side of equilateral triangle

or, $9\sqrt{3} = \frac{a}{2\sqrt{3}}$

a = 54

\therefore Perimeter of triangle
 $= (54 \times 3) \Rightarrow 162 \text{ cm.}$

20. (2) Total sales of branch C_2 in 2 years $= 79 + 91 = 170$

Total sales of branch C_4 in 2 years $= 66 + 86 = 152$

\therefore Ratio of above 2 branches $= 170 : 152 = 85 : 76$

21. (2) $a^3 = b^3 + 988$

$$a^3 - b^3 = 988$$

$$(a - b)(a^2 + b^2 + ab) = 988$$

$$2(a^2 + b^2 + ab) = \frac{988}{2}$$

$$2a^2 + 2b^2 + 2ab = 494$$

22. (4) $\frac{6}{5}, \frac{11}{15}, \frac{4}{7}, \frac{5}{13}$

Multiplying each number by 1365.

$$\left(\frac{6}{5} \times 1365\right), \left(\frac{11}{15} \times 1365\right),$$

$$\left(\frac{4}{7} \times 1365\right), \left(\frac{5}{13} \times 1365\right)$$

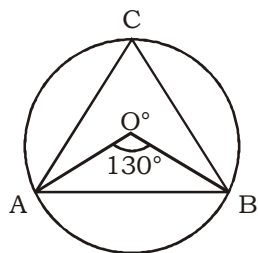
$$1638, 1001, 780, 525$$

$$\text{Smallest fraction} = \frac{5}{13}$$

$$\text{Biggest fraction} = \frac{6}{5}$$

$$\therefore \text{Sum} = \frac{5}{13} + \frac{6}{5} = \frac{103}{65}$$

23. (3) We know



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

$$\angle ACB = \frac{130^\circ}{2}$$

$$\angle ACB = 65^\circ$$

24. (3) ATQ,

$$20\% + 25 = 50\% - 20$$

$$30\% = 45$$

$$100\% = \frac{45}{30} \times 100 = 150\%$$

$$\therefore \text{Pass marks} = 50\% \text{ of } 150 - 20 = 55$$

25. (3) Savings for $Y_1 = \text{Income} - \text{Expenditure}$

$$= 700 - 300 = 400$$

Savings for $Y_2 = \text{Income} - \text{Exp.}$

$$= 400 - 300$$

$$= 100$$

Savings for $Y_3 = \text{Income} - \text{Exp.}$ 6.(3)

$$= 400 - 300$$

$$= 100$$

Savings for $Y_4 = \text{Income} - \text{Exp.}$ 7.(3)

$$= 800 - 200$$

$$= 600$$

Savings for $Y_5 = \text{Income} - \text{Exp.}$

$$= 300 - 150$$

$$= 150$$

\therefore In Y_3 year savings are minimum.

ANSWER KEY

1. (4) 2. (3) 3. (4) 4. (1) 5. (1)

6. (2) 7. (4) 8. (3) 9. (4) 10. (2)

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

16. (3) 17. (2) 18. (1) 19. (2) 20. (2)

21. (2) 22. (4) 23. (3) 24. (3) 25. (3)

GENERAL AWARENESS

1. (2) Acute - short time

Chronic - long duration

2. (4)

3. (1) Eastern coast is divided into three categories- Utkal coast Andhra coast Coromandel coast
 Deltas of the rivers Mahanadi, Krishna, Godavari and Cauveri are present in the eastern coastal plain.

The West coast strip extends from the Gulf of Cambay (Gulf of Khambhat) in the north to Cape Comorin (Kanniyakumari).

Western coast is mainly divided into four categories

Kachchh and Kathiawar coast

Konkan coast

Kanada coast

Malabar coast

4. (1) 2024 Summer Olympics games will be played in Paris, France.

Four sports breaking, sport climbing, skateboarding, surfing will be added to in 2024.

5. (1) A **network bridge** is a computer networking device that creates a single, aggregate network from multiple communication networks or network segments.

A **repeater** is a powerful network hardware device that regenerates

an incoming signal from the sender before retransmitting it to the receiver.

A router is a device that connects two or more IP networks or sub-networks.

Hornbill Festival - Nagaland
 Lumbini festival - Andhra Pradesh

Phool Dei Festival - Uttarakhand

Crystallisation is the process of formation of solid crystals from solution, melt or by deposition directly from a gas phase.

Sublimation is the transition of a substance directly from the solid phase to the gas phase without passing through the intermediate liquid phase .

Chromatography is a laboratory technique for the separation of a mixture into its components.

8. (1) Aditi Ashok is an Indian professional golfer.

9. (4)

Folk songs

Gujarat - Dandiya, Garba,

Punjab - Tappa, Jugni, Bhangra
 Odisha Daskathia

Rajasthan - Pani Hari, Maand, Pankhida, Lotia

10. (4) The law of demand states that a higher price leads to a lower quantity demanded and that a lower price leads to a higher quantity demanded.

11. (2) **Archimedes' Principle** (law of buoyancy) states that a body immersed in a fluid experiences an upthrust equal to the weight of the fluid displaced, and this is fundamental to the equilibrium of a body floating in still water.

Newton's First Law states that every object will remain at rest or in uniform motion in a straight line unless compelled to change its state by the action of an external force.

The second law states that the acceleration of an object is dependent upon two variables - the net force acting upon the object and the mass of the object.

According to **Kepler's first law**, all the planets revolve around the Sun in elliptical orbits with the Sun as one of the foci.

- 12.(3) Citizenship in India; Part II (5-11) Fundamental Rights – Articles 12-35 (Part III) Directive Principles of Our State Policy: Part IV (Articles 36-51)
- 13.(1) The Pacific Area Travel Writers Association, an affiliate of the UN World Tourism Organization, conferred West Bengal with the International Travel Award 2023 for 'Best Destination for Culture' in Berlin. West Bengal has Ajodhya hills, Turga dam(Mahanadi River), Queen of Hill Stations(Darjeeling) Gujrat has Champaner, Rani ki Vav in Patan and the historic city of Ahmedabad are 3 UNESCO World Heritage Site. **Kerala** has Kakki Reservoir, The Idukki Dam (Periyar River), Cheruthoni Dam, Kulamavu Dam (Periyar river), Banasura Sagar Dam Floating Solar Power Plant. **Uttar Pradesh** - Dudhwa National Park & Tiger Reserve Rajaji National Park Nanda Devi National Park Valley of Flowers National
- 14.(1) 15.(3)
- 16.(4) The Digital India Programme was launched on July 1, 2015. The programme has been enabled for several important Government schemes, such as BharatNet, Make in India, Startup India and Standup India, industrial corridors, etc. Digital India week 2022 was from 4th July to 10th July.
- 17.(3) Kavach is an automatic train protection (ATP) system indigenously developed by Indian Railways through Research Designs & Standards Organisation (RDSO). Initial development of Kavach started in 2012 under the name Train Collision Avoidance System (TCAS). The Kavach system is a safety integrity level 4 certified technology. Once implemented, Kavach will be the world's cheapest automatic train collision protection system, costing 50 lakh rupees per kilometre to operate compared to about two crore rupees worldwide.
- 18.(2) **Twinkle Khana** - Mrs Funnybones, The Legend of Lakshmi Prasad, Pyjamas are Forgiving **Kareena Kapoor** - The Style Diary of a Bollywood Diva
- 19.(3) Steppe covers the countries Russia, Ukraine, China, Uzbekistan, Turkmenistan, and Kazakhstan. Tropical grasslands are known as campos in Brazil.
- 20.(1) The Battle of Chausa was fought between Humayun, and Sher Shah Suri on 26 June 1539 at Chausa. Sher Shah Suri conquered Malwa(1542), Ranthambhor(1542), Raiin (1543), Chittor(1544) and Kalinjar(1545).
- 21.(4) Nongkhnum River Island in river Wah Kynshi in Meghalaya. Bhavani Island in Krishna River, at Vijayawada. Lohachara Island in the Hooghly River as part of the Sundarban delta in the Sundarban National Park, West Bengal. Peacock Island(Umananda Island) in river in Assam.
- 22.(4) There are two names associated with the start of Kuka movement Baba Balak Singh and Bhagat Jawar (or Jawahar) Mal. 12th April 1872 is usually known as the official day when the movement was started, though in real essence the foundations of the movement were being laid down by Satguru Ram Singh Ji a few years before. There are two names associated with the start of this movement Baba Balak Singh and Bhagat Jawar (or Jawahar) Mal.
- 23.(3) Parent Material:- is deposited by streams or is derived from in-situ weathering. At this point, the soil has many properties, such as mineral composition, color, particle size, and chemical elements. The black soil, for example, derives its color from lava rock. Climate:- This is one of the key factors in soil formation because

it influences the weathering rate of the parent rock.

Function of precipitation:- The variability of precipitation affects the composition of the soil.

Function of temperature:- It also plays an important role because temperature variations cause shrinkage and swelling, frost action, and general soil weathering.

Biota (Flora, Fauna, and Microorganisms):- Biota, in combination with climate change, modifies the parent material for the production of soil. For example, leguminous plants (such as beans, peas, and groundnuts) have nitrogen-fixing bacteria. These plants are taking nitrate ions directly from these nitrogen-fixing bacteria. The fertility of the soil is improved by fixing atmospheric nitrogen to ammonia or ammonium.

Topography (Relief, Altitude, and Slope):- It is considered a passive factor in climate change because it influences soil processes, soil distribution, and the form of vegetation.

Time:- The formation of the soil is not a one-day process, but takes several years of formation. Younger soils have similar characteristics to their parent material, but as they mature, the addition of organic matter, exposure to moisture, and other environmental factors can change their characteristics.

24.(4) India's medals at Tokyo 2020

Athlete	Medal
Mirabai Chanu	Silver
Lovlina Borgohain	Bronze
PV Sindhu	Bronze
Ravi Kumar Dahiya	Silver
Indian hockey team	Bronze
Bajrang Punia	Bronze
Neeraj Chopra	Gold

25.(3)

ANSWER KEY

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