ENGLISH LANGUAGE AND COMPREHENSION

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

EXPLANATION:-

3. (2) We need an adjective(religious) here, not an adverb (religiously).
13. (3) 'Token, is incorrectly spelt here, means- a piece representing something issued for use.
17. (4) Replace 'of' with 'from'. Distracted takes preposition 'from'
18. (4) Replace 'have' with 'has'. Singular subjects (Inflow) takes a singular verb (has).
19. (1) We need a singular verb (leaves) and a Noun (work).

WORD	MEANING IN ENGLISH	MEANING IN HINDI
Cadence	The rise and fall of the voice in speaking	ताल, लय
Caginess	Reluctance to give information on account of caution or suspicion.	बेमन (सूचना देने में)
Copious	In large amounts	प्रचुर
Credence	Mental acceptance as true or real	साख
Crescent	A curved shape that is pointed at both ends, like the moon in its first and last stages	अर्धचंद्र जैसी आकृति
Desiccate	Remove the moisture from (something); cause to become completely dry.	सूखाना
Dopiness	Dulled by alcohol or a narcotic	मादकता
Fortitude	Courage and patience shown by somebody who is suffering great pain or facing great difficulties	धैर्य, सहनशक्ति
Grim	Very serious; not smiling	विकट, गंभीर
Grit	Firmness of mind or spirit	धैर्य
Guilefulness	Skill in achieving one's ends through indirect, subtle, or underhanded means,cunning	कपट
Ingenuous	Honest, innocent and willing to trust people in a way that sometimes seems foolish	सरल, निष्कपट
Jape	A practical joke	मजाक
Majestic	Impressive because of its size or beauty	आलीशान
Quip	A funny and clever remark	परिहास; चुटकुला, हास्योक्ति
Rhythmic	Flow of sounds or words.	तालबद्ध

GENERAL INTELLIGENCE & REASONING

1. (4)

2. (2) $12,172,74 \Rightarrow 12+74=\frac{86}{2}=$
$43\times4=172$

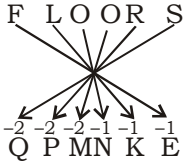
$28,168,56 \Rightarrow 28+56=\frac{84}{2}=$
$42\times4=168$
Similarly,

$28,128,36 \Rightarrow 28+36=\frac{64}{2}=$
$32\times4=128$

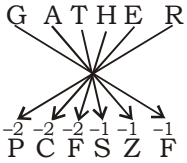
3. (3) Ore : Metal
4. (4) $19–364 \Rightarrow (19)^2=361+3=364$
$21–444 \Rightarrow (21)^2=441+3=444$
$17–292 \Rightarrow (17)^2=289+3=292$
But
$13–174 \Rightarrow (13)^2=169+3=172 \neq 174$
5. (3) There are 14 quadrilaterals
6. (2) $729–1656 \Rightarrow 729+927=1656$
$681–867 \Rightarrow 681+186=867$
$507–1212 \Rightarrow 507+705=1212$
Similarly,
$843–1181 \Rightarrow 843+348=1191 \neq 1181$
7. (1)

M	R	N	G
↓ +4		↓ +8	↓ +12
M	V	V	S
↓ +4		↓ +8	↓ +12
M	Z	D	E
↓ +4		↓ +8	↓ +12
M	D	L	Q
↓ +4		↓ +8	↓ +12
M	**H**	**T**	**C**

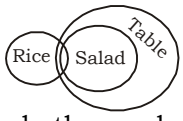
8. (2) $13\%\ 27\%\ 3 = 1053$
$\Rightarrow 13\times27\times3=1053$ and
$4\%\ 8\%\ 13=416$
$\Rightarrow 4\times8\times13=416$
Similarly,
$3\%\ 16\%\ 10$
$\Rightarrow 3\times16\times10=480$
9. (4)
10. (4) F L O O R S



Similarly, G A T H E R



11. (4)



So, both conclusion I and III follow.

12. (1)

Q	**N**	**J**	**F**	E	B	X	S
17	14	10	6	5	2	24	19
	–3	–4	–4		–3	–4	–5
K	H	D	Y	U	R	N	I
11	8	4	25	8	9	6	10
	–3	–4	–5		–3	–4	–5

13. (2) $8 : 512 \Rightarrow (8)^3 = 512$
$11 : 1331 \Rightarrow (11)^3 = 1331$
Similarly,
$13 : ? \Rightarrow (13)^3 = 2197$
14. (1)
15. (4) $16 + 6 \div 18 – 5 \times 1 = 14$
Interchanging 18 and 6
$16 + 18 \div 6 – 5 \times 1$

= 16 + 3 – 5 × 1
= 16 + 3 – 5 = 14

16. (4)

17. (1) 3. Moult
5. Mound
2. Mount
4. Mouse
1. Mouth

18. (2) D A M E = 2 9 7 6
T I M E = 9 2 5 4
S A P E = 8 3 6 9
M O S T = 1 5 2 3
Similarly,
ATP = 658

19. (3) 6 hands are hairs.

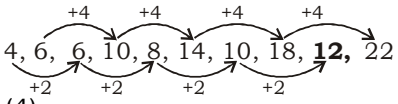
20. (4) Mother
↑
Bhim ↔ Lady
∴ Lady is sister of Bhim.

21. (1)

22. (1) As Tokyo is the capital of Japan, Similarly, Havana is the capital of Cuba.

23. (2) O B
+5 +5
T G
Similarly, P C
+5 +5
U H

24. (1)



25. (4)

ANSWER KEY

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

QUANTITATIVE APTITUDE

1. (4)

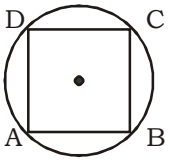
	Previous	:	Present
Price →	5	:	6
Consumption	20	:	19
Expenditure	100	:	19

As exp. = price × consumption

$\therefore \text{Change \%} = \frac{14}{100} \times 100 = 14\%$

2. (3) $2a^3 + 2b^3$
$2(a^3 + b^3)$
$= 2\left[(a+b)^3 - 3ab(a+b)\right]$
$= 2\left[(3)^3 - 3 \times 2 \times 3\right]$
$= 2 \times [27 - 18]$
$= 2 \times 9 = 18$

3. (3) As we know for cyclic quadrilateral sum of opposite angle is 180°.



$\angle A + \angle C = 180°$
Or, $\angle C = 180° - 110°$
$\angle C = 70°$

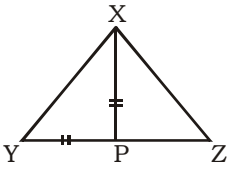
4. (1) $P + \frac{1}{P} = 5$, $P^3 + \frac{1}{P^3}$

$= \left(P + \frac{1}{P}\right)^3 - 3 \times P \times \frac{1}{P}\left(P + \frac{1}{P}\right)$
$= (5)^3 - 3 \times 5$
$= 110$

5. (4) Total income = 800 + 600 + 500 + 900 + 400 = 3200
Total expenditure = 400 + 300 + 400 + 300 + 250 = 1650
∴ Difference = 3200 – 1650
= 1550

6. (2) Total discount = 600 + 300 + 500 + 400 + 300 + 300 = 3200
Total marked price = 1200 + 800 + 1000 + 700 + 500 + 600 + 1100 = 5900
∴ Percentage of total discount to total marked price
$= \frac{3200}{5900} \times 100 = 50.84\%$

7. (4) We know from right angle triangle properties.



$XP^2 = YP \times PZ$
$100 = 10 \times PZ$
$PZ = 10$

8. (2) $\frac{\frac{5}{3}\text{of}\frac{1}{4} \times \frac{24}{5} - \frac{1}{5}\text{of}\frac{25}{8} \times \frac{24}{5}}{\frac{5}{12}\text{of}\frac{3}{4} \times \frac{4}{3} + \frac{3}{4}\text{of}\frac{12}{5} \times \times \frac{5}{6}}$

$= \frac{\frac{5}{12} \times \frac{24}{5} - \frac{5}{8} \times \frac{24}{5}}{\frac{5}{16} \times \frac{4}{3} + \frac{9}{5} \times \frac{5}{6}} \Rightarrow \frac{2-3}{\frac{5}{12} + \frac{3}{2}}$

$= -\frac{12}{5+18} \Rightarrow -\frac{12}{23}$

9. (2) Number of girls in school A
$\Rightarrow 100\% \equiv 5000$
$20\% \equiv 1000$
Number of girls in school E $\Rightarrow$
$100\% \equiv 5000$
$18\% = 900$
∴ Ratio of number of girls in school A and E.
= 1000 : 900
10 : 9

10. (2) $k + \frac{1}{k} = -3$
Squaring both sides
$k^2 + \frac{1}{k^2} = 9 - 2$
$k^2 + \frac{1}{k^2} = 7$
Cubing both sides of equation
$k^3 + \frac{1}{k^2} = -27 - 3\left(k + \frac{1}{k}\right)$
$\left(k^3 + \frac{1}{k^3}\right) = -27 - 3 \times (-3)$
$k^3 + \frac{1}{k^3} = -18$
Now,
$\frac{k^6+1}{k^3} + \frac{k^4+1}{k^2}$
$= \left(k^3 + \frac{1}{k^3}\right) + \left(k^2 + \frac{1}{k^2}\right)$
$= -18 + 7$
$= -11$

11. (3) $\sin\theta = \frac{3}{11}$
$\therefore \cos\theta = \sqrt{1 - \sin^2\theta}$
$= \sqrt{1 - \frac{9}{121}} = \sqrt{\frac{112}{121}} \Rightarrow \frac{4\sqrt{7}}{11}$
Now, $\cot\theta = \frac{\cos\theta}{\sin\theta} = \frac{\frac{4\sqrt{7}}{11}}{\frac{3}{11}} = \frac{4\sqrt{7}}{3}$

12. (1) Let cost price = 100%
∴ Selling price = 110%
ATQ, 110% ≡ 1056
$100\% \equiv \frac{1056}{110} \times 100$
≡ 960
For selling watch at 800
Loss = 960 – 800 = 160
$\therefore \text{Loss\%} = \frac{160}{960} \times 100$
= 16.66%

13. (4) $\frac{3\text{cosec}42°}{\sec 48°} - \frac{5\cos 32°}{\sin 58°}$
$= \frac{3\sec 48°}{\sec 48°} - \frac{5\sin 58°}{\sin 58°} =$ [When

A + B = 90°, sinA = cosB, cosecA = secB]
= 3 – 5 = –2

14. (4) We know,
For compound interest -

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

$$4320 = 3000\left(1+\frac{\text{rate}}{100}\right)^2$$

$$\frac{4320}{3000} = \left(1+\frac{\text{rate}}{100}\right)^2$$

$$\frac{144}{100} = \left(1+\frac{\text{rate}}{100}\right)^2$$

$$\frac{12}{10} - 1 = \frac{\text{rate}}{100}$$

Rate = 20%
∴ Rate of interest = 20%

15. (1) ATQ,
100% ≡ 300
1% ≡ 3
For F, 18% ≡ 54
For I, 24% ≡ 72
For J, 6% ≡ 18

$$\therefore \text{Average} = \frac{18+72+54}{3} = 48$$

16. (4) If breadth of cuboid = 6 cm
∴ Length of cuboid = 18 cm
Height of cuboid = 12 cm
Total surface area = 2 (Length × breadth + breadth × height + length × height)

$$= 2\left[(6\times18)+(18\times12)+(6\times12)\right]$$

= 792 cm²

17. (1) We know when two circles of the same radii intersect each other then they pass through their centre.
Length of chord = $\sqrt{3}\pi$, r = radius of circle.

$$24 = \sqrt{3}\times r$$

$$r = 8\sqrt{3}$$

$$\therefore \text{Diameter} = \left(2\times8\sqrt{3}\right)\text{cm}$$

$$= 16\sqrt{3}$$

18. (3) A = a cosecθ + b cotθ ....(i)
B = a cotθ + b cosecθ ....(ii)
Squaring equation (i) and equation (ii) and subtract equation (ii) from equation (i)
We have
$A^2 - B^2 = a^2 - b^2$

19. (1) 2160 × 3 ÷ 144 + 13 – 2

$$= 2160\times\frac{3}{144} + 13 - 2$$

= 15 × 3 + 13 – 2
= 45 + 13 – 2
= 56

20. (3) A = 12, B = 15, C = 20 → 60 → 5, 4, 3
P does work in 8 days = 8×5 = 40 units
Similarly,
Q does work in (8 – 5) days = (3 × 4) = 12 units
∴ Remaining work = 60 + 52 = 112 units.
∴ Days require to complete work = $\frac{112}{12} = \frac{28}{3}$

21. (3)

	Bus	:	Mohit
Ratio of time →	50	:	10
	5	:	1

Ratio of speed = 1 : 5
4 (Sped of Mohit) 1 (Speed of Bus)
ATQ,
4 ≡ 50
1 ≡ 12.5
∴ Speed of Bus = 12.5 km/hr

22. (1) Let, cost price = 100 units
∴ Marked price = 150 units
After 20% discount
Selling price = 120 units
∴ Profit = (120 – 100) = 20 units

$$\therefore \text{Profit \%} = \frac{20}{100}\times100$$

= 20%

23. (3) Ratio of share of P and Q = 5 : 1
Ratio of share of P and R

$$= 1 : \frac{1}{3} \Rightarrow 3 : 1$$

∴ Ratio of share of P, Q, R ⇒

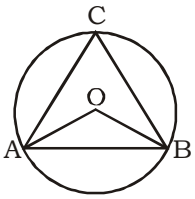
Q	:	P	:	R
1	:	6	:	5
3	:	3	:	1
3	:	15	:	5

ATQ, (3+15+5) ≡ 12029

$$5 \equiv \frac{12029}{23}\times5$$

5 ≡ 2615
∴ Share of R is Rs. 2615

24. (4) As we know angle made by chord at major arc of cirlcle is half of angle made by chord at centre.



From figure,
∠AOB = 2∠ACB
ATQ,
∠AOB + ∠ACB = 225
2∠ACB + ∠ACB = 225
∠ACB = 75°
∴ Angle made at circumference is 75°.

25. (4) Sum of runs of 7 matches = 7 × 49 = 343
Sum of runs of 9 matches = 9 × 27 = 243

$$\therefore \text{Average of runs} = \frac{343+243}{16}$$

= 36.625

ANSWER KEY

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

GENERAL AWARENESS

1.(4) **Mahendragiri**, situated amongst the Eastern Ghats at an elevation of 1,501 metres.It is second biodiversity Heritage Site of Odisha.
Anamudi is located in Kerala. It is the highest peak in the Western Ghats and in South India, at an elevation of 2,695 metres.
Nanda Devi is the second-highest mountain in India, after Kangchenjunga,in Uttarakhand.

2.(3) A total solar eclipse occurs when the moon passes between the sun and Earth, completely obscuring the face of the sun.
An annular solar eclipse happens when the Moon covers the Sun's center, leaving the Sun's visible outer edges to form a "ring of fire".

3.(3) **Tabla** - Zakir Hussain, Allah Rakha, Sabir Khan, Pt. Kishan Maharaj, Pt. Jnan Prakash Ghosh, Sandeep Das
Veena - Zia Mohiuddin Dagar, Ayyagari Syamasundaram, Doraiswamy Iyengar, Chittibabu, Emani Sankara Shastri, Dhanammal, KR Kumaraswamy, Sundaram Balachandrer
Santoor - Pt Shiv Kumar Sharma, Bhajan Sopori.

4.(1) **Anshul Mishra** - Member-Secretary of the Chennai Metropolitan Development Authority (CMDA). **Kiran Bedi** became the first woman in India to join the officer ranks of the Indian Police Service (IPS) in 1972 and was the 24th Lieutenant Governor of Puducherry from 28 May 2016 to 16 February 2021.

5.(2) The 2023 ICC Men's Cricket World Cup will be the 13th edition, will be the first time the competition is held entirely in India. Three previous editions were partially hosted there – 1987, 1996, and 2011.
This will be the second time that South Africa and Zimbabwe will cohost the tournament, after the 2003 edition, while Namibia will host it for the first time.

6.(1) Babur was the founder of the mighty Mughal dynasty in the Indian subcontinent. After the death of his father Umar Shaikh Mirza, he succeeded to the throne of Ferghana, located in present day Uzbekistan, at the age of 12. Later in 1526, he defeated Ibrahim Lodi in Battle of Panipat and thus laid the foundation of the eventual rise of Mughal rule in India.

7.(3) Article 210 - Language to be used in the Legislature
Article 212- Courts not to inquire into proceedings of the Legislature
Article 214 - High Courts for States

8.(2)

Dhuandhar Falls	
Madhya Pradesh	Narmada
Khanjroli	
Gujarat	Tapi
Someshwar	
Maharashtra	Godavari
Koilighughar	
Odisha	Mahanadi

9.(4) Notable works of Leo Tolstoy(Russia) - War and Peace, Anna Karenina, The Death of Ivan Ilyich, The Kingdom of God Is Within You Resurrection

10.(1) **Extrusive Igneous Rocks** is produced when magma exits and cools above (or very near) the Earth's surface.
Metamorphic rocks form when rocks are subjected to high heat, high pressure, hot mineral-rich fluids or, more commonly, some combination of these factors.
Intrusive, or plutonic, igneous rock forms when magma is trapped deep inside the Earth.

11.(3) **Cladophora** is a species of green algae.
Marsilea is in a group (generally considered an order — the Salviniales) that is known as 'water ferns' in the Phylum Pterophyta (ferns).
Monocotyledons are grass-like flowering plants (angiosperms).

12.(1)

13.(2)

14.(3)

15.(3) According to Newton's universal law of gravitation, The force of attraction between any two bodies is directly proportional to the product of their masses and is inversely proportional to the square of the distance between them.
The **electrostatic force** is an attractive as well as repulsive force caused by the electric charge particles. It is also known as Columb's force.
Frictional force is the force generated by two surfaces that contact and slide against each other.
Magnetic force, attraction or repulsion that arises between electrically charged particles because of their motion

16.(4) Sudha Sharma served as Director General (Vigilance) of the I-T department.
Atulesh Jindal and Rani Singh Nair were the former chairman of Central Board of Direct Taxes.

17.(3) **One-Stop Centre** scheme is a sub-scheme of the National Mission for Empowerment of Women which also includes the Indira Gandhi Matritva Sahayog Yojana. The scheme is funded by the Nirbhaya fund.
Nirbhaya Fund was an Indian rupee 10 billion corpus announced by Government of India in its 2013 Union Budget.
Cash Suvidha is a company founded by Rajesh Gupta.
Saha Fund was founded in 2016.
Rug Beneath My Feet Private Limited is a Private incorporated on 11 March 2016.

18.(4)

19.(1) The electoral bonds are valid for 15 calendar days from the date of issue and no payment will be made to any payee political party if it is deposited after the expiry of the validity period.

20.(2) C is personal consumption expenditures, I is investment, G is government purchases of goods and services, X is exports, and M is imports.

21.(3)

22.(1)

23.(3) Hockey player Manpreet Singh and badminton athlete P. V. Sindhu served as the country's opening ceremony flagbearers. Squash player Anahat Singh became the youngest Indian athlete to compete at the Commonwealth Games at just 14 years of age.45-year old Lawn Bowls player Sunil Bahadur was the oldest player in the contingent.
India's first medal of the Games was won by Sanket Sargar with a silver in weightlifting. Saikhom Mirabai Chanu won the first gold medal for the country, also in weightlifting. Sharath Kamal was India's most successful player at the Games, having won four (3 gold and 1 silver) medals in table tennis.
India ended the games as the best nation in 4 sports: badminton, table tennis, wrestling and weightlifting and second best in boxing.

24.(4) Umling La - Ladakh
Dihang pass - Arunachal Pradesh
Rohtang La - Himachal Pradesh
Khunjerab Pass - Kashmir and China.

25.(2)

ANSWER KEY

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