ENGLISH LANGUAGE AND COMPREHENSION

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

EXPLANATION:-

5. (3) Replace 'has had developed' with 'had developed' or 'developed'.

9. (4) The sentence indicates a Past event , so Past Tense is appropriate in the given context.

12. (4) Replace 'accommodating of' with 'accommodative of' or 'accommodating to'.

16. (1) Other correct words are- Pertinent, Occurred, Relevant

17. (4) 'Consent' is incorrectly spelt here, means- to agree to something; to allow something to happen

WORD	MEANING IN ENGLISH	MEANING IN HINDI
Alienate	To make people feel that they cannot share your opinions any more	अपने से दूर कर देना
Apiary	Place where bees are kept.	मधमक्खियों के पालने का स्थान
Audacity	Behaviour that risks being shocking, boldness	धृष्टता
Belated	Coming late	विलंबित
Cease	To stop or end	समाप्त होना या करना; रुकना या रोकना
Congruent	In agreement or harmony	अनुकूल
Cynic	A person who believes that people only do things for themselves, rather than to help others;	निंदक
Delinquent	(Usually used about a young person) behaving badly and often breaking the law	किशोर-अपराधी
Diffidence	The quality or state of being unassertive or bashful, lack of confidence	आत्मसंशय,आत्मविश्वासहीनता
Hypochondriac	A person who is always worried about his/her health and believes he/she is ill, even when there is nothing wrong	किसी व्यक्ति को भ्रम कि वह सदा रोगी रहता है
Incorrigible	Incapable of being corrected or amended	असंशोधनीय
Intermittent	Stopping for a short time and then starting again several times, sporadic	रुक-रुक कर होने वाला, आंतरापिक
Meagre	Too small in amount	अल्प/थोड़ा
Minaret	A tall thin tower, usually forming part of a building where Muslims meet and pray (a mosque)	मस्जिद की मीनार
Pedestrian	Who travels on foot	पैदल यात्री
Plausible	An argument or statement seeming reasonable or probable	विश्वसनीय; तर्कसंगत
Scattered	Spread over a large area	इधर-उधर बिखरा हुआ
Splendid	Very good; excellent	उत्कृष्ट
Sporadic	Not done or happening regularly	अनियमित (रूप से किया गया या होने वाला)
Tantalize	To tease or torment by or as if by presenting something desirable to the view but continually keeping it out of reach	तरसाना
Tardy	Slow to act, move or happen	मंद
Temerity	Extremely confident behaviour that shows a lack of respect and is considered rude	दुस्साहस
Upbringing	A particular way of bringing up a child	पालन-पोषण

1. (3)

Fish (Frogs (Whale
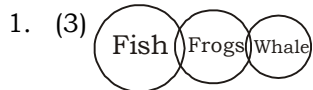
Either I or II follow.

2. (2)

Ricky/Qazi
Panchi
Sweta
Tiya
Ricky/Qazi
Vinay
Urusha

Urusha got the lowest mock.

3. (1) P $\xrightarrow{-2}$ N   T $\xrightarrow{-2}$ R
   A $\xrightarrow{-2}$ Y AND U $\xrightarrow{-2}$ S
   G $\xrightarrow{-2}$ E   B $\xrightarrow{-2}$ Z

   Similarly,

   R $\xrightarrow{-2}$ P
   I $\xrightarrow{-2}$ G
   C $\xrightarrow{-2}$ A
   E $\xrightarrow{-2}$ C

4. (3) Interchanging × and +
   1. $5 + 12 - 15 \times 20 \div 25$

   $= 5 + 12 - 15 \times \dfrac{20}{25}$

   $= 5 + 12 - 12 = \mathbf{5}$

   2. $36 \times 3 + 2 - \dfrac{15}{5}$

   $= 108 + 2 - 3 = 107$

5. (4) 11, 121, 1331 $\Rightarrow$
   $(11)^1$ $(11)^2$ $(11)^3$
   And
   13, 169, 2197 $\Rightarrow$
   $(13)^1$ $(13)^2$ $(13)^3$
   Similarly,
   7, 49, 256 $\Rightarrow (7)^1 = 1$ $(7)^2 = 49$
   $(7)^3 = 343$

6. (2) 2   8   3   7   3
   $\downarrow \times 2$ $\downarrow \times 2$ $\downarrow \times 2$ $\downarrow \times 2$ $\downarrow \times 2$
   4   16   6   14   6
   Similarly,
   1   9   3   5   1
   $\downarrow \times 2$ $\downarrow \times 2$ $\downarrow \times 2$ $\downarrow \times 2$ $\downarrow \times 2$
   2   18   6   10   2

7. (3)

8. (4) Off spring of cockroach is called Nymph
   Similarly, Off spring of. Frog is called tadpole.

9. (1)
   169, 1681, 529
   ↓   ↓   ↓
   $(13)^2$ $(41)^2$ $(23)^2$
          and
   144   576   1024
   ↓   ↓   ↓
   $(12)^2$ $(24)^2$ $(32)^2$
   Similarly,
   625   784   256
   ↓   ↓   ↓
   $(25)^2$ $(28)^2$ $(26)^2$

10. (4) Q S U   U W Y
       $\underset{+2}{\frown}$ $\underset{+2}{\frown}$ $\underset{+2}{\frown}$ $\underset{+2}{\frown}$

       C E G   H J I
       $\underset{+2}{\frown}$ $\underset{+2}{\frown}$ $\underset{+2}{\frown}$ $\underset{-1}{\frown}$

11. (4)

12. (2)

13. (4) Ostrich is a bird. Similarly, Chair is furniture.

14. (3)

15. (3)
    25,   49,   81
    ↓   ↓   ↓
    $(5)^2$ $(7)^2$ $(9)^2$
          and
    169   225   289
    ↓   ↓   ↓
    $(13)^2$ $(15)^2$ $(17)^2$
    Similarly,
    289   361   441
    ↓   ↓   ↓
    $(17)^2$ $(19)^2$ $(21)^2$

16. (3)

17. (2) $(12 - 2)^2 \to (10)^2 = 100$
       $(10 - 2)^2 \to (8)^2 = 64$
       $(14 - 2)^2 \to (12)^2 = 144$

18. (4)

19. (1) $n^3 = 27$
    Only one side
    printed $= 6(x - 2)$
       $= 6(3 - 2)$

= 6 cubes are painted on only one side.
   (n = 3)
   When n = no. of cube in a raw
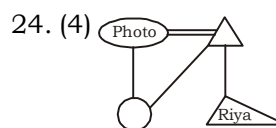
20. (1) Millimeter
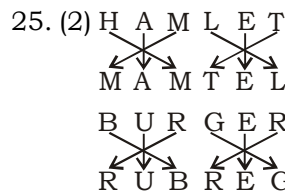   Decimeter
    Decameter
    Hectometer
    Kilometer

21. (1)

22. (3) 2   4   12   48   **240**
       $\underset{\times 2}{\frown}$ $\underset{\times 3}{\frown}$ $\underset{\times 4}{\frown}$ $\underset{\times 5}{\frown}$

23. (2) cc/d/**p**/cc**c**/d**d**/pp/cccc/ddd/**p**pp

24. (4)

Riya is the daughter of that man in phate.

25. (2) H A M L E T
       $\downarrow$ cross $\downarrow$ $\downarrow$ cross $\downarrow$
       M A M T E L

       B U R G E R
       $\downarrow$ cross $\downarrow$ $\downarrow$ cross $\downarrow$
       R U B R E G

❚ QUANTITATIVE APTITUDE ❚

1. (1) (11, 13, 15, 17 ....99)
   Total number of terms = Total odd term – 5 odd term (1 + 10)
   = 50 – 5 = 45 odd terms

   Sum of n terms $= \dfrac{n}{2}(2a + (n-1)d$

   a = 11, n = 45 , d = 2

   $= \dfrac{45}{2}(2 \times 11 + (45-1) \times 2)$

   $= \dfrac{45}{2}(22 + 44 \times 2)$

   $= \dfrac{45}{2}(22 + 88) \Rightarrow = \dfrac{45}{2} \times 110$

   = 45 × 55 = Rs. 2475

2. (2) Let, the original fraction $= \dfrac{a}{b}$

Numerator is increase by

$140\% = \left(1 + \dfrac{140}{100}\right) a = \dfrac{240}{100} a$

Denominator is decrease by

$20\% = \left(1 - \dfrac{20}{100}\right) B = \dfrac{80}{100} B$

ATQ,

$= \dfrac{\dfrac{240}{100}(A)}{\dfrac{80}{100}(B)} = \dfrac{12}{7} = \dfrac{240 \times A}{80 \times B} = \dfrac{12}{7}$

$\left(\dfrac{A}{B} = \dfrac{4}{7}\right)$

3. (3) SI $= \dfrac{P \times R \times T}{100}$

Rate = R%   Time = R

$3000 \times \dfrac{R}{100} \times R$

= 3000

$R^2 = 100$

R = 10%

4. (4) 33% Profit $= \dfrac{1}{3}$

CP $= \dfrac{4}{3} \times 960$

CP = 720

20% Profit $= \dfrac{1}{5}$

New price after profit

$= 720\left(1 + \dfrac{1}{5}\right) = 720 \times \dfrac{6}{5} = 864$

5. (3) Let, marked price = 100%
Equivalent discount = 20% +

$10\% - \dfrac{20\% \times 10\%}{100}$

= 28%
ATQ,
28% ≡ 252
1% ≡ 9
100% ≡ 900
After getting discount of 252,
Selling price = 900 – 252 = 648
∴ Profit = 4 selling price – cost

price = 648 – 600 = 48

6. (4) a + b + c = 7 ...(1)
ab + bc + ca = 12 ...(2)
Squaring both sides of equation 1.
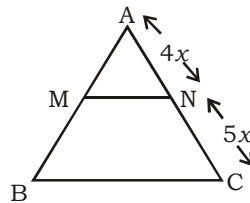$(a + b + c)^2 = 49$
$a^2 + b^2 + c^2 + 2(ab+bc+ca) = 49$
$\Rightarrow a^2 + b^2 + c^2 = 49 - 24$
$\Rightarrow a^2 + b^2 + c^2 = 25$

7. (3) We know that area of quadrilateral.

AC = 9x   An = 4x
Area of MNCB $= (9x)^2 - (4x)^2$
$130 \text{ cm}^2 = 81x^2 - 16x^2$
$130 \text{ cm}^2 = 65x^2$

$x^2 = \dfrac{130}{65} = 2$

Area of triangle MAN $= (AN)^2$
$\Rightarrow 4x^2 = 16x^2$
$\Rightarrow 16(2) \Rightarrow 32 \text{ cm}^2$

8. (2) a + b + c = 0 ....(i)
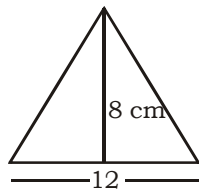ab + bc + ca = –11 ....(ii)
Squaring both sides
$(a+b+c)^2 = (0)^2$
$a^2+b^2+c^2 + 2(ab+bc+ca)$
$a^2+b^2+c^2 = -2(-11) = +22$
$a^2+b^2+c^2 = +22$

9. (2)

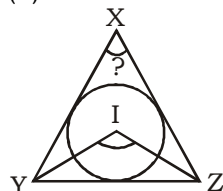Area of triangle $= \dfrac{1}{2} \times$ side × height

$\dfrac{1}{2} \times 12 \times 8 = 48 \text{ cm}^2$

10. (3) In incircle

YIZ $= 90° + \dfrac{\angle YXZ}{2}$

$115° = 90° + \dfrac{\angle YXZ}{2}$

$25° = \dfrac{\angle YXZ}{2} = \angle YXZ = 50°$

11. (2) For complementary angle
= A + B = 90°
A = (90° – B)
= tan A
= tan (90° – B)
= cot B
tan A = cot B

12. (4) 15 – 3 of 12 ÷ 2 + 3 of 2 ÷ 2

$15 - \dfrac{3 \times 12}{2} + 3 \times 2 \div 2$

15 – 18 + 3
= 0

13. (2) $45\% = \dfrac{9}{20}$

Let, the first number is A, and the second number 1 × B
ATQ,

$= \dfrac{9}{20} \times A = \dfrac{6(B)}{5} \quad \left(\dfrac{A}{B} = \dfrac{8}{3}\right)$

14. (4)
    (I) For year Y_1
        L   M
        60   :   25
Lets l in year y_1 is 240% of the production of company M in year y_1.
II → For year Y_4
        L   :   M
        15   :   50
        2   :   25
III →   L (×2) : L(×3)
        40   :   20

$\dfrac{40 + 20}{2} = 30$

Statement I and II is incorrect
But statement III is correct.

15. (1) Let, radii of circles are r_1, r_2
∴ Circuference of circles are $2\pi r_1$, $2\pi r_2$
ATQ,
$2\pi r_1 = 264$

$2 \times \dfrac{22}{7} \times r_1 = 264$

$r_1 = 42$

and, $2\pi r_2 = 308$

$2 \times \dfrac{22}{7} \times r_2 = 308$

$r_2 = 49$

Difference in area $= \pi(r_2{}^2 - r_1{}^2)$

$= \dfrac{22}{7} \times (2401 - 1764)$

$= \dfrac{22}{7} \times 637 = 2002$

16. (4) $\dfrac{3}{5} \times [\sec^2 20° - \cot^2 70°]$

$\dfrac{3}{5} \times [\sec^2 20° - \cot^2(90° - 70°)]$

$\dfrac{3}{5}(\sec^2 20° - \tan^2 20°) = \dfrac{3}{5}$

17. (3) Population of B in R, S, T years.

→ $(200 + 100 + 250) = 550$

Population of P in P, Q, R years
$= 250 + 450 + 300) = 1000$

Ratio of population of B to population of A.

$550 : 1000$

$11 : 20$

18. (3) Let the total distance covered = d

ATQ,

$\dfrac{d}{30} - \dfrac{d}{60} = 1$ hr

$d = \dfrac{(2-1)}{60} = 1$

$d = 60$ km

19. (1) Let, radius of circle = R cm
Circumference = 22 cm

$2 \times \dfrac{22}{7} \times R \times 22$

$R = \dfrac{7}{2}$

Area of circle $\Rightarrow \pi R^2$

$= \dfrac{22}{7} \times \left(\dfrac{7}{2}\right)^2 = \dfrac{22}{7} \times \dfrac{7}{2} \times \dfrac{7}{2} =$
38.5 cm²

20. (4) In year 2019 production is 4000.

21. (2) Total marks scored by 3 students = 55 × 3 = 165
Total marks scored by (3+2) students after including (A+B)
$= (55-5) \times 5 = 50 \times 5 = 250$
Score of two student (A +B) =
$250 - 165 = 85$

A : B
x $x + 15$
x + (x + 15) = 85
2x = 70
x = 35
Marked scored by A = 35

22. (1) Let, A can complete 40 units of work in 40 days.
Total work = 40 units

Efficiency of A $= \dfrac{\text{total work}}{\text{total time}}$

$\dfrac{40}{40} = 1$ unit/day

20% of work $= 40 \times \dfrac{20}{100} = 8$ unit

of work

A complete 8 units of work in 8 days.

23. (2) Number of N98 mask produced in January and April 2021

$6.2 + 6.8 = 13$

Number of N95 mask produced in Januray, March, May = 2.5 + 3.2 + 5.5 = 11.2

N98 : N95
13 : 11.2
65 : 56

24. (4) $\therefore P^2 + \dfrac{1}{P^2} = 14$

$p^2 + \dfrac{1}{P^2} + 2 = 14 + 2$

$\left(P + \dfrac{1}{p^2}\right)^2 = 16$

$P + \dfrac{1}{P} = 4$

Cubing both sides.

$\left(x + \dfrac{1}{x} = a \text{ then } x^3 + \dfrac{1}{x^3} = a^3 - 3a\right)$

$P^3 + \dfrac{1}{P^3} \Rightarrow (4)^3 - 3(4)$

$= 64 - 12 = 52$

25. (4) $\sin^4 x + \sin^2 x = 1$

$\sin^4 x = 1 - \sin^2 x$

$\sin^4 x = \cos^2 x$

Then,

$\sin^2 x = \dfrac{\cos^2 x}{\sin^2 x}$

$\sin^2 x = \cot^2 x$ ...(i)

$\cot^4 x + \cot^2 x = \sin^4 x + \sin^2 x$

$\sin^4 x + \sin^2 x$

ANSWER KEY

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

GENERAL AWARENESS

1.(3) 76th British Academy Film Awards

Best Film – All Quiet on the Western Front

Best British Film – The Banshees of Inisherin

Best Actor – Austin Butler Elvis

Best Actress – Cate Blanchett Tár

Best Director – Edward Berger

Best Actor in a Supporting Role Barry Keoghan – Best Actress in a Supporting Role Kerry Condon

2.(2)

3.(4) Bangladesh won at the SAFF Women's Championship to lift the maiden title at the Dashrath Rangshala Stadium in Kathmandu, Nepal.
The 2022 SAFF U-20 Championship(Men) was the 4th edition of the SAFF U-20 Championship, organized by South Asian Football Federation (SAFF). India was the hosts of the tournament, held between 25 July and 5 August 2022.
India clinched the title defeating Bangladesh by 5–2 in the final.

4.(1) The Hawa Mahal was built from red and pink sandstone, it is on the edge of the City Palace, Jaipur, and extends to the Zenana, or women's chambers.

The structure was built in 1799 by the Maharaja Sawai Pratap Singh, grandson of Maharaja Sawai Jai Singh, the founder of the city of Jaipur, India. He was so inspired by the unique structure of Khetri Mahal that he built this grand and historical palace.

5.(2) Virendra Kumar - Minister of Social Justice and Empowerment Piyush Goyal - Minister of Textiles, Minister of Commerce and Industry and Minister of Consumer Affairs, Food and Public Distribution

Pralhad Joshi - Minister of Parliamentary Affairs, Coal and Mines of India

6.(1) Harisena was the famous poet of Sarnudragupta's Court. He composed the epic 'Devichandraguptam'.

Ravikriti was the court poet of Pulakesin II, the Chalukya King. He was the author of the Aihole inscription.

Xuanzang(Chinese monastic) - Great Tang Records on the Western Regions, Treatise on groups of elements

7.(1)

8.(2)

9.(3) Article 19 -Freedom of Speech and Expression

Article 23 - Prohibition of traffic in human beings and forced labour

Article 36 - Definition part of the Directive Principles of State Policy

10.(3) The objectives of Poshan 2.0 are as follows:

To contribute to human capital development of the country.

Address challenges of malnutrition.

Promote nutrition awareness and good eating habits for sustainable health and wellbeing.

Address nutrition related deficiencies through key strategies.

AYUSH systems shall be integrated under Poshan 2.0 for wellness and nourishment.

11.(3) Cytoplasm is the gelatinous liquid that fills the inside of a cell. It is composed of water, salts, and various organic molecules.

A vacuole is a membrane-bound cell organelle. In animal cells, vacuoles are generally small and help sequester waste products. In plant cells, vacuoles help maintain water balance.

A chloroplast is a type of membrane-bound organelle known as a plastid that conducts photosynthesis mostly in plant and algal cells.

12.(3)

13.(4) The Tapi Basin is situated in the northern part of the Deccan Plateau and extends over an area of 65145 sqkm which is nearly 2% of the total geographical area of the country. Nearly 80% of the basin lies in the State of Maharashtra.

14.(1) Ministry of Micro, Small and Medium Enterprises- Narayan Rane

Ministry of Labour and Employment - Bhupender Yadav

Ministry of Corporate Affairs - Nirlma Sitaraman

15.(4) Punjab Himalayas - between the rivers Indus and Satluj.

Kumaon Himalayas - between the rivers Satluj and Kali.

Nepal Himalayas - between the rivers Kali and Teesta.

Assam Himalayas - between the rivers Teesta and Dihang.

16.(1) So air, like most other substances, expands when heated and contracts when cooled. Because there is more space between the molecules, the air is less dense than the surrounding matter and the hot air floats upward. This is the concept used in the hot air balloons.

17.(1)

18.(4) Union Minister of State for Science and Technology Dr Jitendra Singh inaugurated India's first Open Rock Museum in Hyderabad, displaying around 35 different types of rocks from different parts of India with ages ranging from 3.3 billion years to around 55 million years of the Earth's history.

19.(2)

20.(4) Sikkim became the first Indian state to ban disposable plastic bags in 1998.

21.(3) At an altitude of 2000 to 3000 meters forests of Deodar, Silver fur, and Spruce are sparsely distributed.

Alpine vegetation is found between the altitude of 3000 to 4000 meters.

22.(1) 1916 Lucknow Ambica Charan Mazumdar 1911 Calcutta Bishan Narayan Dhar ' J a n a Gana Mana' sung for the first time 1906 Calcutta Dadabhai Naoroji The word 'Swaraj' was mentioned for the first time 1919 Amritsar Motilal Nehru Jallianwala Bagh massacre strongly condemned

23.(3)

24.(2) The process of covering the open surface of the ground by a layer of some external material is called mulching.

Rock dams are similar to sediment basins with earthen embankments. These damming structures are constructed of rock and gravel.

Contour barriers are contour strips which intercept downslope flowing water and soil particles. These barriers slow down the water movement and reduce its erosive force. They also filter out and trap many of the suspended soil particles, keeping them from being washed out of the field.

25.(4)

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