## SET – 1 || ANSWERS WITH EXPLANATION || Exam held on : 09/03/2023 || 09:00 AM

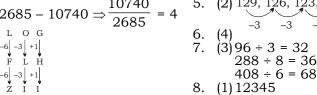
## ENGLISH LANGUAGE AND COMPREHENSION

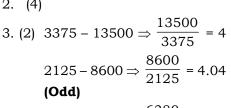
1. (4)	2. (4)	3. (1)	4. (1)	5. (4)	6. (2)	7. (2)	8. (4)	9. (1)
10. (2)	11. (3)	12. (2)	13. (4)	14. (2)	15. (1)	16. (4)	17. (4)	18. (4)
19. (4)	20. (3)	21. (3)	22. (4)	23. (1)	24. (2)	25. (4)		

- 9. (1) Replace "risen" with "raised". Rise  $\rightarrow$  उगना, उठना, तरक्की करना। Raise  $\rightarrow$  उठाना, बढ़ाना
- 17. (4) Present Indefinite Tense should be used for a sentence of universal truth.
- 20. (3) "Shout" is incorrectly spelt here, means to utter a sudden loud cry

WORD	MEANING IN ENGLISH	<b>MEANING IN HINDI</b>
Apologetic	Ashamed about something wrong that you have said or done; remorseful, contrite	क्षमायाचक
Astrology	The study of the positions and movements of the stars and planets and the way that some people believe they affect people and events	ज्योतिष विज्ञान
Astronomy	Study of heavenly bodies	खगोल विद्या
Breeze	A light gentle wind	मंद हवा
Cinch	An easy thing to do	आसान काम
Circumvent	To find a clever way of avoiding a difficulty or rule	आसान रास्ता खोज निकालना
Clique	A narrow exclusive circle or group of persons	गुट
Connoisseur	A person who knows a lot about art, good food, music, etc.	पारखी, विशेषज्ञ
Consecrate	To officially make something holy and suitable to be used for religious ceremonies	पवित्र करना
Coquette	A flirtatious woman	दिल फेंक महिला
Derisive	Expressing or causing contemptuous ridicule or scorn	व्यंग् करना
Divest	to take something off or away from	ले लेना (वंचित करना)
Foster	To promote the growth or development of	पालन-पोषण करना
Hypocrite	A person who acts in contradiction to his or her stated beliefs or feelings	पाखंडी
Iconoclast	A person who attacks settled beliefs or institutions	सामाजिक नियमों को तोड़नेवाला
Invidiousness	Tending to cause discontent, animosity, or envy	द्वेषपूर्णता
Irk	To irritate or annoy somebody	सताना
Kleptomaniac	One who has persistent neurotic impulse to steal	चोरी की लत
Magnanimity	Altruism	उदारता
Misogamist	One who hates institution of marriage	जो विवाह की संस्था से नफरत करता है
Numerology	The study of the occult significance of numbers	अंक ज्योतिष
Pedantic	One who shows odd one's knowledge.	ज्ञान का बखान करने वाला
Polyglot	Speaking or writing several languages	बहुभाषी
Quandary	A state of not being able to decide what to do; a difficult situation	असमंजस, उलझन
Stagnant	Not advancing or developing, not flowing	आलसी, ठहरा हुआ
Virulence	The severity or harmfulness of a disease or poison.	किसी रोग या विष की गंभीरता

# | GENERAL INTELLIGENCE & REASONING | $2685 - 10740 \Rightarrow \frac{1074}{268}$ | 2. (4) | $4. (3) \stackrel{\text{L}}{\sim} 0 \stackrel{\text{G}}{\circ}$



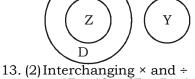


(Odd) 
$$1595 - 6380 \Rightarrow \frac{6380}{1595} = 4$$
  $\begin{array}{c} T & F \\ -6 & -3 \\ N & C \\ -6 & -3 \\ H & Z \end{array}$ 

$4444 - 8888 \rightarrow 4444$	×	2
= 8888		
$5555 - 7777 \rightarrow 5555$	×	2
= 11110 (odd)		

11. (1) C Value A C Value C Value C Value C Value A C Value C T E 19 5 18 Similarly,

U N 21 14 12. (1)



- $\Rightarrow$  47 + 13 ÷ 65 × 5 16  $\Rightarrow$  47 + 13 × 65 ÷ 5 – 16  $\Rightarrow$  47 + 169 - 16  $\Rightarrow$  200
- 14. (4)  $B \xrightarrow{+2} D \xrightarrow{+1} E \xrightarrow{+1} F$  (odd)  $L \xrightarrow{+1} M \xrightarrow{+1} N \xrightarrow{+1} O$   $I \xrightarrow{+1} J \xrightarrow{+1} K \xrightarrow{+1} L$
- 15. (2)  $14:210 \Rightarrow 14^2 + 14 = 210$  $13: \mathbf{182} \Rightarrow 13^2 + 13 = 182$  $16:272 \Rightarrow 16^2 + 16 = 272$

17. (1)  $R^+$ — $S^-$ — $T^+$  Father in Law

- 19. (2) Tea is drunk in a cup. Similarly, food is served on a plate.
- 20. (4) All are fruits except cauliflower whereas cauliflower is a vegetable.

21. (1)

23. (2) A writer needs a pen to do his work. Similarly, a

woodcutter needs an axe to 8. (1) Area of triangle do his job.

24. (3) 25. (3)

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

#### **QUANTITATIVE APTITUDE**

- 1. (3) a + b + c = 0  $a^3 + b^3 + c^3 3abc = 0$
- (2) Distance = Circumference × N Where 'N' is Number of circle

Distance = 
$$2 \times \frac{22}{7} \times 14 \times 10$$

Distance = 880 cm

3. (1) 
$$\sec \theta + \tan \theta = 5$$

$$\begin{bmatrix} \sec \theta + \tan \theta = k \\ \sec \theta - \tan \theta = \frac{1}{k} \end{bmatrix}$$

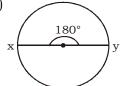
$$\therefore \sec\theta - \tan\theta = \frac{1}{5}$$

4. (1) Total number of school P & Q. = 17% + 31% = 48%

100% = 3000 1% = 30

 $48\% = 48 \times 30 = 1440$ 

5. (2)



- As the angle subtended by chord xy on the center is 180°, So, the chord xy is the diameter of the circle.
- ∴ Radius of circle =  $\frac{36}{2}$  = 18 cm
- $(4) \left(\frac{1+\sec^2 A}{1+\cos^2 A}\right) \left(\frac{1+\sin^2 A}{1+\csc^2 A}\right)$

$$\Rightarrow \left(\frac{1 + \frac{1}{\cos^2 A}}{1 + \cos^2 A}\right) \left(\frac{1 + \sin^2 A}{1 + \frac{1}{\sin^2 A}}\right)$$

$$\Rightarrow \frac{1}{\cos^2 A} \times \sin^2 A = \tan^2 A$$

7. (4) 
$$\frac{\frac{5}{2} \div \frac{2}{5} \times \frac{1}{5} - \frac{1}{5} \div \frac{3}{5} \times \frac{5}{2}}{\frac{2}{5} \div \frac{1}{3} - \frac{1}{2} \times \frac{5}{2} \div \frac{25}{4} + \frac{1}{2} \div \frac{2}{5} \times \frac{1}{5}}{\frac{1}{5} - 5}$$

$$\Rightarrow \frac{\frac{1}{5} - 5}{2 - \frac{1}{5} + 1} = \frac{-24}{5}$$

$$= \sqrt{s(s-a)(s-b)(s-c)}$$

Where 's' is Half measure

ATQ, 
$$S = \frac{13+15+14}{2} = 21$$

Area = 
$$\sqrt{21(21-13)(21-14)(21-15)}$$

$$= \sqrt{21 \times 8 \times 7 \times 6} = 84 \text{ Inch}^2$$

- $\Rightarrow$  P × 20% + Q × 40% = Q × 80%
  - $\Rightarrow$  20P + 40Q = 80Q
  - $\Rightarrow$  20P = 40Q
  - $\Rightarrow$  P: Q = 2:1

$$\Rightarrow \frac{P}{Q} \times 100 = \frac{2}{1} \times 100 = 200\%$$

10. (3) Marks price = MP Selling price = SP

$$MP \times \frac{2}{5} = SP \times \frac{5}{8}$$

Discount percentage =  $\frac{9}{25} \times 100$ 

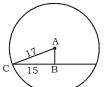
- 11. (3) ATQ,
  - Number of students = 2 + 2 + 12+25 + 9 = 50

Number of students who got more than 60% marks  $= 25 + 4 \Rightarrow 34$ 

 $\Rightarrow \frac{34}{50}$  Number of students percentage in digit.

$$=\frac{84}{50} \times 100 = 68\%$$

12. (4) ATQ,



From Pythagorean theorem.

$$AB^2 = AC^2 - BC^2$$

$$AB^2 = 17^2 - 15^2$$

$$AB^2 = 289 - 225$$

$$AB^2 = 64$$

$$AB = 8$$

13. (4) Teena - 12 5 (Eff.) 60 Meena- 15 4 (Eff.)

Meena got money =  $\frac{4}{9} \times 18000$ 

14. (2) Length of direct common tangent =  $\sqrt{d^2 - (r_1 \sim r_2)^2}$ 

$$=\sqrt{25^2-(12-5)^2}$$

$$=\sqrt{25^2-7^2}=24$$

15. (3) Average savings of all companies

$$= \frac{600 + 1600 + 1200 + 600 + 800}{5}$$

= 960

Average spend of all companies.

$$\frac{200 + 800 + 600 + 400 + 200}{5} = 8000$$

ATQ, 
$$\frac{960}{800} \times 100 = 120\%$$

students × Average age  $30 \times 15 = 450$ 

As the age of students was taken as 15 years instead of 9 years, So decrease in average age 15 -9 = 6 years.

∴ Correct average age

$$=\frac{450-6}{30}=\frac{444}{30}=14.8$$
 years.

17. (1) Let, The average speed of a car  $= x \, \text{km/h}$ 

$$\Rightarrow \frac{60}{x} \sim \frac{60}{x+8} = 2$$

 $\Rightarrow$  Help to the options (n = 12)

$$\Rightarrow \frac{60}{12} - \frac{60}{20} = 2$$

$$\Rightarrow 5 - 3 = 2$$

$$\Rightarrow 2 = 2$$

Original speed of car = 12km/h.

18. (4) Let, CP = 100 units

$$SP = 100 \times \frac{125}{100} = 125 \text{ units ATQ},$$

$$125 - 40 = \left(100 \times \frac{75}{100}\right) \text{ units}$$

50 units = 40125 units = ₹100

19. (4) 44 × 12 – (25 + 13 × 10)= 528 - 155= 373

20. (3) 
$$\cot y = \frac{12}{5}$$



$$Cot y = \frac{Base}{Perpendicular}$$

Hypotenuse $^2$  = Perpendicular $^2$  +

Hypotenus<sup>2</sup> =  $12^2 + 5^2$ 

Hypotenus = 13

$$Cos^2y = \frac{Base}{Hypotenous}$$

$$\cos^2 y = \left(\frac{12}{13}\right)^2 = \frac{144}{169}$$

- 21. (3) ATQ, P = r = t = 2 q = s = u = 5

$$\frac{4 \times 2 + 3 \times 2 + 7 \times 2}{4 \times 5 + 3 \times 5 + 7 \times 5} = \frac{8 + 6 + 14}{20 + 15 + 35}$$

$$=\frac{28}{70} \Rightarrow \frac{2}{5}$$

22. (2) 
$$\frac{32+34+38+21+26+x}{6} = 30$$

$$151 + x = 180$$
  
 $x = 29$ 

16. (4) Total age = Number of 23. (1) The cost of the average number of pens sold by P in all the five months

$$=\frac{100+80+40+30+10}{5}$$

$$=\frac{260}{5}=52$$

The cost of the average number of pens sold by Q in all the five months.

$$\frac{10+20+120+60+50}{5} = \frac{260}{5}$$

ATQ, 
$$\frac{J_1}{J_2} = \frac{52}{52} = 1$$

24. (3) 
$$\frac{1+x^2}{1-x} \div \frac{1-x^4}{x-1} \times \frac{x(1-x)}{1+x}$$

$$= \frac{x(1+x^2)(1-x)}{(1+x^2)(1-x^2)(1+x)} = \frac{-x}{(1+x)^2}$$

25. (4) 10% = 
$$\frac{1}{10}$$

Compound interest for 2 years.

Principal: Amount 10:11 10 : 11 100 : 121

100 units = 14000

1 unit = 140

Compound interest (21 units)  $= 14\overline{0} \times 21 \Rightarrow 2940$ 

#### ANSWER KEY

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

#### **GENERAL AWARENESS**

- 1.(4) Madhubani Bihar
  - Pattachitra Odisha
  - Pithora Gujarat
  - Kalighat Pat West Bengal
  - Kalamkari Andhra Pradesh
  - Chittara paintings Karnataka
- 2.(3) Sri Krishna Sinha was the first Chief Minister of Bihar.
  - Lala Lajpat Rai is also known as Punjab Kesari.
  - · Rajendra Prasad was elected

- as its first president by the Constituent Assembly. He was known as Gandhi of Bihar.
- · He wrote a book named "Mahatma Gandhi and Bihar, Some Reminiscences".
- Karpoori Thakur was an Indian politician from the Bihar state. . He was popularly known as Jan Nayak. He served as the Chief Minister of Bihar from December 1970 to June 1971 (Socialist Party/Bharatiya Kranti Dal), and from December 1977 to April 1979 (Janata Party).

3.(1)

Razia Sultan (1236–1240) became the Sultan(5th) of the Slave dynasty after the death of Iltutmish. She was the first female Muslim ruler of the subcontinent, and the only female Muslim ruler of Delhi. Predecessor - Ruknuddin Firuz Successor - Muizuddin Bahram Odisha Chief Minister Naveen Patnaik has launched 'Football for All'. The Programme has been initiated by FIFA in partnership with the Kalinga Institute of Industrial Technology (KIIT) & Kalinga Institute of Social Sciences (KISS).

- Oidsha -Ganeshi Lal Naveen Patnaik
- Madhya Pradesh Mangubhai Shivraj Singh C. Patel Chouhan
- West Bengal C. V. Ananda Mamata Banerjee
- Jharkhand C. Ρ. Radhakrishnan Hemant Soren
- 6.(4) Carlos Alcaraz is a Spainish Player.
  - US Open 2022 (Women)- Iga Natalia Swiatek(Poland)
  - Australian Open 2023 -Novak Djokovic(Serbian) and Sabalenka(Belarus).
  - · Four grandslams in a year - Australian Open(1905), French Open (1891), Wimbledon (1877) and US Open(1881)
- 7.(2) FIFA Women's World Cup was founded in 1991.
  - 2026 FIFA World Cup (Men) will be played in Canada, Mexico, United States.
  - Canberra is the capital city of Australia.
  - Wellington is the capital of New Zealand.
- Khelo India Youth Games (KIYG), formerly Khelo India School Games (KISG), are the annual national level multidisciplinary grassroot games in India held in January or February for two cat-

- egories, namely under-17 years school students and under-21 college students. Every year best 1,000 kids will be given an annual scholarship of ?5 lakh for 8 years to prepare them for the international sporting events. It was started in 2018.
- There was a total of 27 multidisciplinary amateur sports at the Khelo India event 2023.
- Maharashtra 56 gold, 55 silver, and 50 bronze. Haryana 41 gold, 32 silver, and 55 bronze.
- For the first time, water sports have been added to the sports event. Canoeing, Kayaking, Rowing, and Canoe Slalom are some new games that have been included this time.
- 9.(1) Colloid is a substance consisting of particles substantially larger than atoms or ordinary molecules but too small to be visible to the unaided eye.
- 10.(3) Concept of "Republic" France
  - Concept of "Concurrent List"Australia
  - 'Independence of Judiciary' U.S.A.
- 11.(1) E. Goldstein discovered what he termed Kanalstrahlen, or canal rays, also called positive rays.
  - Niels Bohr made foundational contributions to understanding atomic structure and quantum theory, for which he received the Nobel Prize in Physics in 1922.
  - Ernest Rutherford Discovered alpha and beta radioactivity, atomic nucleus, proton and radon.
- 12.(3)
- 13.(3) Mountains in Maharastra -Ajanta, Satmala, Harishchandragad, Shambhu Mahadev.
  - Heighest peak (Sandakphu) in West Bengal belongs to Singalila Ridge.
  - Gujarat Bhupendra Patel Acharaya Devvrat
  - Andaman & Nicobar Shri. Devendra Kumar Joshi (Lieutenant Governor).
  - Reacently, Prime Minister names 21 Andaman islands after Param Vir Chakra awardees.
- 14.(2) Modhera is famous for its Sun temple, a protected ancient site, which is situated on the river

- Pushpavati. It was built by King Bhima-I of the Chalukya dynasty in 1026-27.
- Rajasthan Ashok Gehlot Kalraj Mishra
- Himachal Pradesh Sukhwinder Singh Sukhu Rajendra Vishwanath Arlekar
- 15.(4) Recently, S. Sowmya was conferred with Sangita Kalanidhi Award for her contribution to Carnatic music.
  - Carnatic Sangeet Composed of a system of Ragam (Raga) and Thalam (Tala). It has developed in the south Indian states of Tamil Nadu, Kerala, Andhra Pradesh and Karnataka. These states are known for their strong presentation of Dravidian culture.
- 16.(1) Gilt-Edged Market also known as the government securities market.
  - As the securities are risk free, they are known as gilt-edged i.e. the best quality securities
  - The investors in the gilt-edged market are predominantly institutions such as commercial banks, LIC, GIC, and the provident funds.
  - RBI plays a dominant role in the gilt-edged market through its 'Open Market Operations'.
- 17.(3) Tropic of Cancer passes through these 8 states in India: Gujarat, Rajasthan, Madhya Pradesh, Chattisgarh, Jharkhand, West Bengal, Tripura, and Mizoram.
  - Punjab Bhagwant Mann Shri Banwarilal Purohit
  - Maharashtra Eknath Shinde Ramesh Bais
  - Chhattisgarh Bhupesh Bhagel Anusuiya Uikey
  - Kerala Pinarayi Vijayan Arif Mohammed Khan
- 18.(3)
- 19.(1) Troposphere 12to18 km
  - Stratosphere 11to 50 km
  - Mesosphere 40-50 to 80-90 km
  - Thermosphere 80-90 to 800 km
- Exosphere above 800 km
  20.(4) Gandhi organised the Kheda
  movement to support peasants
  who were unable to pay the revenue because of famine and
  plague epidemic.He was assisted
  Sardar Vallabhbhai Patel,
  Indulal Yagnik, Shankarlal
  Banker, Mahadev Desai, Narhari
  Parikh, Mohanlal Pandya and

- Ravi Shankar Vyas.
- Champaran Satyagraha –
   1917
- Ahmedabad Satyagraha 1918
- Rowlatt Satyagraha 1919
- 21.(3) Hub is a network hardware device for connecting multiple Ethernet devices together and making them act as a single network segment.
  - A router is a device that connects two or more IP networks or subnetworks.
- 22.(4) Bryophytes are known as amphibians of plant kingdom as they live on land but depend on water for reproduction.
  - Angiosperms are referred to as flowering plants that consist of both male and female reproductive structures.
  - Pteridophytes are also called vascular cryptogams. Pteridophytes are types of plants without seeds or flowers.
- 23.(4) Ctrl + X : Cut the selected text
  - Ctrl+L : Align the text to the right.
  - Ctrl+C: Copy the selected text.
- 24.(4) Swacch Bharat Award Presented By Ministry of Housing & Urban Affairs (MoHUA).
  - Cleanest City (With population above 1 lakh)-Indore,Surat, Navi Mumbai,
  - Cleanest City (With population below 1 lakh) Award-Panchgani, Maharashtra
  - Best Ganga Town Haridwar, Uttrakhand
  - Fast Mover City Award-Shivamogga, Karnataka
  - Cleanest State Madhya Pradesh.
- 25.(3) Article 353: Effect of Proclamation of Emergency.
  - Article 356: President's Rule can be imposed on any state of India on the grounds of the failure of the constitutional machinery.
  - Article 358: Suspension of provisions of Article 19 during emergencies

#### ANSWER KEY

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