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THE WINNING EDGE ACADEMY

RASHTRIYA INDIAN MILITARY COLLEGE, DEHRADUN

ENTRANCE EXAMINATION – DEC 2023 SOLUTION

SUBJECT: MATHEMATICS (ANSWER KEY)

Time: Hr 30 Mins **MM : 200**

Instructions:

1. Attempt all 20 questions.
2. Part 'A' contains 10 questions and each question in this part carries 'Eight marks'.
3. Part 'B' contains 10 questions and each question in this part carries 'Twelve marks'.
4. Use of calculators is prohibited. Complete written justification is required for each question. Marks will be awarded for correct steps to reach the solution. Answers without justification will not have any credit.
5. Take the value of $\pi \; as \; \frac{22}{7}$
6. Use blue/black ball pen to answer the questions.
7. The question paper can be retained by the candidates post examinations.

PART A($10 \times 8 = 80$ MARKS)

1. Compare the fractions $x = \frac{111110}{111111}, y = \frac{222221}{222223}, z = \frac{333331}{333334}$ and arrange them in ascending order.

Solution:

$x = \frac{111110}{111111}, y = \frac{222221}{222223}, z = \frac{333331}{333334}$

Now $x - 1, \quad y - 1, \quad z - 1$

$\frac{111110-1}{111111}$

$\frac{111110-111111}{111111} = \frac{-1}{111111}$ ..... (i)

$\frac{222221-1}{222223}$

$\frac{222221-222223}{222223} = \frac{-2}{222223}$ ..... (ii)

$\frac{333331-1}{333334}$

$\frac{333331-333334}{333334} = \frac{-3}{333334}$ ..... (iii)

From (i) and (ii)

$\frac{-1\times2}{222222} \square \frac{-2}{222223}$

$\frac{-2}{222222} \square \frac{-2}{222223}$

Numerator is same so,
Number with larger
Denominator is actually small
If we to none negative sign will change

Then $\frac{-2}{222222} > \frac{-2}{222223}$

But we to negative sign will change

$\frac{-2}{222222} < \frac{-2}{222223}$

Now compare (ii) and (iii)

$\frac{-2\times3}{222223} > \frac{-3\times2}{33334\times2}$

$\frac{-6}{666669} > \frac{-6}{66668}$

Hence clearly y is greatest

Compare (iii) and (i)

$\frac{-1\times3}{111111\times3}$ $\frac{3}{333334}$

$\frac{-3}{333333} < \frac{-3}{333334}$

$y > z > x$

2. **Which of the following rational numbers are terminating in their decimal notation and which are not. For the numbers that have terminating decimals, express the number as a terminating decimal.**

a) $\frac{73248}{1500}$ **b)** $\frac{426}{64}$ **c)** $\frac{123456}{125}$

Solution:

For terminating decimal in denominator we should have factor of 2 and 5

a) $\frac{73248}{1500}$

If we divide it by 3 i.e., 24416/500

$500 = 2 \times 2 \times 5 \times 5 \times 5$

b) $\frac{426}{64}$

64 is a prime factor of $64 = 2 \times 2 \times 2 \times 2 \times 2 \times 2$

$64 = 2^6$

c) $\frac{123456}{125}$

125 = 5 × 5 × 5 is a prime factor of 5

Hence, all three are terminating decimals

3. **Two different numbers x and y (not necessarily integers) satisfy $x^2 - 2000x = y^2 - 2000y$. Find the sum of x and y.**

Solution:

$x^2 - 2000x = y^2 - 2000y$

$x^2 - y^2 = 2000x - 2000y$

$x^2 - y^2 = 2000(x - y)$

$(x - y)(x + y) = 2000(x - y)$

$\frac{(x-y)(x+y)}{(x-y)} = 2000$

$(x + y) = 2000$

4. **A family consists of four persons. If Masha's scholarship is doubled, the total income of the family will increase by 5%; if, instead, Mother's salary is doubled, the family's income will become 15% greater; and if Father's salary is doubled, the family's income will grow by 25%. By what percent will the family's income grow if Grandpa's pension is doubled.**

Solution:

Let the income of

Masha's = x

Mother = y

Father = z

Grandfather = w

$w + x + y + z = 100$ ..... (i)

Now Masha's income is double after 5% income $= 100 + \frac{5}{100} \times 100$

$w + 2x + y + z = 105$ ..... (ii)

Now Mother's income is double after 15% income

$w + x + 2y + z = 115$ ..... (iii)

Now father's income is double after 25% income

$w + x + y + 2z = 100 + \frac{25}{100} \times 100$

$= 125$ ..... (iv)

Hence we get three eq.

$w + 2x + y + z = 105$

$w + x + 2y + z = 115$

$w + x + y + 2z = 125$

$3w + 4x + 4y + 2z = 345$ ..... (v)

$2w + 4(x + y + z) = 345$

From eq (i)

$w + x + y + z = 100$

$x + y + z = 100 - w$ .....(vi)

Put in equation in x

$3w + 4(100 - w) = 345$

$3w + 400 - w = 345$

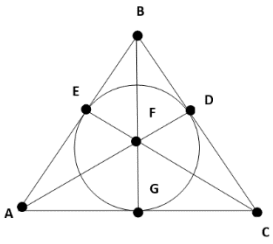
$-w = 345 - 400$

$-w = -55$

$w = 55$

Hence there must be 55% increase

5. **Refer to the figure below. (Figure 1). Triangle ABC has an in circle with center at F and touching the triangle at E, G and D. (a) Given that $\angle FAG = 20$ Degrees, $\angle FCG = 30$ Degrees. Find all the angles A, B and C of the triangle ABC (b) Given that AC=12, AB=10, and BC= 8, Find the length of BE and BD.**



Solution:

$\angle FAG = 20°$ $\angle FAE = 30°$ (Angle bisector)

$\angle FCG = 20°$ $\angle FCD = 30°$ (Angle bisector)

Now

$\angle A = 40°$ $\angle C = 60°$

Now $\angle B$ =?

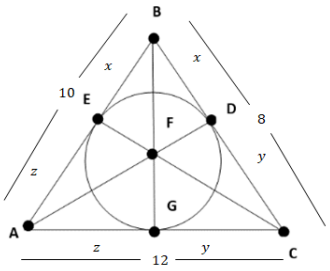
$\angle A + \angle B + \angle C = 180°$

$\angle 40 + 60 + \angle C = 180°$

$100 + \angle C = 180°$

$\angle C = 180 - 100$

$\angle C = 80°$



$x + z + z + y + x + y = 10 + 12 + 8$

$2x + 2y + 2z = 30$

$2(x + y + z) = 30$

$x + y + z = \frac{30}{2}$

$x + y + z = 15$ ..... (i)

$8 + z = 15$

$z = 15 - 8$

$z = 7$

$10 + y = 15$

$y = 5$

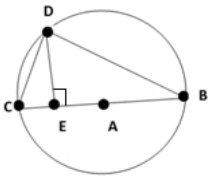
$x + y + z = 15$

$x + 12 = 15$

$x = 15 - 12$

$x = 3$

6. Refer to the figure below. (Figure 2). The side CB is the diameter of the circle. Given that CE=3, BE=7, and DE ⊥BC. Find CD, DE and DB.



Solution:

CE = 3

BE = 7

∴ BC = BE + EC

$= 7 + 3 = 10$

As we know, that, angle in a semi-circle $90°$ is.

$\angle CDB = 90°$

Using Pythagoras theorem-

$CD^2 + BD^2 = BC^2$

$CD^2 + BD^2 = 10^2$

$CD^2 + BD^2 = 100$ _____ (i)

Now,

In $\Delta BED -$

$BD^2 = ED^2 + BE^2$

$BD^2 - ED^2 = (7)^2 = 49$ _____ (ii)

Again, In $\Delta CED -$

$CD^2 + DE^2 = BE^2$

$BD^2 - ED^2 = (3)^2 = 9$ _____ (iii)

Subtract (iii) from (ii)

$CD^2 - DE^2 - BD^2 - ED^2 - 9 - 49$

$CD^2 - BD^2 = -40$

$BD^2 - CD^2 = 40$ _____ (iv)

Adding (i) and (4)

$CD^2 - BD^2 + BD^2 - CD^2 = 100 + 40$

$BD^2 = \frac{140}{2} = 70$

$BD = \sqrt{70}$

Putting value of BD in (i) –

$CD^2 + 70 = 100$

$CD^2 = 100 - 70$

Putting value of BD is (ii)

$70 - ED^2 = 49$

$70 - 49 = ED^2$

$21 = ED^2$

$DE = \sqrt{21}$

Hence,

DC = $\sqrt{30}$, $DE = \sqrt{21}$ *and* $DB = \sqrt{70}$

7. **Given that $56a = 65b$ where a and b are natural numbers, prove that a + b is composite. (Hint: Consider the equation 3p = 2q. Notice that in this equation p has to be a multiple of 2 and q has to be the same multiple of 3, i.e, $p = 2k$ and $q = 3k$ for some k.**

Solution:

$56a = 65b$

$\frac{a}{b} = \frac{65}{56}$

Let $a = 65K$

$b = 56K$

Now

$65K + 56K$

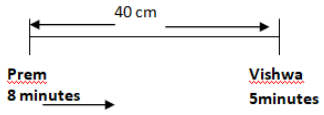
$= 121K$

More than 3 factor

8. **Brothers Prem and Vishwa decided to make a funny video and post it on the Internet. First, they filmed how each of them walked from home to school - Vishwa walked for 8 minutes, and Prem walked for 5 minutes. Then they came home and sat down at the computer to edit the video: they simultaneously launched Vishwa's video from the beginning and Prem's video from the end (in the opposite direction); at the moment when in both videos the brothers were at the same point on the path, they merged Prem's video with Vishwa's. The result was a video in which Vishwa's walks from home' to school, and then at some point suddenly turns into Prem and walks home backwards. How long was the edited funny video in minutes?**

Solution:

Let the distance be = 40 cm



Prem Speed = $\frac{40}{8}$ = 5m/min

Speed of Vishwa = $\frac{40}{5} = 8\ m/min$

And they one moving towards each to them

Relative Speed = $5 + 8 = 13\ m/min$

Now = $\frac{40}{13}$ min

Now

You can take distance anything be x, 100,40,80 answers will not change

9. **Natasha can prepare Greek and Ceasar salad. Vanya can prepare Greek and Russian salad. Sasha can prepare Caesar and Russian salad. Write down the names of girls in a row and the names of dishes in next row. Join the girls with the dishes they can cook with lines. Now assign dishes to each girl such that each cooks a dish she knows and all dishes are different. How many solutions does the problem have?**

Solution: Let us do case study

	Case I
Natasha	
Vanya	
Sasha	

Now from the Question Natasha can prepare only Greek and cear

	Case I
Natasha	Greek
Vanya	
Sasha	

* now vanya cannot prepare greek in case I while in case II Sasha cannot prepare Caesar

	Case I	Case II
Natasha	Greek	Caesar
Vanya	Russian	
Sasha		Russian

So only two case are possible are in case I Sasha is left with only one option that is Caesar while in option II vanya in left with only one option that is greek

	Case I	Case II
Natasha	Greek	Caesar
Vanya	Russian	Greek
Sasha	Caesar	Russian

10. **Harold made a plum pie to take on a picnic. He was able to eat only $\frac{1}{4}$ of the pie, and he left the rest his friends. A moose came by and ate $\frac{1}{3}$ of what Harold left behind. After that, a porcupine ate $\frac{1}{3}$ of what the 3 moose left behind. How much of the original pie still remained after the porcupine left?**

Solution:

Let total pie $= x$

Harold ate $= \frac{1}{4} \times x = \frac{x}{4}$

Remaining cake = $\frac{x}{1} \frac{-x}{4} = \frac{3x}{4}$

Now more ate $\frac{1}{3}$ of remaining

$\frac{1}{3} \times \frac{3x}{4}$

Remaining $\frac{x}{4} \quad \frac{-x}{4} = \frac{2x}{4}$

Porcupine ate $= \frac{1}{3}$ of what more left

$\frac{1}{3} \times \frac{2x}{4}$

$\frac{2x}{12} = \frac{x}{6}$

Remaining ate $= \frac{2x}{4} - \frac{x}{6} = \frac{6x-2x}{12}$

$\frac{4x}{12} = \frac{x}{3}$

PART B ($10 \times 12 = 120$ MARKS)

11. Is $4^9 + 6^{10} + 3^{20}$ a prime number (Hint: note that $(a+b)^2 = a^2 + 2ab + b^2$. And, Is $20^{100} - 17^{34}$ a prime?

Solution:

$4^9 + 6^{10} + 3^{20}$

$(2)^2 + 2.3^{10} \times 2^9 + (3^{10})^2$

$(2^9 + 3^{10})^2$

Number having square has atheist 3 factor

Hence, it is not a prime number

Now,

$20^{100} - 17^{34}$

$(20^{50})^2 - (17^{17})^2$

$(20^{50} - 17^{17})20^{50} + 17^{17}$

$20^{100} - 17^{34}$ has two factor

So, it is also not a prime number

12. Ananya calls a date beautiful if all 6 digits of its record are different. For example, 04/19/23 is a beautiful date, but 02/19/23 and 06/01/23 are not.

a) How many beautiful dates will there be in April 2023?

b) How many beautiful dates are there in April 2023?

Solution:

(i) Than can be no beautiful dates from 1 to 10

Become will be repeated in each

For example

01/04/2023

09/04/2023

10/04/2023

In

11/04/2023	1 is repeated
12/04/2023	2 is repeated
13/04/2023	3 is repeated
14/04/2023	4 is repeated

15/04/2023
16/04/2023
17/04/2023 – They are beautiful dates
18/04/2023
19/04/2023

From
20/04/2023 *to* 30/04/2023 – 2 is repeated

30/04/2023 – 3 is repeated
Hence only 5 beautiful dates are there

(ii) February, March, are not include
February is 2nd month and March is 3rd months being year 2023 2 and 3 will be repeat
November and December are 11 and 12 hence 1 and 2 are repeated
In October and January that is 10 th and 1st month either
1 or 0 repeated
Example

01/10/2023	01/01/2023
14/10/2023	18/01/2023
30/10/2023	30/01/2023

Now we are left with 6 months
April, May, Tune, July August Sept
Now we analyse date
In every month we will not include dates from
1 to 13 (become each time either 1 or 0 is repeated
We will also not include dates from
20 to 30/31 because each time either 2 or 3 is repeated
Now we are left with the following dates 14, 15, 16, 17, 18, 19
In there dates also we will cancel the date which have same month
Example
April is 4th months so 14th date cannot be count in that month
May is 5th month so 15th date cannot be count in that month
June is 6th month so 7th date cannot be count in that month
So in each month not of 5 dates i.e.
14, 15, 16, 17, 18, 19
We will count one less date
So, each month have 5 beautiful days
Hence total beautiful days = $5 \times 6 = 30$

13. **Vasant solved problems for 15 days - at least one every day. Every day (except the first), if the weather was cloudy, he solved one more problem than the previous day, and if it was sunny, he solved one less problem. In the first 9 days, Vasant solved 13 problems.**

a) What was the weather like on the 10th day? How many problems did he solve that day?

b) What is the greatest number of problems Vasant could solve on the 15th day?

Solution:

(i) We know that vasant did 13 answers correct

Now divide 13 in such a way that some days its sunny

Some day its cloudy

Let x question on sunny day y cloudy day

Total question $(x + y)$

$x + 2y = 13$

So, $x = 9 - y$

$9 - y + 2y = 13$

$9 + y = 13$

$y = 13 - 9$

$y = 4$

$x = 9 - 4$

$x = 5$

5 days are sunny 4 days are cloudy

So the weather like on the 10th

Day is cloudy and he solved 2

Problems on that day

(ii)

Date	1	2	3	4	5	6	7	8	9
	1	2	1	2	1	2	1	2	1
	Sunny	Cloudy	Sunny	Cloudy	Sunny	Cloudy	Sunny	Cloudy	Sunny

It we want was vasant to solve greatest number of problem then given him all other days as cloudy

So, on

11th →3 problems solved

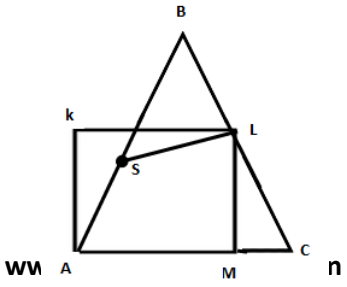
12th →4 problems solved

13th →5 problems solved

14th →6 problems solved

15th →7 problems solved

14. Isosceles triangle ABC (AB = BC) and square AKLM are located as shown in the figure below. Point S on AB is such that AS = SL. Find the value of & SLB. (Hint: Draw construction line KS and analyse the triangles KSL. and KSA for congruency and consequence)



Solution:

$\angle KAM = 90°$

$\left.\begin{matrix}\angle SAM = x° \\ \angle LCA = x°\end{matrix}\right\}$

$BLK = x°$ (Because they are responding)

$\angle KAS = 90 - x°$ $\quad [Hence\ BLS = BLK + S]$

$\angle KLS = 90 - x°$

$BLS = 90 - x + x$

$BLS = 90$

15. Two congruent triangles are located inside a square, as shown in the figure below. Find their angles

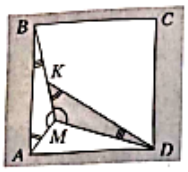


Figure 4: Geometry2

Solution:

$ABM \cong AMD$

Hence

AB = AD

AM = AM

BM = MD ..... (i)

$\Delta KMD \cong \Delta BMA$

$AB = AD\ (side\ of\ square)$

$MD = MB$ from (i)

$AM = AM$

So all three triangle one congruent

So

$\angle KMA = \angle AMD = \angle AMB = x$

$x + x + x = 360$

$3x = 360$

$x = \frac{360}{3}$

$x = 120$

16. Two sums are written on the board:

a) $1 + 22 + 333 + 4444 + 55555 + 666666 + 7777777 + 88888888 + 999999999$

b) $9 + 98 + 987 + 9876 + 98765 + 987654 + 9876543 + 98765432 + 987654321$

Determine which one is greater (or they are equal). (Hint: Write the two sums neatly as you would while adding them by brute force)

Solution:

$1 + 22 + 333 + 4444 + 55555 + 666666 + 7777777 + 88888888 + 999999999$

$9 + 98 + 987 + 9876 + 98765 + 987654 + 9876543 + 98765432 + 987654321$

When we add both

10 + 120 + 1320 + 14320 ……..

Hence by brute force

They both one equal

17. **Linda wrote down the name of her home town and all its cyclical shifts (shifts of letters in a loop), stacking them up. Here is what she obtained:**

PODUNK
KPODUN
NKPODU
UNKPOD
DUNKPO
ODUNKP

She then ordered these lines alphabetically to make another table

DUNKPO
KPODUN
NKPODU
ODUNKP
PODUNK
UNKPOD

Reading out the last column, she got ONUPKD. Igor did the same with the name of his home town and got the "word" MTTLARAEKIS. Find the name of Igor's town, if the name begins with the letter S.

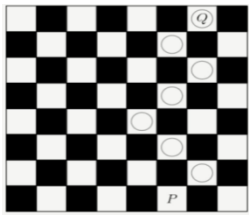
Solution:

Solution:-

A_ _ _ _ _ _ _ _ _M
MA_ _ _ _ _ _ _ _ A
AMA_ _ _ _ _ _ _ T
TAMA_ _ _ _ _ _ I
ITAMA_ _ _ _ _L
LITAMA_ _ _ _R
RLITAMA_ _ _E
ERLITAMA_ _T
TERLITAMA_S
STERLITAMAK

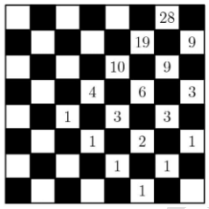
18. **A game board consists of 64 squares that alternate in color between black and white. The figure below shows square P in the bottom row and square Q in the top row. A marker is placed at P. A step consists of**

moving the marker onto one of the adjoining white squares in the row above. How many 7-step paths are there from P to Q? (The figure below shows a sample path.)

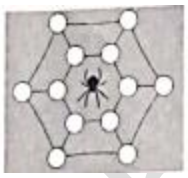


Solution:

Notice that, in order to step onto any particular white square, the marker must have come from one of the 1 or 2 white squares immediately beneath it (since the marker can only move on white squares). This means that the number of ways to move from P to that square is the sum of the numbers of ways to move from P to each of the white squares immediately beneath it. To solve the problem, we can accordingly construct the following diagram, where each number in a square is calculated as the sum of the numbers on the white squares immediately beneath that square (and thus will represent the number of ways to remove from P to that square, as already stated).

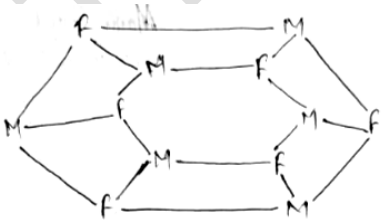


19. **The spider wove a web, and all 12 of its knots caught a Fly or a mosquito. In this case, each insect turned out to be connected by a piece of web to exactly two mosquitoes. Draw an example of how this could be (by writing the letters F for a fly and M for a mosquito inside the knots). Redraw the figure given below in your answer script and mention 'F' or 'M' in the white circle (knot) as suitable.**



Spider Web

Solution:



20. **A knight always speaks the truth. A liar always lies. Two knights and two liars are gathered together.**
    a) "All! of us are knights"
    b) "There is exactly one knight amongst you".

c) "Amongst you, there are more knights than liars"

If anyone could, then indicate everyone who could and explain why he could say that. If no one could say such a phrase, then also explain why?

Solution:

a) All of us are knight

Knight always speaks truth so both will always say we speaking truth

Hence we are all knight

Liars wont speak truth hence all will say

That we are knights

Knights		Liars	
1	2	3	4
YES	YES	YES	YES

b) There is exactly one knight amongst you

Knights		Liars	
1	2	3	4
NO	NO	YES	YES

Knight won't lie so they will not say that there is exactly one.

c) Amongst you, there are more knights than liars

Knights		Liars	
1	2	3	4
YES	YES	YES	YES

1. Knight won't lie
2. liars won't say truth.

SUBJECT: ENGLISH

SECTION A – READING (25 MARKS)

Instructions:

1. Read all the questions thoroughly before answering.
2. The question paper comprises of three sections.
a) Reading Section - 25 Marks
b) Writing Section - 30 Marks
c) Grammar - 70 Marks
3. The question paper can be retained by the candidate post exam.

1. a) What is a coral reef, and how is it formed?

Answer – A coral reef is a vibrant and underwater ecosystem formed by the accumulation of calcium carbonate secreted by corals.

b) Why are coral reefs often referred to as the "rainforests of the sea"?

Answer – They are referred to as rainforests of the sea due to their unparallel biodiversity and complex interlines.

c) Where are coral reefs typically found, and why do they thrive in these conditions?

Answer – Coral reefs are typically in found warm, shallow waters of tropical oceans. They thrive in these conditions as such conditions provide a habitat for the growth of a large amount of marine lifecorals.

d) Describe the symbiotic relationship between corals and zooxanthellae.

Answer – The corals and an algae known as zooxanthellae live in a symbiotic relationship. The algae provides the corals with all the essential nutrients for their growth and hence contribute to the vibrant colors of the reef.

e) What role do corals play in the overall health and structure of a coral reef ecosystem?

Answer – Corals play an important role in the overall health and structure of a coral reef system as they contribute to marine biodiversity. Diverse species of marine organism of various shapes and sizes like shanks sea horses, sponges, mollusks etc are a part of this ecosystem.

f) Find the antonyms of the following from the passage:

i) Simple – Complex

ii) Central – Diverse

g) Find the words from the passage which mean the following:

i) Finally – eventfully

ii) Fragile – vibrant

iii) Charming – captivating

2. a) Give a suitable title to the poem.

Answer – Greation, Greedr's Impact: A Refection 'Refection Creator', "Humanity's Deviation"

b) Are personification and metaphor used in the poem? Explain in 30-40 words

Answer – He creates his favourite – metaphor
Spreading the worst disease – metaphor
Greed births all the diseases – Refection
God must be regretting – personification
Attributing human emotions (regret) to god personifying him

c) What is the central idea of the poem? Explain in 30-40 words

Answer – God creates humans to spread love but humans only spread hatred and segregation. They have become selfish greedy. This selfishness is like a disease that poisons relationships and Separates people from what is good and spiritual.

d) Identify words or phrases where there may be errors in the poem.

Answer – He wants to be nothing but taking

In everything that he does
God must be regretting.
Or
Man has proved him wrong
Waiting nothing

e) What kind of person do you think the poet is? Base your answer on the poem given

Answer – Poet is a lover of humanity. One who cares for humanity, one who does not hate or Hatred and indifference shown by the humans towards each other. He believes god has sent humans to spread love all around but humans have forgotten the message of love and segregated everyone for which he was sent on this earth.

f) Find the words from the poem which could mean the opposite of the following:-

i) Restricting – spending
ii) Destroyed – create

SECTION B – WRITING (50 MARKS)

1. Dear Editor,

I am Gargi Sharma, a ninth-grade student from Chandigarh, and I am writing to share my vision for India in 2030. As we stand on the cusp of a new decade, I believe our nation has the potential to become a global leader in various aspects.

In 2030, I envision India as a hub of innovation and sustainable development. A country where education is accessible to every child, fostering critical thinking and creativity. A nation that leads in renewable energy, addressing environmental concerns and mitigating climate change. I hope for a future where technology is harnessed for social good, narrowing the urban-rural divide and enhancing healthcare accessibility.

Furthermore, I aspire to see a society that celebrates diversity and equality, breaking free from stereotypes. Empowered youth actively participating in shaping policies, ensuring a brighter future for all.

It is crucial for us to focus on inclusive growth, environmental sustainability, and social harmony to turn this vision into reality. Together, let's work towards building a prosperous and harmonious India by 2030.

Sincerely,

Gargi
Sharma
Class IX Student
Chandigarh

2. India, a tapestry of traditions and a mosaic of cultures, unfolds a captivating story through its diverse festivals and traditions. The nation's cultural kaleidoscope is a testament to its rich heritage, uniting people across regions in a celebration of uniqueness.

From the vibrant colors of Holi to the divine lamps of Diwali, each festival is a reflection of India's spiritual, social and historical tapestry. Diwali, the festival of lights, symbolizes the triumph of good over evil, while Holi, the festival of colors, fosters unity and joy. Navratri, celebrated with dance and devotion, showcases the country's deep-rooted religious fervor.

The diversity extends beyond religious festivities, encompassing regional traditions. The Onam festival in Kerala, marked by the mesmerizing Snake Boat Race, contrasts with the lively Durga Puja celebrations in West
Bengal. Each tradition is a cultural gem, preserving the essence of India's pluralistic identity.

Exploring India's festivals and traditions is a journey through time, connecting the present to a rich past. It not only showcases the country's cultural wealth but also fosters unity in diversity in religion and various festivals like Eid, Easter Gurpurab etc. making India a harmonious blend of tradition and modernity.

3. a) Actions speak louder than words.

Actions speak louder than words. In any realm of life, be it personal relationships, professional endeavors, or societal contributions, the impact of actions often surpasses the influence of mere words. One's deeds and behavior become the true reflection of their intentions and values. While words may convey promises and intentions, it is through consistent actions that trust is built, relationships are strengthened, and meaningful changes are brought about in the world. It is the tangible outcomes of our actions that leave a lasting imprint on the canvas of life, echoing far beyond the spoken expressions.

The influence of social media on society. In the contemporary landscape, the influence of social media on society is undeniable. This virtual realm has transformed the way people communicate, share information, and shape opinions. Social media platforms serve as powerful tools for global connectivity, enabling instant communication and the dissemination of diverse perspectives. However, the impact is not solely positive; it also brings challenges such as misinformation, cyberbullying, and the potential for addiction. The pervasive nature of social media underscores its role as a double-edged sword, requiring a careful balance between harnessing its benefits and addressing its drawbacks.

b) The value of perseverance.

Perseverance, an invaluable trait, is the driving force behind overcoming challenges and achieving long-term goals. It involves steadfast determination, resilience, and the ability to endure setbacks. Those who embrace perseverance understand that success often comes after numerous trials and failures. It fuels the journey towards personal and professional accomplishments, turning obstacles into stepping stones. In the face of adversity, individuals with perseverance not only stay committed to their objectives but also inspire others with their unwavering spirit, proving that resilience is a key ingredient for success.

c) It is better to travel than to arrive.

The journey often holds more significance than the destination, embodying the essence of personal growth and discovery. In the pursuit of goals or destinations, the experiences encountered during the journey contribute to one's character and understanding. The process of traveling offers valuable insights, teaching patience, adaptability, and a deeper appreciation for the diverse landscapes and cultures encountered along the way. The saying, "It is better to travel than to arrive," encourages individuals to relish the transformative journey itself rather than merely focusing on reaching a predefined endpoint.

4. **Look at the picture given below and write a story in about 150 words.**

Answers - In the heart of a sun-kissed afternoon, the schoolyard buzzed with excitement as students gathered for a friendly volleyball match. Laughter echoed against the surrounding walls as two spirited teams clashed on the dusty ground. The sun painted long shadows as the players leaped and dived, their faces flushed with determination and camaraderie. The ball sailed through the air like a fleeting dream, each serve met with enthusiastic cheers. Amidst the spirited rally, friendships deepened, and bonds strengthened. The atmosphere was electric with youthful energy, and the joy of the game transcended mere competition. As the match reached its climax, the setting sun cast a warm glow over the vibrant scene, etching a memorable tableau of camaraderie, teamwork, and the pure joy of playing the game they loved. The echoes of laughter and the thud of the ball resonated long after the final point was scored, creating cherished memories on that dusty schoolyard.

SECTION C – GRAMMAR (50 MARKS)

5. **Revise the following sentences according to the given instructions.**

a) Transform the sentence into a complex sentence: "Only the most obedient student in the class can do

this wrok."

Answer – None but the most obedient in the class can do this work.

b) Turn the sentence into a compound sentence using the given instruction: "Yesterday being a pleasant day, we decided to go out."

Answer – IT was a pleasant day yesterday so we decided to go out

c) Rewrite the sentence as a simple sentence: "We do not know where your brother and his to his friends are."

Answer – We do not know where about of your brother and his friends.

d) Change the sentence into indirect speech: "Raghav said to his wife, Let's admit our children to some other school next year."

Answer – Raghav suggested his wife that they should admit their children to some other school the following year

e) Convert the sentence into direct speech: "Joshila asked her husband if he had met her father the previous day."

Answer – Joshila said to her husband, 'did your meet my father yesterday?

f) Form a negative sentence as Instructed: "He fall to tell what he should sometimes."

Answer – Sometimes he does not know what to tell.

g) Transform the sentence into an exclamatory sentence: "Your painting is so beautiful!"

Answer – What a beautiful painting you have made.

h) Rewrite the sentence into a positive/affirmative form: "No sooner did the watchman arrive than he ran away."

Answer – As soon as the watchman arrived he ran away.

i) Change the sentence into active voice. "Why was I not informed of the matter earlier by them?"

Answer – Why didn't they inform me about the matter earlier

j) Convert the sentence into passive voice: "I didn't know that he was your friend."

Answer – It was not known to me that he was your friend.

6. **Identify and provide the names of the grammatical terms or particles in the Underlined words in the following sentences.**

a) Please come <u>in</u>.

In – adverb

b) He lives <u>in</u> Mumbal.

In – preposition

c) She must <u>move</u> forward.

Move – verb

d) She has been a <u>forward</u> for five years.

Forward – Noun

e) The <u>forward</u> movement of my vehicle could not be seen by them.

Forward – adjective

f) You can <u>forward</u> the mail to my new address.

Forward – verb

g) <u>Argentina</u> was able to down France in the final.

Argentina – noun

h) The lift will go <u>down</u> immediately.

Down – adverb

i) He had to go <u>down</u> the road to find a ship.

Down – adjective

j) The network was <u>down</u> for some time.

Down - adjective

7. **The following are examples of some figures of speech. Name them.**

a) Usain Bolt is faster than cheetahs. – Hyperbole

b) Prakash is the Virat Kohll of our class. – Metaphor

c) Virat Kohli is not a bad cricketer. – Litotes

d) He is as old as your father. – Simile

e) She sells seashells by the seashore. – Alliteration

8. **Write the idioms, phrases or phrasal verbs which mean the following:**

a) To be surprised – Taken a back, Jump out of one's skin

b) Resemble – takes after, bear a resemblance to, look like

c) Postpone – Put off

d) Camel – Ship of desert

e) Chase – Hunt down, Run after

f) A wicked person who pretends to be a friend – Frumenty, wolf in sheep's clothing seen in the grass

g) A person who spoils others happiness – Kill joy

h) Faint or lose consciousness – Pass out, block out

i) Remember – Bear in mind, etched in memory,

j) Stop making an effort – To throw in the tunnel

9. Re-write the following using correct tenses:-

a) She cooked food right now.

She is cooking food right now.

b) He is writing something since morning.

He has been writing since morning.

c) She is playing football every day.

She plays football every day.

d) The movie has started three minutes ago.

The movie started three minutes ago.

e) My brother came home while I did my homework.

My brother came home while I was doing my homework.

10. Fill in the blanks using correct or appropriate modals.

a) When he was young, he would /used to play football with his friends every afternoon.
b) Rani suggested that they should stay indoors.
c) You must come to school tomorrow. It is compulsory.
d) You seem to be tired. Shall I make tea for your?
e) You might just as well get a better job next month.

11. Answer the following questions.

a) What is the plural form of sheep? – Seep

b) What is the noun form of 'irritate'? – Irritation

c) Name the type of sentence used to express a command or request. – Imperative

d) Rewrite the following sentence in the present perfect tense: 'He will be a teacher." – He has been a

e) What is the opposite gender of 'goose'? – Gander

SUBJECT: GENERAL KNOWLEDGE

Instructions:

1. There are a total of 75 questions and each question carries one mark.
2. There is no negative marking for any wrong answer.
3. Do not over write, dual answers shall not fetch any marks.
4. All questions to be answered on the question paper only

1. Which is the highest mountain peak in the world?
   a) Mount Kilimanjaro b) Mount Fuji c) Mount Everest d) Mount Denali
   Answer: c) Mount Everest
   Mount Everest, at 8,848.86 meters, is the highest mountain peak in the world.

2. What is the name of the largest desert in the world, which is not a hot desert?
   a) Sahara Desert b) Artic Desert c) Antarctic Desert d) Atacama Desert
   Answer: **c) Antarctic Desert**
   The Antarctic Desert is the largest desert in the world, and it is a cold desert.

3. Which two countries are separated by the Strait of Gibraltar?
   a) Italy and Tunisia b) Spain and Morocco c) Egypt and Jordan d) Greece and Turkey
   Answer: **b) Spain and Morocco**
   The **Strait of Gibraltar** is the narrow waterway that separates the southern tip of **Spain** in Europe from **Morocco** in North Africa. It connects the **Atlantic Ocean** to the **Mediterranean Sea**.

4. The Great Barrier Reef, the world's largest coral reef system, is located off the coast of which country?
   a) Australia b) Brazil c) Philippines d) Thailand
   Answer: **a) Australia**
   The **Great Barrier Reef**, the world's largest coral reef system, is located off the coast of **Australia**. It is situated in the **Coral Sea**, to the northeast of Australia. The reef is famous for its biodiversity and is one of the Seven Natural Wonders of the World.

5. What is the imaginary line that divides the Earth into the Northern Hemisphere and Southern Hemisphere called?
   a) Prime Meridian b) Equator c) Tropic of Cancer d) Tropic of Capricorn
   Answer: **b) Equator**
   Explanation: a) Prime Meridian- **English:** The Prime Meridian is the imaginary line that divides the Earth into the Eastern and Western Hemispheres. It is located at 0° longitude.
   b) Equator- The Equator is the imaginary line that divides the Earth into the Northern and Southern Hemispheres. It lies at 0° latitude.
   c) Tropic of Cancer- The Tropic of Cancer is the imaginary line that lies at approximately 23.5° North latitude. It marks the northernmost point where the sun can appear directly overhead.
   d) Tropic of Capricorn- The Tropic of Capricorn is the imaginary line located at approximately 23.5° South latitude. It marks the southernmost point where the sun can appear directly overhead.

6. Which river is the longest in the world?
   a) Amazon River b) Nile River c) Mississippi River d) Yangtze River

Answer: **b) Nile River**
The Nile River is the longest river in the world.
Explanation: b) Nile River - The Nile River is the longest river in the world, stretching about 6,650 km (4,130 miles). It flows through northeastern Africa and is a lifeline for countries like Egypt and Sudan.
a) Amazon River - The Amazon River is the second longest river in the world, approximately 7,062 km (4,345 miles) long. However, it is the largest in terms of water volume.
c) Mississippi River - The Mississippi River, located in North America, is around 3,766 km (2,340 miles) long.
d) Yangtze River - The Yangtze River is the longest river in Asia, measuring approximately 6,300 km (3,917 miles). It flows entirely within China and is critical for its agriculture and industry.

7. What is the term for a narrow strip of land it connects two larger land masses and is surrounded by water on two sides?
a) Isthmus b) Peninsula c) Archipelago d) Platzau
Answer: **a) Isthmus**
Explanation: a) Isthmus- An isthmus is a narrow strip of land that connects two larger landmasses and is surrounded by water on two sides.
b) Peninsula- A peninsula is a piece of land that is surrounded by water on three sides but still connected to the mainland on one side.
c) Archipelago- An archipelago is a group or chain of islands clustered together in a large body of water.
d) Platzau- A plateau is a flat, elevated area of land that has been lifted above the surrounding area, often with steep sides.

8. Which African country is known as the "Land of a Thousand Hills" due to its mountainous terrain?
a) Konya b) Rwanda c) Tanzania d) Nigeria
Answer: **b) Rwanda**
Rwanda is known as the "Land of a Thousand Hills" due to its mountainous terrain.
Explanation: c) Tanzania - Tanzania is famous for Mount Kilimanjaro, Serengeti National Park, and Zanzibar, but it is not known as the "Land of a Thousand Hills."

9. What is the largest planet in our solar system?
a) Venus b) Mars c) Jupiter d) Saturn
Answer: **c) Jupiter**
Explanation: Jupiter is the largest planet in our solar system.
a) Venus - Venus is the second planet from the Sun and is almost similar in size to Earth. It is not the largest but is known for its thick, toxic atmosphere and extremely high surface temperatures.
b) Mars - Mars, also called the "Red Planet," is smaller than Earth
c) Jupiter - Jupiter is the largest planet in our solar system, with a diameter of approximately 143,000 km.
d) Saturn - Saturn is the second-largest planet in our solar system and is famous for its beautiful ring system. However, it is smaller than Jupiter.

10. What is the highest waterfall in the world, located in Venezuela?
a) Angel Falls b) Niagara Falls c) Victoria Falls d) Iguazu Falls
Answer: **a) Angel Falls**
The **highest waterfall in the world** is **Angel Falls** located in **Venezuela**. Angel Falls has an astonishing height of **979 meters** (3,212 feet), with a continuous drop of **807 meters** (2,648 feet). It is located in the Canaima National Park in the Gran Sabana region of Venezuela.

11. Which country is known as the "Land of the Rising Sun"? /
    a) South Korea b) China c) Japan d) Thailand
    Answer: **c) Japan**
    Japan is known as the "Land of the Rising Sun".
    Explanation: d) Thailand - Thailand is known as the **"Land of Smiles"** due to the friendly and welcoming nature of its people.

12. In which African country would you find the ancient city of Carthago?
    a) Egypt b) Libya c) Tunisia d) Algeria
    Answer: **c) Tunisia**
    The ancient city of **Carthago** (also known as **Carthage**) is located in **Tunisia**, a country in North Africa. Carthage was a major city of the ancient Mediterranean world and was the center of the Carthaginian Empire. It is situated near the modern capital, **Tunis**, on the coast of the Mediterranean Sea.

13. Who was the Egyptian queen known for her relationship with Julius Caesar and Mark Antony?
    a) Cleopatra b) Nefertiti c) Hatshepsut d) Nefertari
    Answer: **a) Cleopatra**
    The Egyptian queen known for her relationship with **Julius Caesar** and **Mark Antony** was **Cleopatra**. She was the last active ruler of the Ptolemaic Kingdom of Egypt and played a significant role in the political landscape of the Roman Empire. Cleopatra was famous for her intelligence, political acumen, and her alliances with two of Rome's most powerful leaders.

14. Which war, fought from 1950 to 1953, is often referred to as the "Forgotten War"?
    a) World War I b) World War II c) Korean War d) Vietnam War
    Answer: **c) Korean War**
    The war fought from **1950 to 1953**, often referred to as the **"Forgotten War,"** is the **Korean War**. It was a conflict between **North Korea** (supported by China and the Soviet Union) and **South Korea** (supported by the United Nations, particularly the United States). The war ended in an armistice, but no formal peace treaty was signed, and the Korean Peninsula remains divided to this day.

15. Who was the first woman to fly solo across the Atlantic Ocean?
    a) Bessie Coleman b) Amelia Earhart c) Harriet Quimby d) Beryl Markham
    Answer: **b) Amelia Earhart**
    Amelia Earhart was the first woman to fly solo across the Atlantic Ocean.

16. Which ancient wonder of the world was a colossal statue in Greece, dedicated to the sun god Helios?
    a) The Great Pyramid of Giza b) The Hanging Gardens of Babylon
    c) The Colossus of Rhodes d) The Lighthouse of Alexandria
    Answer: **c) The Colossus of Rhodes**
    The ancient wonder of the world that was a colossal statue in Greece, dedicated to the sun god **Helios**, was the **Colossus of Rhodes**. It was a giant bronze statue, about 33 meters (108 feet) tall, built to celebrate the victory of Rhodes over Cyprus in 305 BC. The statue stood at the entrance of the harbor of the island of Rhodes and was one of the Seven Wonders of the Ancient World. It was destroyed by an earthquake in 226 BC.

17. Who was the first woman to win a Nobel Prize and remains the only person to win Nobel Prizes in two different scientific fields?
    a) Marie Curie b) Rosalind Franklin c) Jane Goodall d) Barbara McClintock
    Answer: **a) Marie Curie**
    The first woman to win a **Nobel Prize** was **Marie Curie**. She won the **Nobel Prize in Physics** in **1903** (shared with her husband Pierre Curie and Henri Becquerel) for their work on radioactivity. Later, in **1911**, she won a **second Nobel Prize in Chemistry** for her discovery of the elements **radium** and **polonium**. She remains the only person to have won Nobel Prizes in two different scientific fields: Physics and Chemistry.

18. In which year did Christopher Columbus first voyage to the Americas?
    a) 1492 b) 1520 c) 1607 d) 1776
    Answer: **a) 1492**
    Christopher Columbus first voyaged to the Americas in **1492**. Sponsored by Spain, he sailed across the Atlantic Ocean with the goal of finding a new route to Asia. Instead, he landed on an island in the Caribbean, which marked the beginning of European exploration and colonization of the Americas. Columbus's journey is often credited with opening the door for European colonization of the New World.

19. What was the name of the ship on which Charles Darwin sailed during his voyage that led to the theory of evolution by natural selection?
    a) Santa Maria b) HMS Beagle c) Mayflower d) Endeavour
    Answer: **b) HMS Beagle**
    Charles Darwin sailed on the HMS Beagle during his voyage that led to the theory of evolution.

20. Who is often called the "Father of the Indian Space Program" and was the founding director of ISRO (Indian Space Research Organisation)?
    a) Dr. Vikram Sarabhai b) Dr. A.P.J. Abdul Kalam
    b) Dr. Homi J. Bhabha d) Dr. C.V. Raman
    Answer: **a) Dr. Vikram Sarabhai**
    Dr. Vikram Sarabhai is called the "Father of the Indian Space Program".

21. Who is considered the "Father of Modern Physics and is famous for his theory of relativity?
    a) Isaac Newton b) Albert Einstein c) Galileo Galilei d) Stephen Hawking
    Answer: **b) Albert Einstein**
    Albert Einstein is known as the "Father of Modern Physics" for his theory of relativity.
    Explanation: c) Galileo Galilei - **Galileo Galilei** is known as the **"Father of Modern Science"**.

22. What ancient civilization is known for its terracotta army, discovered in the tomb of the first Emperor of China?
    a) Inca b) Mayan c) Roman d) Qin
    Answer: **d) Qin**
    The Qin dynasty is known for the terracotta army in the tomb of China's first emperor.

23. What is the chemical symbol for the element gold?
    a) Go b) Ge c) Gd d) Au
    Answer: **d) Au**
    The chemical symbol for gold is Au.

24. Who is credited with the discovery of the first antibiotic, penicillin?
    a) Louis Pasteur b) Alexander Fleming c) Jonas Salk d) Robert Koch

Answer: **b) Alexander Fleming**
Alexander Fleming discovered penicillin, the first antibiotic.

25. Which planet in our solar system has the most extensive ring system?
a) Saturn b) Jupiter c) Uranus d) Neptune
Answer: **a) Saturn**
Saturn has the most extensive ring system in the solar system.

26. What is the chemical formula for ozone?
a) 0_2 b) H_20 c) CO_2 d) 0_3
Answer: **d) O3**
The chemical formula for ozone is O3.
Explanation: c) CO_2 - This is the chemical formula for carbon dioxide, not ozone. CO2 consists of one carbon atom and two oxygen atoms.
b) H_20 - This is the chemical formula for water, not ozone. H2O represents two hydrogen atoms bonded to one oxygen atom.
a) 0_2 - This is the chemical formula for oxygen, not ozone. O2 represents a molecule of oxygen, which consists of two oxygen atoms.

27. The process by which plants use sunlight to convert carbon dioxide and water into glucose and oxygen is called:
a) Fermentation b) Respiration c) Photosynthesis d) Transpiration
Answer: **c) Photosynthesis**
Explanation: a) Fermentation - Fermentation is a process that breaks down glucose into energy in the absence of oxygen. It is commonly used by yeast and some bacteria.
b) Respiration - Respiration is a process in both plants and animals where glucose is broken down to release energy, and oxygen is consumed.
c) Photosynthesis- Photosynthesis is the process by which plants use sunlight, carbon dioxide, and water to produce glucose and release oxygen. It is the primary way plants make their food.
d) Transpiration - Transpiration is the process by which plants lose water through small pores in their leaves, primarily in the form of vapor.

28. Which scientist formulated the laws of motion and universal gravitation?
a) Isaac Newton b) Albert Einstein c) Galileo Galilei d) Stephen Hawking
Answer: **a) Isaac Newton**
Isaac Newton formulated the laws of motion and universal gravitation.

29. What is the chemical name for common table salt?
a) Sodium chloride b) Calcium carbonate c) Potassium nitrate d) Magnesium sulphate
Answer: **a) Sodium chloride**
The chemical name for table salt is sodium chloride.

Explanation: b) Calcium carbonate **- Chemical Formula**: $CaCO_3$

c) Potassium nitrate **- Chemical Formula**: **KNO_3.,Chemical Name**: Common salt

d) Magnesium sulphate **- Chemical Formula**: $MgSO_4$**,Chemical Name**: Hydrogen sulfate

30. What is the process of a liquid changing into a vapor at the surface of the liquid, occurring at temperatures below its boiling point?
a) Boiling b) Evaporation c) Condensation d) Sublimation

Answer: **b) Evaporation**
Explanation: a) Boiling- Boiling is the process where a liquid changes into vapor at its boiling point, throughout the liquid, not just at the surface.
b) Evaporation- Evaporation is the process where a liquid changes into vapor at the surface of the liquid, occurring at temperatures below its boiling point.
c) Condensation- Condensation is the process where vapor changes into liquid when it cools down.
d) Sublimation - Sublimation is the process where a solid changes directly into a vapor without passing through the liquid state.

31. In the periodic table, which element has the atomic number 92 and is the heaviest naturally occurring element on Earth?
a) Uranium b) Plutonium c) Thorium d) Neptunium
Answer: **a) Uranium**
The element with atomic number **92** and the heaviest naturally occurring element on Earth is **Uranium**. It is widely used as a fuel in nuclear reactors.

32. What is the phenomenon where white light is separated into its constituent colors when passing through a prism?
a) Reflection b) Refraction c) Dispersion d) Diffraction
Answer: **c) Dispersion**
This phenomenon is called **Dispersion**. It occurs when light passes through a prism, and different wavelengths of light are bent by different amounts, creating a spectrum of colors.

33. Who is known for formulating the theory of relativity and is famous for the equation E=mc^2?
a) Isaac Newton b) Albert Einstein c) Niels Bohr d) Max Planck
Answer: **b) Albert Einstein**
Albert Einstein formulated the theory of relativity, which revolutionized physics, and is famous for the equation **$E=mc^2$**, which relates energy and mass.

34. What is the study of fossils and prehistoric life, providing insights into the history of Earth and the evolution of organisms?
a) Archaeology b) Paleontology c) Geology d) Anthropology
Answer: **b) Paleontology**
Explanation: a) Archaeology- Archaeology is the study of human history and prehistory through the excavation of artifacts, structures, and other physical remains.
b) Paleontology- Paleontology is the study of fossils and prehistoric life, focusing on understanding the history of Earth and the evolution of organisms.
c) Geology- Geology is the study of the Earth's physical structure, substances, history, and the processes that have shaped it over time.
d) Anthropology- Anthropology is the study of humans, human societies, cultures, and their development over time.

35. What is the name of the planet that is often called the "Red Planet" due to its reddish appearance?
a) Earth b) Mars c) Venus d) Jupiter
Answer: **b) Mars**
The planet known as the "Red Planet" is **Mars**. Its reddish appearance is due to iron oxide (rust) on its surface.

36. In June 2023, a submersible launched by the company Ocean Gate became the center of international focus when it vanished during a deep-sea expedition in the Atlantic Ocean. This ill- fated vessel lost contact with its mother ship a mere 1 hour and 45 minutes into the dive. What was the name of the submersible?
a) Titanic b) Atlas c) Navi d) Titan
Answer: **d) Titan**
The name of the submersible that vanished in June 2023 was **Titan**. It was on a mission to explore the wreck of the Titanic.

37. Who won the 2023 Wimbledon Men's title?
a) Novak Djokovic b) Rafael Nadal c) Carlos Alcaraz d) Danil Medvedev
Answer: **c) Carlos Alcaraz**
Novak Djokovic won the 2023 Wimbledon Men's title. He is one of the most successful tennis players in history.

38. What is the national flower of India?
a) Rose b) Lotus c) Sunflower d) Jasmine
Answer: **b) Lotus**
The national flower of India is the **Lotus**. It symbolizes purity and beauty in Indian culture.

39. The Indian Space Research Organization (ISRO) launched the Chandrayaan-3 spacecraft on the uncharted south pole region of the Moon recently. What was the name of the Lander Module during the mission?
a) Pragyan b) Vikram c) vikrant d) Abhigyan
Answer: **b) Vikram**
The name of the Lander Module during the Chandrayaan-3 mission was **Vikram**. It successfully landed on the Moon's south pole.

40. In which year was the United Nations (UN) founded?
a) 1919 b) 1945 c) 1951 d) 1963
Answer: **b) 1945**
The United Nations (UN) was founded in **1945** after World War II to promote international cooperation and peace.

41. Which of the following is the largest crater on the moon?
a) Aristoteles b) Bailey c) Theophilus d) South Pole-Aitken basin
Answer: **d) South Pole-Aitken basin**
The largest crater on the Moon is the **South Pole-Aitken basin**. It is one of the largest and oldest impact craters in the solar system.

42. Who is often called the "Nightingale of India" and was a prominent freedom fighter and poet?
a) Sarojini Naidu b) Rani Lakshmibai c) Kalpana Chawla d) Mother Teresa

Answer: **a) Sarojini Naidu**
Sarojini Naidu is known as the "Nightingale of India". She was a renowned poet and a prominent leader in India's freedom struggle.

43. What is the official language of Brazil?
a) Portuguese b) Spanish c) French d) Italian
Answer: **a) Portuguese**
The official language of **Brazil** is **Portuguese**. It is the only country in South America where Portuguese is spoken.

44. What is the capital city of Ukraine?
a) Baku b) Bucharest c) Kyiv d) Budapest
Answer: **c) Kyiv**
The capital city of Ukraine is Kyiv.
Explanation: b) Bucharest - Budapest is the capital city of Hungary
b) Bucharest - Bucharest is the capital of Romania
a) Baku - Baku is the capital city of Azerbaijan

45. In which country is the famous city of Venice, known for its canals and gondolas?
a) Greece b) Spain c) Italy d) France
Answer: **c) Italy**
The famous city of **Venice**, known for its canals and gondolas, is located in **Italy**.

46. What is the currency of Japan?
a) Won b) Peso c) Yen d) Baht
Answer: **c) Yen**
Explanation: a) Won - The won is the currency of South Korea and North Korea, not Japan.
b) Peso- The peso is the currency used in several countries, including Mexico, the Philippines, and some other Latin American countries, but not Japan.
c) Yen- The yen is the official currency of Japan, represented by the symbol "¥."
d) Baht - The baht is the currency of Thailand, not Japan.

47. Who is the current President of Palestine?
a) Mahmoud Abbas b) Olaf Scholz c) Md Bin Salem d) Yasser Abbas
Answer: **a) Mahmoud Abbas**
The current President of Palestine is **Mahmoud Abbas**. He has been in office since 2005 and is a key figure in Palestinian politics, leading the Palestinian Authority.

48. In which country would you find the ancient city of Petra, famous for its rock-cut architecture and the Treasury?
a) Jordan b) Egypt c) Lebanon d) Turkey
Answer: **a) Jordan**
Petra, a famous archaeological site known for its rock-cut architecture and water conduit system, is located in **Jordan**. It was once the capital of the Nabatean Kingdom.

49. What is the currency of Israel?
a) Shekel b) Tuva c) Denier d) Forint

Answer: **a) Shekel**
Explanation: a) Shekel - The shekel is the official currency of Israel
b) Tuva- The tuva is not the currency of Israel. It is not a recognized currency.
c) Denier- The denier is not a currency used in Israel. It is an old term for a unit of weight or currency in medieval Europe.
d) Forint- The forint is the currency of Hungary, not Israel

50. Who is known for painting the "Mona Lisa" and "The Last Supper and is considered one of the greatest artists of all time?
a) Pablo Picasso b) Vincent van Gogh c) Leonardo da Vinci d) Rembrandt
Answer: **c) Leonardo da Vinci**
Leonardo da Vinci is the artist who painted the **"Mona Lisa"** and **"The Last Supper"**, two of the most famous and iconic works of art in history.

51. How many consonants are there in the English Language?
a) 21 b) 22 c) 23 d) 20
Answer: **a) 21**
In the English language, there are **21 consonants**. These include letters like B, C, D, F, G, etc.

52. Name the Primary Colors?
a) Red, Yellow and Blue b) Red, Green and Blue
c) Green, Blue and Yellow d) Green, Red and Black
Answer: **a) Red, Yellow, and Blue**
The primary colors are **Red, Yellow, and Blue**. These colors cannot be made by mixing other colors and are the basis for all other colors.

53. Who wrote 'Malgudi Days'?
a) KR Narayan b) Sudha Moorthi c) R K Narayan d) Barbara McClintock
Answer: **c) R K Narayan**
R K Narayan is the author of **'Malgudi Days'**, a famous collection of short stories set in the fictional town of Malgudi in India.

54. Who invented the 'Watch'?
a) Peter Henlein b) Johann Cochlaus c) Robert Hooke d) Thomas Tompion
Answer: **a) Peter Henlein**
Peter Henlein, a German locksmith, is credited with inventing the **watch** in the early 16th century. He is often considered the first to create a portable timepiece.

55. Where would you be if you were standing on the 'Spanish Steps?
a) Spain b) Italy c) France d) Peru
Answer: **b) Italy**

The **Spanish Steps** are located in **Italy**, specifically in **Rome**. They are a famous set of stairs that lead from the Piazza di Spagna to the Trinità dei Monti church.

56. How many minutes are there in a full week?
a) 10080 b) 11080 c) 10180 d) 11180
Answer: **a) 10080**
A full week has **10,080 minutes** (7 days × 24 hours × 60 minutes).

57. Roald Amundsen was the first man to reach the South Pole, but where was he from?
a) Norway b) Sweden c) Denmark d) England
Answer: **a) Norway**
Roald Amundsen was from **Norway**. He became the first person to reach the South Pole in 1911, ahead of Robert Falcon Scott.

58. Who discovered that the Earth revolves around the Sun?
a) Nicholas Copernicus b) Galileo Galilei
c) Aristarchus d) Thomas Heath
Answer: **a) Nicholas Copernicus**
Nicholas Copernicus was the scientist who proposed the heliocentric model, which states that the Earth revolves around the Sun.

59. What is the national animal of China?
a) Panda b) Dragon c) Tiger d) Snow Leopard
Answer: **a) Panda**
The **Panda** is the national animal of **China**. It is an endangered species and is a symbol of China's wildlife conservation efforts.

60. Which country is famous for its stunning fjords, vikings, and the Northern Lights?
a) Finland b) Sweden c) Norway d) Iceland
Answer: **c) Norway**
Norway is famous for its stunning **fjords**, **vikings**, and the **Northern Lights**. Fjords are long, narrow inlets with steep sides, and Norway is renowned for its breathtaking natural landscapes, including these features. The country is also known for its historical Viking heritage and the spectacular auroras that light up the northern skies.

61. Which country is the host of 'AI Safety Summit 2023'?
a) USA b) UK c) Australia d) India
Answer: **a) USA**
The **AI Safety Summit 2023** was hosted by the **USA**. This summit was focused on discussions and solutions related to safety, security, and advancements in technology, particularly for artificial intelligence and its ethical implications.

62. Kaladan Multi-Modal Transit Transport Project (KMTTP) aims to connect Kolkata Seaport with which country?
a) Thailand b) Myanmar c) Bangladesh d) Cambodia
Answer: **b) Myanmar**
The **Kaladan Multi-Modal Transit Transport Project (KMTTP)** is aimed at connecting **Kolkata Seaport** with **Myanmar**. This project will enhance connectivity between India and Myanmar through sea, road, and river transport, facilitating trade and economic cooperation.

63. Which African country is known as the "Pearl of Africa"?
a) Kenya b) Tanzania c) Uganda d) Mozambique
Answer: **c) Uganda**:
Uganda is known as the **"Pearl of Africa"**. This nickname was given by Winston Churchill due to Uganda's rich biodiversity, stunning landscapes, and the presence of rare wildlife and beautiful national parks.

64. Who was the first person to travel to space?
a) Yuri Gagarin b) Neil Armstrong c) Valentina Tereshkova d) John Glenn
Answer: **a) Yuri Gagarin**
The first person to travel to space was **Yuri Gagarin**, a Soviet cosmonaut, who made history on April 12, 1961, when he orbited the Earth aboard the spacecraft Vostok 1.

65. Which footballer player has won the Ballon d'Or prize for the best player in 2023?
a) Lionel Messi b) Erling Haaland c) Kylian Mbappé d) Cristiano Ronaldo
Answer: **a) Lionel Messi**
Lionel Messi won the **Ballon d'Or** prize for the best player in 2023. Messi has won multiple Ballon d'Or awards, cementing his place as one of the greatest football players in history.

66. "Tokenisation', which was seen in the news, is associated with.
a) Cryptocurrency b) Payment Security c) Bio-technology d) Artificial Intelligence
Answer: **b) Payment Security**
Tokenisation is associated with **Payment Security**. It is a process of replacing sensitive data, like credit card details, with a token that cannot be used for anything other than the specific transaction, enhancing security in digital payments.

67. What is the name of the Operation launched by India, to bring back its citizens from Israel and Palestine owing to the present crisis in the region recently?
a) Operation Ajay b) Operation Abhay c) Operation Atal d) Operation Arun
Answer: **a) Operation Ajay**
The operation launched by India to bring back its citizens from **Israel and Palestine** due to the recent crisis is called **Operation Ajay**. This operation facilitated the safe evacuation of Indian nationals from the conflict zones.

68. Which city is the host of 2028 Olympics?

a) Paris b) Rome c) Los Angeles d) Geneva

Answer: **c) Los Angeles**

The city hosting the **2028 Olympics** will be **Los Angeles**. The Games will be held in this iconic city in the United States, marking its third time hosting the Olympics.

69. Raunak Sadhwani, who was seen in the news, plays which sports?

a) Squash b) Tennis c) Chess d) Badminton

Answer: **c) Chess**

Raunak Sadhwani, who has been in the news recently, plays **chess**. He is a young and talented Indian chess player who has made significant achievements in international chess tournaments.

70. The Indian Cabinet has recently declared which day as 'National Space Day in India?

a) August 20 b) August 23 c) August 25 d) August 27

Answer: **b) August 23**

The **Indian Cabinet** recently declared **August 23** as **'National Space Day'** in India. This day is meant to celebrate India's achievements in space exploration and honor the contributions of its space agencies, especially ISRO (Indian Space Research Organisation).

71. Which badminton player has clinched the Japan Open 2023 singles men's title?

a) Kidambi Srikanth b) Viktor Axelsen c) Lakshya Sen d) Chen Long

Answer: **b) Viktor Axelsen**

Viktor Axelsen clinched the **Japan Open 2023 singles men's title** in badminton. He is a Danish badminton player known for his skill and consistent performance in international tournaments.

72. Which one is the longest river in South India?

a) Kaveri b) Godavari c) Krishna d) Vaigai

Answer: **b) Godavari**

The **longest river** in **South India** is the **Godavari** River. It originates in the state of Maharashtra and flows eastward across the Indian subcontinent to the Bay of Bengal.

73. Which Indian player finished as runner-up at the Australian Open badminton tourmament?

a) Lakshya Sen b) HS Prannoy c) K Srikanth d) Chirag Shetty

Answer: **b) HS Prannoy**

HS Prannoy, an Indian badminton player, finished as the **runner-up** at the **Australian Open badminton tournament**. He reached the finals but did not win the title.

74. Who won the 2017 Vijay Hazare Trophy of Cricket?

a) West Bengal b) Karnataka c) Maharashtra d) Tamil Nadu

Answer: **d) Tamil Nadu**

The **2017 Vijay Hazare Trophy** of cricket was won by **Tamil Nadu**. This tournament is a domestic one-day cricket competition in India, and Tamil Nadu emerged victorious in the 2017 edition.

75. World's Deepest Railway Station is being build in?

a) USA b) France c) China d) India

Answer: **c) China**

The world's deepest railway station is being built in **China**. This station, located underground, is being developed to accommodate the growing transportation needs in the country.