

**RASHTRIYA  
INDIAN  
MILITARY  
COLLEGE  
ENTRANCE  
EXAMINATION**

---

**PRACTICE SETS**  
WITH COMPLETE SOLUTION

Prepared under the Guidance of  
Col Amardeep Singh, SM(Retd)

## FOREWORD

*“Give me six hours to chop down a tree and I will spend the first four in sharpening the axe.”*  
— **Abraham Lincoln**

It is with great pleasure that I am introducing the Practice Sets Series for preparation for the RIMC (Rashtriya Indian Military College) Entrance Exam. This series is specifically designed to help students to simulate the actual test-taking experience. It is aimed not just at preparation but also to evaluate their knowledge, identify areas of weakness and develop test-taking strategies thus, providing them with a comprehensive understanding of the exam format and content.

The RIMC exam is a highly competitive and challenging test that requires a deep understanding of the topics and concepts covered.

This Practice Sets Series has been designed to challenge your abilities. I suggest the following protocol for taking the tests:

- Treat it like the real exam: Approach the Practice Sets as if it were the actual exam. This means taking it seriously, following all the rules, instructions and attempting to answer all the questions within the allotted time.
- Create a conducive environment: Try to create a quiet and distraction-free environment when taking the test. Turn off your phone and any other electronic devices that may distract you during the test.
- Time yourself: This will help you to get used to the pace of the actual exam and ensure that you are able to complete all the questions within the allotted time.
- Review your results: After completing the test, review your results carefully. Analyze the areas where you did well and those where you struggled. This will help you to identify your strengths and weaknesses. Adjust your studying accordingly.
- Practice time-management: During the Practice test, practice time-management techniques such as prioritizing questions and moving on from difficult questions to avoid getting stuck.
- Learn from your mistakes: Take note of the questions you got wrong and analyze why you got them wrong. This will help you to avoid making the same mistakes during the actual exam.
- Stay positive: Stay positive and don't get discouraged even if you don't perform as well as you expected on the Practice test. Remember that the purpose of the Practice Sets is to help you identify areas for improvement and to prepare you for the actual exam.

We have included detailed explanations of the answers to help you review your answers to the questions. There are innumerable tips included in the test solutions to help you improve your skills in writing and preparation strategies for success. Thus, this series is an indispensable tool for anyone preparing for the RIMC entrance exam.

I commend the academic team of WEDA Books for creating this valuable resource and wish all the students who use it the very best of luck in their pursuit of success on the RIMC exam.

Col Amardeep Singh, SM (Retd)

Director  
WEDA Books

# **COPYRIGHT PAGE**

All rights reserved. No part of this publication can be reproduced in any form or by any means without the prior permission of the publisher.

[www.wedabooks.com](http://www.wedabooks.com)

Website : [connect@wedabooks.com](mailto:connect@wedabooks.com)

## INDEX

S.No.	Page		Practice Set Paper	Remarks
	From	To		
1.	5	16	Practice Set – 1	Question papers
2.	17	29	Solutions	Solutions in detail
3.	30	44	Practice Set – 2	Question papers
4.	45	58	Solutions	Solutions in detail
5.	59	72	Practice Set – 3	Question papers
6.	73	88	Solutions	Solutions in detail
7.	89	99	Practice Set – 4	Question papers
8.	100	114	Solutions	Solutions in detail
9.	115	127	Practice Set – 5	Question papers
10.	128	141	Solutions	Solutions in detail
11.	142	154	Practice Set – 6	Question papers
12.	155	170	Solutions	Solutions in detail
13.	171	184	Practice Set – 7	Question papers
14.	185	203	Solutions	Solutions in detail
15.	204	217	Practice Set – 8	Question papers
16.	218	233	Solutions	Solutions in detail
17.	234	246	Practice Set – 9	Question papers
18.	247	263	Solutions	Solutions in detail
19.	264	277	Practice Set – 10	Question papers
20.	278	293	Solutions	Solutions in detail
21.	294	295	RIMC Entrance Exam Syllabus	A brief for better understanding
22.	296	298	Crack RIMC Entrance Exam in 45 Days	Quick revision
23.	299	301	The 45 Day Smart Planner	Time table of 30 and 15 days
24.	302	303	Subject Wise Tips	Advise by subject matter experts
25.	304	306	Information Brochure	Brief for better understanding
26.	307	307	About WEDA Books	The Ultimate Guide

# Practice Set- 1

## MATHEMATICS

Time: 90 minutes

Maximum marks: 200

### Instructions:

1. Attempt all 30 questions. Write answers separately on the answer sheet provided at the exam centre.
2. Part 'A' contains 20 questions and each question carries 'Five marks'.
3. Part 'B' contains 10 questions and each question carries 'Ten marks'.
4. Use of calculator is prohibited. Marks will be awarded for each step.
5. Take the value of  $\pi$  as  $22/7$ .
6. The questions paper can be retained by the candidates post examination.

### निर्देश:

1. सभी 30 प्रश्नों को हल करें। परीक्षा केंद्र पर उपलब्ध उत्तर पुस्तिका पर अलग-अलग उत्तर लिखें।
2. भाग 'A' में 20 प्रश्न हैं और प्रत्येक प्रश्न 'पांच अंक' का है।
3. भाग 'B' में 10 प्रश्न हैं और प्रत्येक प्रश्न 'दस अंक' का है।
4. कैलकुलेटर का उपयोग वर्जित है। प्रत्येक चरण के लिए अंक दिए जाएंगे।
5.  $\pi$  का मान  $22/7$  लें।
6. प्रश्न पत्र को परीक्षा के बाद अभ्यर्थी अपने पास रख सकते हैं।

### PART A

1. Find the area of a circle having radius 4 cm and angle  $40^\circ$ ? / 4 सेमी त्रिज्या और  $40^\circ$  कोण वाले वृत्त का क्षेत्रफल ज्ञात कीजिए।
2. Arrange the following fractions in ascending order : / निम्नलिखित भिन्नों को आरोही क्रम में व्यवस्थित करें:  
 $\frac{16}{25}, \frac{25}{3}, \frac{7}{15}, \frac{8}{5}, \frac{1}{15}$
3. Find the greatest positive integer less than 2000 and divisible by both 24 and 32. / 2000 से कम और 24 और 32 दोनों से विभाज्य सबसे बड़ा धनात्मक पूर्णांक ज्ञात कीजिए।
4. Simplify : / सरलीकृत करें:  $27 - [48 \div \{4 + (15 - 13 - 2)\}]$
5. If  $a + b + c = 9$  and  $ab + bc + ca = 15$  : Find  $a^2 + b^2 + c^2$  / यदि  $a + b + c = 9$  और  $ab + bc + ca = 15$ :  $a^2 + b^2 + c^2$  ज्ञात कीजिए।
6. Three consecutive whole numbers are such (Assuming no remainder is left) that they are divided by 5, 3 and 4 respectively. If the sum of the quotients is 40, find the numbers. / तीन लगातार पूर्ण संख्याएँ ऐसी हैं (यह मानते हुए कि कोई शेष नहीं बचा है) कि वे क्रमशः 5, 3 और 4 से विभाजित हैं। यदि भागफलों का योग 40 है, तो संख्याएँ ज्ञात कीजिए।
7. A train is moving with uniform speed of 120 km per hour. How far will it travel in 36 minutes? / एक ट्रेन 120 किमी प्रति घंटे की एकसमान गति से चल रही है। यह 36 मिनट में कितनी दूरी तय करेगी?
8. Divide 34 into two parts in such a way that  $(4/7)$ th of one part is equal to  $(2/5)$  th of the other. / 34 को दो भागों में इस तरह विभाजित करें कि एक भाग का  $(4/7)$  भाग दूसरे भाग के  $(2/5)$  भाग के बराबर हो।
9. Divide : / विभाजित करें:  $6x^3 - 13x^2 - 13x + 30$  by  $2x^2 - x - 6$
10. A path of uniform width, 3m, runs around the outside of a square field of side 21m. Find the area of the path. / एक समान चौड़ाई, 3 मीटर का एक पथ 21 मीटर भुजा वाले एक वर्गाकार मैदान के बाहर की ओर जाता है। पथ का क्षेत्रफल ज्ञात कीजिए।
11. A certain sum amounts to 3,825 in 4 years and to 4,050 in 6 years. Find the rate percent and the sum. / एक निश्चित राशि 4 वर्षों में 3,825 और 6 वर्षों में 4,050 हो जाती है। दर प्रतिशत और योग ज्ञात कीजिए।
12. 15 workers earn 900 in 5 days, how much will 20 workers earn in 8 days? / 15 कर्मचारी 5 दिनों में 900 कमाते हैं, 20 कर्मचारी 8 दिनों में कितना कमाएंगे?

13. What will the area of a rhombus whose one side and one diagonal measurement is 20cm and 24 cm respectively? / एक समचतुर्भुज का क्षेत्रफल क्या होगा जिसकी एक भुजा और एक विकर्ण माप क्रमशः 20 सेमी और 24 सेमी है?
14. Omkar purchased a cycle, having marked price of 4600 at a discount of 5%. If GST is charged at the rate of 10%, find the amount Omkar paid to purchase the cycle. / ओमकार ने 5% की छूट पर 4600 अंकित मूल्य वाली एक साइकिल खरीदी। यदि जीएसटी 10% की दर से लगाया जाता है, तो ओमकार ने साइकिल खरीदने के लिए कितनी राशि का भुगतान किया, यह ज्ञात कीजिए।
15. What will be 80% of a number whose 200% is 90? / उस संख्या का 80% क्या होगा जिसका 200% 90 है?
16. Find the value of  $x$  if  $:\frac{1}{2^{1990}} - \frac{1}{2^{1991}} = 2^x$
17. At what rate percent per year will a sum of money double itself in 25/4 years? / किसी धनराशि का प्रति वर्ष प्रतिशत दर 25/4 वर्षों में दोगुना हो जाएगा?
18. Calculate the number of sides of a regular polygon if its interior angle is 5 times its exterior angle. / एक नियमित बहुभुज की भुजाओं की संख्या की गणना करें यदि इसका आंतरिक कोण इसके बाहरी कोण का 5 गुना है।
19. If  $\frac{a-1}{a} = \frac{1}{2}$ , find  $: 4a^2 + \frac{4}{a^2}$ . / यदि  $\frac{a-1}{a} = \frac{1}{2}$ , तो  $4a^2 + \frac{4}{a^2}$  का मान ज्ञात कीजिए।
20. Simplify : / सरलीकृत करें:  $4x^2 - [3y^2 - \{5x^2 - 2y^2 - (x^2 - y^2)\}]$

## PART B

1. The cost price of an article is Rs 2400/- and it is marked at 25% above the cost price. Find the profit and the loss percent, if the article is sold at 15% discount. / किसी वस्तु का क्रय मूल्य 2400/- रुपये है और इसे क्रय मूल्य से 25% अधिक अंकित किया गया है। यदि वस्तु 15% छूट पर बेची जाती है, तो लाभ और हानि प्रतिशत ज्ञात कीजिए।
2. Find the volume and surface area of a cuboid whose dimensions are 9 cm 3.5 cm and 4 cm. / एक घनाभ का आयतन और पृष्ठीय क्षेत्रफल ज्ञात कीजिए जिसके आयाम 9 सेमी 3.5 सेमी और 4 सेमी हैं।
3. The outer dimensions of a closed wooden box are 10 cm × 8 cm × 7 cm. Thickness of the wood is 1 cm. The total cost of wood required to make the box will be how much.  
[if 1 cm<sup>3</sup> of wood costs Rs 2.00/-]  
एक बंद लकड़ी के बक्से के बाहरी आयाम 10 सेमी × 8 सेमी × 7 सेमी हैं। लकड़ी की मोटाई 1 सेमी है। बॉक्स बनाने के लिए आवश्यक लकड़ी की कुल लागत कितनी होगी? [यदि 1 सेमी<sup>3</sup> लकड़ी की कीमत 2.00 रुपये है]
4. A train goes from city A to city B at a speed of 60 kmph and returns from city B to city A at a speed of 90 kmph. The average speed of the train during the whole journey is? / एक ट्रेन शहर A से शहर B तक 60 किमी प्रति घंटे की गति से जाती है और शहर B से शहर A तक 90 किमी प्रति घंटे की गति से लौटती है। पूरी यात्रा के दौरान ट्रेन की औसत गति क्या है?
5. The age of a father is twice the square of the age of his son. Eight years hence, the age of the father will be 4 years more than three times the age of the son. Find their present ages. / एक पिता की आयु उसके पुत्र की आयु के वर्ग की दोगुनी है। आठ वर्ष बाद, पिता की आयु पुत्र की आयु के तीन गुना से 4 वर्ष अधिक होगी। उनकी वर्तमान आयु ज्ञात कीजिए।
6. How many bullets can be made out of a cube of lead whose edge measure 22 cm, each bullet being 2 cm in diameter. / सीसे के एक घन से कितनी गोलियां बनाई जा सकती हैं, जिसके किनारे की माप 22 सेमी है, प्रत्येक गोली का व्यास 2 सेमी है।
7. A can do a piece of work in 10 days, B in 12 days and C in 15 days. All begin together but A leaves the work after 2 days and B leaves 3 days before the work is finished. How long did the work last? / A एक काम को 10 दिनों में, B 12 दिनों में और C 15 दिनों में कर सकता है। सभी एक साथ शुरू करते हैं लेकिन A 2 दिनों के बाद काम छोड़ देता है और B काम खत्म होने से 3 दिन पहले छोड़ देता है। काम कितने समय तक चला?
8. Construct a quadrilateral ABCD in which angle A = 120°, angle B = 60°, AB = 4 cm, BC = 4.5 cm and CD = 5 cm. / एक चतुर्भुज ABCD की रचना करें जिसमें कोण A = 120°, कोण B = 60°, AB = 4 सेमी, BC = 4.5 सेमी और CD = 5 सेमी हो।
9. How many bricks of size 22 cm x 10 cm x 7 cm are required to construct a wall 33m long, 3.5m high and 40cm thick, if cement and sand used in the construction occupy 1/10<sup>th</sup> part of the wall? / 33 मीटर लंबी, 3.5 मीटर ऊंची और 40 सेमी मोटी दीवार बनाने के लिए 22 सेमी x 10 सेमी x 7 सेमी आकार की कितनी ईंटों की आवश्यकता होगी, यदि निर्माण में उपयोग किए गए सीमेंट और रेत ने दीवार का 1/10वां हिस्सा घेर रखा है?
10. Find the value of  $x$  in each / प्रत्येक में  $x$  का मान ज्ञात कीजिए  
a)  $\frac{17-3}{5} - \frac{4x+2}{3} = 5 - 6x + \frac{7x+14}{3}$   
b)  $\frac{2}{x-3} + \frac{3}{x-4} = \frac{5}{x}$

## ENGLISH

Time: 120 minutes

Maximum marks: 125

### Instructions:

1. Read all the questions thoroughly before answering.
2. The question paper comprises of three sections.
  - a) Reading Section - 20 Marks
  - b) Writing Section - 30 Marks
  - c) Grammar - 75 Marks
3. The question paper can be retained by the candidate post exam.

### SECTION 'A' READING

1. Read carefully the passage given below and answer the questions: (10 marks)

My next pet was a pigeon. He was the most revolting bird to look at with his feathers pushing through the scarlet wrinkled skin mixed with the horrible down that covers baby pigeons. We named him Ari. For a long time when all his feathers had not grown, Ari retained a spring of yellow down on his head which gave him the appearance of a pompous judge wearing a wig several sizes too small.

As he had no parents to teach him, Ari became convinced that he was not a bird at all and refused to fly. If he wanted to get on a table or a chair, he stood below it, cooing until someone picked him up. He would even try to come on walks with us. This however, we had to stop for either you carried him on your shoulder or else you let him walk behind. If you let him walk, then you had to slow down your own pace to suit his, for should you get too far ahead you would find him running after you, cooing frantically, his chest pouting out with indignation.

Ari refused to inhabit the pigeon loft. He preferred to sleep on the end of Jane's bed. Eventually, he was banished from the drawing room sofa, for if Jane turned over in bed at night, it would hobble up and perch on her face, cooing lovingly. Ari, we discovered, liked music too. He could recognize two different varieties. If the tune was a Waltz, he would move around the gramophone, bowing and cooing. For a Military march however, he inflated his chest and stomped up and down the room.

- a) Give the meanings of the words below. **One-word** answers or short phrases will be accepted.
  - i. Revolting:
  - ii. Retained:
  - iii. Inhabit:

iv. Banished:

v. Inflated:

- b) Answer in your own words.

- i. Why was Ari- convinced that he was not a bird at all?
- ii. What was Ari's reaction if one got ahead of him while walking?
- iii. What expression in the passage does the writer use in describing Ari that compares him with a human being?
- iv. Give a phrase which is used to express Ari's anger if he was left too far behind while going for a walk with the family?
- v. Indicate how Ari demonstrated his love for music.

2. Read the given poem and answer the questions that follow: (10 marks)

#### MOTHER TO SON

Well son, I will tell you:

Life for me has not been no crystal stair. It's had cracks in it and splinters.

And boards torn up,

And places with no carpet on the floor-bare.

But all the time

I have been climbing on, and turning corner's

And sometimes going in the dark where there has been no light.

So, boy, don't you turn back. Don't you sit down on the steps cause you find it kind of hard.

Don't you fall now for I am still going, honey, I am still climbing,

And life for me has been no crystal stair.

- a) What has the mother compared her life to?
- b) What kind of a life has it been for the mother?
- c) Describe briefly the mother's attitude towards life?
- d) What does the phrase 'crystal stair' imply?

## SECTION 'B' WRITING

3. Write an essay on any of the following:(10 marks)
  - a) Leadership
  - b) I met a stranger at the railway station.
  - c) When my father asked me to stop using the mobile phone
4. Write a letter to your brother giving him an account of the recent incident which took place at your school where a boy saved another boy's life. (10 marks)
5. Write a picture composition based on the following graphic. (10 marks)



## SECTION 'C' GRAMMAR

1. Rewrite the sentences as directed in brackets, without changing the meaning of the sentences. (10 marks)
  - a) Suman has worked hard at school. (Rewrite the sentence using an adverb in its correct position)
  - b) If you don't move your bicycle, somebody will trip over it. (Change this if sentence into or sentence).
  - c) She was very upset when she heard the news. (Change this statement into a yes or no question)
  - d) The pastor preached to an attentive (Fill in the blank with a suitable Collective Noun).
  - e) It was a fit to be laughed at Idea. (Rewrite the sentence by substituting the underlined phrase with an adjective)
  - f) Thieves often break into these apartments. (Start the sentence with These')
  - g) I am giving you this medicine. Take it at bedtime. (Join the two sentences using an infinitive)
  - h) How many people can this auditorium accommodate? (End the sentence with ..... auditorium?')
  - i) She is so clever that no one can fool her. (Replace 'So ..... that' with 'too to').
  - j) The manager showed his skill in handling the situation. (Rewrite replacing the underlined words with an adverb).
2. Join the pair of sentences with appropriate **conjunctions**: (5 marks)
  - a) Ayush does not like tea. He does not like coffee either.
  - b) Shubham will come back. I do not know the time.
  - c) Payal left for Yemen. She sold all her furniture.
  - d) Monica was to reach here at 8. She has not turned up yet.
  - e) Ankit has no apples in the shop. He has to buy apples.
3. Write the **antonym** of the following: (5 marks)
  - a) Transient
  - b) Virtuous
  - c) Ebb
  - d) Frown
  - e) Firm
4. Write the **synonym** of the following: (5 marks)
  - a) Predicament
  - b) Silent
  - c) Stop
  - d) Peculiar
  - e) Synonym
5. Complete the given sentences with the correct form of verb: (5 marks)

We decided to travel by car and \_\_\_\_\_(a) (leave) the house early. We \_\_\_\_\_(b) (be) on the road for two hours when our car \_\_\_\_ (c)(hit) a stone that \_\_\_\_ (d) ( lie) in the middle of the road. The car \_\_\_\_\_ (e)(go) off the road but we \_\_\_\_\_(f) (escape) with minor injuries. Had we \_\_\_\_ (g)(travel) faster, we \_\_\_\_ (h) (involve) in a serious accident. The mishap \_\_\_\_ (i)(delay) us did not \_\_\_\_\_(j) (damp) our enthusiasm.
6. Fill in the blank with **prepositions**: (5 marks)
  - a) The soccer player was shown a yellow card for arguing \_\_\_\_\_ the referee.
  - b) Mr. Donald will call \_\_\_\_\_ him tomorrow.
  - c) The exhibition was a complete sell \_\_\_\_\_.
  - d) How can she put \_\_\_\_\_with such undisciplined students?
  - e) The man broke \_\_\_\_\_ the cordon and rushed to the dais.
  - f) We must cut \_\_\_\_\_on wasteful expenditure.
  - g) Though I was young my father had great confidence \_\_\_\_\_ Me
  - h) The novelty of being a celebrity wears \_\_\_\_\_ ultimately.
  - i) Rohit wasn't looking where he was going and he walked\_\_\_\_\_ a lamp post.
  - j) She is the nicest person I have come \_\_\_\_\_.
7. Change the following sentences into **passive form** or **vice-versa** (5 marks)



- a) The police are unduly harassing me.
- b) You might have given this information earlier.
- c) The checker checks the admission tickets at the gate.
- d) She is calling me.
- e) Who stole your pen?

8. Choose the correct option for the following

**idioms:**

(5 marks)

- a) At the helm of
  - i. At the main situation
  - ii. in the centre of the ship
  - iii. in the centre of the storm
  - iv. at the helm of the ship
- b) An apple of discord
  - i. Sour Apple
  - ii. Also fight for an apple
  - iii. A quarrel
  - iv. The cause of the contention
- c) Much Ado About Nothing
  - i. A play by Shaw
  - ii. To make a fuss over a small matter
  - iii. Talk about nothing
  - iv. To make a noise
- d) Plough a lonely furrow
  - i. Plough the sands
  - ii. Work single handedly
  - iii. Plough the field
  - iv. Work in a furrow
- e) A Gala day
  - i. An eventful day
  - ii. A day of success
  - iii. A day of merrymaking
  - iv. A day of significance

9. Change the following sentences into **indirect speech** (5 marks)

- a) She said. "Oh dear! I have spilt coffee on the table."
- b) He said to me, "When will she go to Jaipur?"
- c) He said to his servant, "Go away at once."
- d) He said, "Yes, I am at fault."
- e) They said, "Wow, what a pleasant weather it is!"
- f) Mohan said to Lata, "Let us watch some good movie."
- g) She said to me, "What can I do for you dear?"
- h) "Cheer up, mother, I shall go and work somewhere," said Veena
- i) The girl said, "How tough the paper is!"
- j) I said to the guard, "When does the next flight come in?"

10. Complete the following **similes**. (5 marks)

- a) As fit as a \_\_\_\_\_.
- b) As white as a \_\_\_\_\_.
- c) As tight as a \_\_\_\_\_.
- d) As \_\_\_\_\_ as a lark.
- e) As busy as a \_\_\_\_\_.

11. Name the following: (5 marks)

- a) Words written on the grave,
- b) A government formed by the nobles,
- c) A state of abstention from marriage,
- d) A meeting of preaches or delegates,

12. **Fill in** the **blank** with correct option: (5 marks)

- a) We should \_\_\_\_\_ (practise, practice) the game everyday.
- b) During the rainy season \_\_\_\_\_ (lighting, lightning) struck him.
- c) He gave his \_\_\_\_\_ (ascent, assent) to our proposal.
- d) Our school will be built on this \_\_\_\_\_ (site, sight)
- e) The defeat in the match had an adverse \_\_\_\_\_ (affect, effect) on him.

## GENERAL KNOWLEDGE

Time: 60 minutes

Maximum marks: 75

### 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.

### निर्देश:

1. कुल 75 प्रश्न हैं और प्रत्येक प्रश्न एक अंक का है।
2. किसी भी गलत उत्तर के लिए कोई नकारात्मक अंकन नहीं है।
3. ओवरराइट न करें, दोहरे उत्तरों से कोई अंक नहीं मिलेंगे।
4. सभी प्रश्नों के उत्तर प्रश्न-पत्र पर ही देने हैं।

**{TICK ( ✓ ) THE CORRECT ANSWER} / {सही उत्तर पर (✓) निशान लगाएँ}**

1. Which country will host the 2023 ICC Cricket World Cup? / कौन सा देश 2023 ICC क्रिकेट विश्व कप की मेजबानी करेगा?  
a) India / भारत  
b) England / इंग्लैंड  
c) Australia / ऑस्ट्रेलिया  
d) South Africa / दक्षिण अफ्रीका
2. Which astronomical observatory in India has been added to UNESCO list? / भारत में किस खगोलीय वेधशाला को यूनेस्को की सूची में जोड़ा गया है?  
a) Madras astronomical observatory / मद्रास खगोलीय वेधशाला  
b) VainuBappu Astronomical Observatory/ वेणुबापू खगोलीय वेधशाला  
c) IUCAA Girawali Observatory / IUCAA गिरावली वेधशाला  
d) Bihar Astronomical Observatory/ बिहार खगोलीय वेधशाला
3. Who won the Best Actor award at the 2023 Academy Awards? / 2023 अकादमी पुरस्कारों में सर्वश्रेष्ठ अभिनेता का पुरस्कार किसने जीता?  
a) Leonardo Di Caprio / लियोनार्डो डी कैप्रियो  
b) Robert Downey Jr. / रॉबर्ट डाउनी जूनियर  
c) Tom Hanks / टॉम हैंक्स  
d) Brendan Fraser/ब्रेंडन फ्रेजर
4. PARVAZ Market Linkage Scheme is launched by which Indian Union Territory? / PARVAZ मार्केट लिंकेज योजना किस भारतीय केंद्र शासित प्रदेश द्वारा शुरू की गई है?  
a) Puducherry / पुडुचेरी  
b) Jammu & Kashmir / जम्मू और कश्मीर  
c) Delhi/दिल्ली  
d) Chandigarh/चंडीगढ़
5. Dr. N. Kalaiselvi has become the first Woman Director General of which Indian Research Organisation? / डॉ. एन. कलैसेलवी किस भारतीय अनुसंधान संगठन की पहली महिला महानिदेशक बनी हैं?  
a) Indian Council of Social Science Research / भारतीय सामाजिक विज्ञान अनुसंधान परिषद  
b) Indian Council of Agricultural Research / भारतीय कृषि अनुसंधान परिषद  
c) Indian Agricultural Statistics Research Institute / भारतीय कृषि सांख्यिकी अनुसंधान संस्थान  
d) Council of Scientific and Industrial Research (CSIR) / वैज्ञानिक और औद्योगिक अनुसंधान परिषद (CSIR)
6. Which is the world's first carbon negative country? / दुनिया का पहला कार्बन नकारात्मक देश कौन सा है?  
a) India/ भारत  
b) Bhutan/ भूटान  
c) South Korea/दक्षिण कोरिया  
d) Singapore/ सिंगापुर
7. 'Danuri' is the moon mission of which country? / 'दानुरी' किस देश का चंद्रमा मिशन है?  
a) Malaysia / मलेशिया  
b) Japan/ जापान  
c) South Korea /दक्षिण कोरिया  
d) Singapore/ सिंगापुर

8. Which city/state will host the 2026 Commonwealth Games? / कौन सा शहर/राज्य 2026 राष्ट्रमंडल खेलों की मेजबानी करेगा?
- Durban / डरबन
  - Delhi / दिल्ली
  - Birmingham / बर्मिंघम
  - Victoria / विक्टोरिया
9. India's first underwater metro will be inaugurated in which city? / भारत की पहली अंडरवाटर मेट्रो का उद्घाटन किस शहर में किया जाएगा?
- Hyderabad / हैदराबाद
  - Kolkata / कोलकाता
  - Bangalore / बैंगलोर
  - Pune / पुणे
10. Which of the following is not a cereal crop? / निम्नलिखित में से कौन अनाज की फसल नहीं है?
- Wheat/गेहूं
  - Rice /चावल
  - Potato/आलू
  - Maize/मक्का
11. Which Indian State has appointed Deloitte India as its consultant? / किस भारतीय राज्य ने डेलोइट इंडिया को अपना सलाहकार नियुक्त किया है?
- Uttarakhand/ उत्तराखंड
  - Uttar Pradesh/उत्तर प्रदेश
  - Himachal Pradesh/हिमाचल प्रदेश
  - Gujarat/गुजरात
12. Who won the 2023 Australian Open Men's Singles title? / 2023 ऑस्ट्रेलियन ओपन पुरुष एकल का खिताब किसने जीता?
- Rafael Nadal / राफेल नडाल
  - Roger Federer / रोजर फेडरर
  - Novak Djokovic / नोवाक जोकोविच
  - Andy Murray/ एंडी मरे
13. Which institution conducts 'Abhyaas' programme to guide students in Competitive Examination? / कौन सी संस्था प्रतियोगी परीक्षा में छात्रों का मार्गदर्शन करने के लिए 'अभ्यास' कार्यक्रम आयोजित करती है?
- ISRO / इसरो
  - IIT-Kharagpur/आईआईटी-खड़गपुर
  - All India Radio News/ऑल इंडिया रेडियो न्यूज़
  - DD News/ डीडी न्यूज़
14. Which Ministry conferred the 'India Pharma and India Medical Devices Awards 2022'? / किस मंत्रालय ने 'इंडिया फार्मा एंड इंडिया मेडिकल डिवाइस अवार्ड्स 2022' प्रदान किया?
- Ministry of Health and Family Welfare/स्वास्थ्य एवं परिवार कल्याण मंत्रालय
  - Ministry of Chemicals and Fertilisers/रसायन एवं उर्वरक मंत्रालय
  - Ministry of Home Affairs/गृह मंत्रालय
  - Ministry of Science and Technology/विज्ञान एवं प्रौद्योगिकी मंत्रालय
15. Which of the following is not a contribution of India to the world: / निम्नलिखित में से कौन सा विश्व को भारत का योगदान नहीं है:
- Ayurveda /आयुर्वेद
  - Yoga /योग
  - Chai /चाय
  - Zero/जीरो
16. Which Company launched M15 Petrol, with 15 per cent blend of methanol with petrol? / किस कंपनी ने पेट्रोल के साथ 15 प्रतिशत मेथनॉल मिश्रण के साथ M15 पेट्रोल लॉन्च किया?
- Indian Oil Corporation/ इंडियन ऑयल कॉर्पोरेशन
  - Bharat Petroleum/ भारत पेट्रोलियम
  - Oil and Natural Gas Corporation /तेल एवं प्राकृतिक गैस निगम
  - GAIL Ltd/ गेल लिमिटेड
17. First flight of Akasa Air has been inaugurated between which of the following two cities in India? / भारत के निम्नलिखित में से किन दो शहरों के बीच आकाश एयर की पहली उड़ान का उद्घाटन किया गया है?
- Ahmedabad to Lucknow / अहमदाबाद से लखनऊ
  - Jabalpur to Delhi / जबलपुर से दिल्ली
  - Chennai to Mumbai / चेन्नई से मुंबई
  - Mumbai to Ahmedabad /मुंबई से अहमदाबाद
18. 'Badhe Chalo' campaign under Azadi ka Amrit Mahotsav has been launched by which Central Ministry? / आजादी का अमृत महोत्सव के तहत 'बढ़े चलो' अभियान किस केंद्रीय मंत्रालय द्वारा शुरू किया गया है?
- Ministry of Culture / संस्कृति मंत्रालय
  - Ministry of External Affairs /विदेश मंत्रालय
  - Ministry of Housing and Urban Affairs/ आवास और शहरी मामलों का मंत्रालय
  - Ministry of Home Affairs/ गृह मंत्रालय
19. Military exercise 'YudhAbhyas' is held between India and which other country? / भारत और किस अन्य देश के बीच सैन्य अभ्यास 'युद्ध अभ्यास' आयोजित किया जाता है?
- Australia / ऑस्ट्रेलिया
  - Japan / जापान
  - USA / यूएसए
  - France/फ्रांस
20. Who chairs the National Disaster Management Authority (NDMA)? / राष्ट्रीय आपदा प्रबंधन प्राधिकरण (NDMA) की अध्यक्षता कौन करता है?
- Home Minister/ गृह मंत्री
  - Prime Minister/ प्रधान मंत्री
  - Finance Minister/वित्त मंत्री

- d) President of India/ भारत के राष्ट्रपति
21. Benson and Hedges Cup is related to which sports? / बेन्सन और हेजस कप किस खेल से संबंधित है?
- a) Hockey / हॉकी  
b) Cricket / क्रिकेट  
c) Football / फुटबॉल  
d) Basketball/ बास्केटबॉल
22. In which year, Telangana was carved out of erstwhile unified Andhra Pradesh? / किस वर्ष, तेलंगाना को पूर्ववर्ती एकीकृत आंध्र प्रदेश से अलग किया गया था?
- a) 2012  
b) 2014  
c) 2016  
d) 2017
23. What is the target year set by India for first Human Space Mission Gaganyaan and first Human Ocean Mission? / भारत द्वारा पहले मानव अंतरिक्ष मिशन गगनयान और पहले मानव महासागर मिशन के लिए लक्ष्य वर्ष क्या निर्धारित किया गया है?
- a) 2022  
b) 2023  
c) 2024  
d) 2025
24. Which state has received Agasthiyamalai Elephant Reserve as its fifth Elephant Reserve? / किस राज्य को अपने पांचवें हाथी रिजर्व के रूप में अगस्त्यमलाई हाथी रिजर्व प्राप्त हुआ है?
- a) Karnataka / कर्नाटक  
b) Andhra Pradesh/ आंध्र प्रदेश  
c) Kerala / केरल  
d) Tamil Nadu / तमिलनाडु
25. Which Indian City hosted India International Seafood Show 2023? / किस भारतीय शहर ने इंडिया इंटरनेशनल सीफूड शो 2023 की मेजबानी की?
- a) Kochi / कोच्चि  
b) Mumbai / मुंबई  
c) Chennai / चेन्नई  
d) Kolkata / कोलकाता
26. Constitution of India came into effect from? / भारत का संविधान कब से लागू हुआ?
- a) 15 January 1950/ 15 जनवरी 1950  
b) 26 January 1950 /26 जनवरी 1950  
c) 15 August 1950/15 अगस्त 1950  
d) 15 January 1950/15 जनवरी 1950
27. Where and when was the second Buddhist council held? / दूसरी बौद्ध परिषद कहाँ और कब आयोजित की गई थी?
- a) Patliputra in 250 BC/ पाटलिपुत्र 250 ईसा पूर्व में  
b) Sri Lanka in 1st century BC/ श्रीलंका पहली शताब्दी ईसा पूर्व में  
c) Vaishali in 383 BC / वैशाली 383 ईसा पूर्व में
- d) Mandalay in 1871 AD/ मंडले 1871 ई. में
28. Which of the following galaxy is closest to our galaxy? / निम्नलिखित में से कौन सी आकाशगंगा हमारी आकाशगंगा के सबसे करीब है?
- a) Andromeda galaxy / एंड्रोमेडा आकाशगंगा  
b) Small Magellan Cloud / छोटा मैगलन बादल  
c) Triangulum Galaxy / त्रिकोणीय आकाशगंगा  
d) Centaurus A / सेंटॉरस A
29. At which among the following sites of Indus Valley Civilization, the rows of distinctive fire altars with the provision of ritual bathing have been found? / सिंधु घाटी सभ्यता के निम्नलिखित स्थलों में से किस पर अनुष्ठान स्नान के प्रावधान के साथ विशिष्ट अग्नि वेदियों की पंक्तियाँ पाई गई हैं?
- a) Mohen-jo-Daro / मोहन-जो-दारो  
b) Harappa / हड़प्पा  
c) Kalibangan / कालीबंगन  
d) Lothal / लोथल
30. How much time it took for Constituent Assembly to finalize the constitution? / संविधान सभा को संविधान को अंतिम रूप देने में कितना समय लगा?
- a) 2 Years 11 Months 17 Days / 2 वर्ष 11 महीने 17 दिन  
b) 2 Years 9 Months 8 Days / 2 वर्ष 9 महीने 8 दिन  
c) 2 Years 7 Months 18 Days / 2 वर्ष 7 महीने 18 दिन  
d) 2 Years 5 Months 20 Days / 2 वर्ष 5 महीने 20 दिन
31. Which among the following is the correct set of the plays written by Harshavardhan in Sanskrit? / निम्नलिखित में से कौन सा हर्षवर्धन द्वारा संस्कृत में लिखे गए नाटकों का सही सेट है?
- a) Malavikagnimitram, Vikramorvashiiyam and Abhijnanasakuntalam / मालविकाग्निमित्रम्, विक्रमोर्वशीयम् और अभिज्ञानशाकुंतलम्  
b) SvapnaVasavadattam, Pancharatra and PratijnaYaugandharayaanam / स्वप्न वासवदत्तम्, पंचरात्र और प्रतिज्ञायुगंधरायणम्  
c) Nagananda, Priyadarshika and Ratnavali. / नागनन्द, प्रियदर्शिका और रत्नावली  
d) None of these/ इनमें से कोई नहीं
32. Which of the following rulers belonged to the Ghulam dynasty? / निम्नलिखित में से कौन सा शासक गुलाम वंश का था?
- a) Iltutmish / इल्तुतमिश  
b) Shah Jahan / शाहजहाँ  
c) Akbar / अकबर  
d) Humayun / हुमायूँ
33. From where do male mosquitoes get their food? / नर मच्छर अपना भोजन कहाँ से प्राप्त करते हैं?
- a) Human Blood / मानव रक्त  
b) Stagnant Water / स्थिर पानी

- c) Sap of Plants / पौधों का रस  
d) Dung and Garbage/ गोबर और कचरा
34. A thermostat is a device used for \_\_\_\_ / थर्मोस्टेट एक उपकरण है जिसका उपयोग \_\_\_\_ के लिए किया जाता है  
a) measuring electricity/ बिजली मापने  
b) measuring heat / गर्मी मापने  
c) automatically maintaining a steady / स्वचालित रूप से एक स्थिर तापमान बनाए रखने temperature  
d) producing heat / गर्मी पैदा करने
35. Which Article is related to Equality before law? / कौन सा अनुच्छेद कानून के समक्ष समानता से संबंधित है?  
a) Art. 13 / अनुच्छेद 13  
b) Art. 14 / अनुच्छेद 14  
c) Art. 15 / अनुच्छेद 15  
d) Art. 16 / अनुच्छेद 16
36. What is the age of Earth as calculated? / गणना के अनुसार पृथ्वी की आयु क्या है?  
a) Age of Earth is 4.543 billion years/ पृथ्वी की आयु 4.543 बिलियन वर्ष है  
b) 5.543 billion years/ 5.543 बिलियन वर्ष  
c) 6.235 billion years/ 6.235 बिलियन वर्ष  
d) 1.235 billion years/ 1.235 बिलियन वर्ष
37. What is the smallest unit of weight? / वजन की सबसे छोटी इकाई क्या है?  
a) Ratti / रत्ती  
b) Drona/द्रोण  
c) Tola / तोला  
d) Masha/ माशा
38. Which of the following sanctuary is well-known for elephants / निम्नलिखित में से कौन सा अभयारण्य हाथियों के लिए प्रसिद्ध है  
a) Kanha / कान्हा  
b) Gir / गिर  
c) Kaziranga/काजीरंगा  
d) Periyar /पेरियार
39. Biofertilizers convert nitrogen into which of the following? / जैव उर्वरक नाइट्रोजन को निम्नलिखित में से किसमें परिवर्तित करते हैं?  
a) Nitrates /नाइट्रेट्स  
b) Ammonia /अमोनिया  
c) Nitrogenase / नाइट्रोजनेज  
d) Ammonia in acid/ अम्ल में अमोनिया
40. In which year was the Swaraj Party founded? / स्वराज पार्टी की स्थापना किस वर्ष हुई थी?  
a) 1919  
b) 1920  
c) 1923  
d) 1925
41. Which is the deepest point on earth above sea level? / समुद्र तल से ऊपर पृथ्वी पर सबसे गहरा बिंदु कौन सा है?  
a) North Channel /नॉर्थ चैनल  
b) Pacific Ocean / प्रशांत महासागर  
c) Mariana Trench/मारियाना ट्रेंच  
d) Red Sea /लाल सागर
42. The first woman to climb mount Everest was / माउंट एवरेस्ट पर चढ़ने वाली पहली महिला थी  
a) Marie Jose perc/मैरी जोस पर्क  
b) Florence Griffith Joyner / फ्लोरेंस ग्रिफ़िथ जॉयनर  
c) Junko Tabei / जुन्को ताबेई  
d) Jackie Joyner Kersee / जैकी जॉयनर केर्सी
43. Which one of the following countries is not a member of ASEAN? / निम्नलिखित में से कौन सा देश आसियान का सदस्य नहीं है?  
a) Brunei Darussalam /ब्रुनेई दारुस्सलाम  
b) Cambodia/ कंबोडिया  
c) Vietnam // वियतनाम  
d) India/ भारत
44. India first took part in the Olympic Games in the year / भारत ने पहली बार ओलंपिक खेलों में वर्ष में भाग लिया था  
a) 1920  
b) 1928  
c) 1972  
d) 1974
45. Which law was called the black law by Gandhiji? / गांधीजी ने किस कानून को काला कानून कहा था?  
a) Rowlatt Act /रॉलेट एक्ट  
b) Communal Award / सांप्रदायिक पुरस्कार  
c) Hunter Commission /हंटर आयोग  
d) Montagu Declaration/ मोंटेग्यू घोषणा
46. What are the molten rocks under the surface of the earth called? पृथ्वी की सतह के नीचे पिघली हुई चट्टानों को क्या कहा जाता है?  
a) Basalt/बेसाल्ट  
b) Laccolith / लैकोलिथ  
c) Lava /लावा  
d) Magma / मैग्मा
47. Article 370 was revoked from the state of J and K on? / जम्मू और कश्मीर राज्य से अनुच्छेद 370 कब हटाया गया था?  
a) 15 January 2020/15 जनवरी 2020  
b) 14 February 2019 /14 फरवरी 2019  
c) 15 August 2019/15 अगस्त 2019  
d) 06 August 2019 / 06 अगस्त 2019
48. Land is included in the circle – / भूमि किस वृत्त में शामिल है -

- a) upper crust only / केवल ऊपरी क्रस्ट  
b) upper and lower crust / ऊपरी और निचली क्रस्ट  
c) upper and lower crust and solid upper part of mantle / ऊपरी और निचली क्रस्ट और मेंटल का ठोस ऊपरी भाग  
d) none of these / इनमें से कोई नहीं
49. Which is the largest moon in our solar system? / हमारे सौरमंडल का सबसे बड़ा चंद्रमा कौन सा है?  
a) Ganymed (Jupiter) / गेनीमेड (बृहस्पति)  
b) Titan (Saturn) / टाइटन (शनि)  
c) Callisto (Jupiter) / कैलिस्टो (बृहस्पति)  
d) Io (Jupiter) / आयो (बृहस्पति)
50. Veda, which is partly in prose and partly in verses is \_\_\_\_? / वेद, जो आंशिक रूप से गद्य में और आंशिक रूप से पद्य में है, \_\_\_\_ है?  
a) Rigveda / ऋग्वेद  
b) Samaveda / सामवेद  
c) Yajurveda / यजुर्वेद  
d) Atharvaveda / अथर्ववेद
51. Where is the International Court of Justice? / अंतर्राष्ट्रीय न्यायालय कहाँ है?  
a) The / हेग  
b) Berlin/बर्लिन  
c) London/लंदन  
d) Warsaw / वारसॉ
52. The Acid in gastric juice is / गैस्ट्रिक जूस में एसिड होता है  
a) Acetic acid/ एसिटिक एसिड  
b) Nitric acid/ नाइट्रिक एसिड  
c) Hydrochloric acid/ हाइड्रोक्लोरिक एसिड  
d) Sulphuric acid / सल्फ्यूरिक एसिड
53. The first Asian Games were held in / पहले एशियाई खेल कहाँ आयोजित किए गए थे  
a) Manila / मनीला  
b) Tokyo / टोक्यो  
c) Jakarta / जकार्ता  
d) New Delhi / नई दिल्ली
54. Which of the following wave passes only through the solid medium? / निम्नलिखित में से कौन सी तरंग केवल ठोस माध्यम से होकर गुजरती है?  
a) P-Wave (Primary Wave) / P-वेव (प्राथमिक तरंग)  
b) S-Wave (Transverse Wave) / S-वेव (अनुप्रस्थ तरंग)  
c) L-Wave / L-वेव  
d) All the above / उपरोक्त सभी
55. What is the full form of ESA? / ESA का पूर्ण रूप क्या है?  
a) European Space Agency/ यूरोपीय अंतरिक्ष एजेंसी  
b) European seculars agency/ यूरोपीय धर्मनिरपेक्ष एजेंसी  
c) East Space Agency/ ईस्ट स्पेस एजेंसी  
d) Earth Space Agency / अर्थ स्पेस एजेंसी
56. When did UN General Assembly established UN industrial Development Organization? / संयुक्त राष्ट्र महासभा ने संयुक्त राष्ट्र औद्योगिक विकास संगठन की स्थापना कब की?  
a) 1986  
b) 1966  
c) 1967  
d) 1965
57. The first Defence Minister of India was / भारत के पहले रक्षा मंत्री थे  
a) K M Cariappa / के एम करिअप्पा  
b) Gopalaswami Aiyangar / गोपालस्वामी अयंगर  
c) Baldev Singh / बलदेव सिंह  
d) Sardar Patel / सरदार पटेल
58. Which among the following planets is smaller in size than the Earth? / निम्नलिखित में से कौन सा ग्रह पृथ्वी से आकार में छोटा है?  
a) Neptune / नेपच्यून  
b) Venus / शुक्र  
c) Saturn / शनि  
d) Uranus / यूरेनस
59. Which of these rocks is the oldest from the point of view of construction? / इनमें से कौन सी चट्टान निर्माण की दृष्टि से सबसे पुरानी है?  
a) Igneous rock / आग्नेय चट्टान  
b) Metamorphic rock/ रूपांतरित चट्टान  
c) Sedimentary rock / अवसादी चट्टान  
d) None of these / इनमें से कोई नहीं
60. The term for live audio-visual meet with two or more participants, remotely located and geographically dispersed: / दो या दो से अधिक प्रतिभागियों के साथ, दूर स्थित और भौगोलिक रूप से फैले हुए लाइव ऑडियो-विजुअल मीट के लिए शब्द:  
a) Tele-conferencing / टेली-कॉन्फ्रेंसिंग  
b) Mobile/मोबाइल  
c) Email / ईमेल  
d) Data/डेटा
61. In which state is the World Heritage Site named Basilica of Bom Jesus located? / बेसिलिका ऑफ बॉम जीसस नामक विश्व धरोहर स्थल किस राज्य में स्थित है?  
a) Goa / गोवा  
b) Maharashtra / महाराष्ट्र  
c) Manipur / मणिपुर  
d) Tamil Nadu/तमिलनाडु
62. Sabarimala is in which state? / सबरीमाला किस राज्य में है?

- a) Kerala / केरल  
b) Tamil Nadu / तमिलनाडु  
c) Karnataka / कर्नाटक  
d) Andhra Pradesh / आंध्र प्रदेश
63. Husari and Bihuna are dance forms of which state? / हुसरी और बिहुना किस राज्य के नृत्य रूप हैं?  
a) Bihar / बिहार  
b) Assam / असम  
c) West Bengal / पश्चिम बंगाल  
d) Orissa / उड़ीसा
64. Which court exercises the jurisdiction of the Union Territory of Lakshadweep? / केंद्र शासित प्रदेश लक्षद्वीप के अधिकार क्षेत्र का प्रयोग कौन सा न्यायालय करता है?  
a) Kerala High Court / केरल उच्च न्यायालय  
b) Tamil Nadu High Court / तमिलनाडु उच्च न्यायालय  
c) Bombay High Court / बॉम्बे उच्च न्यायालय  
d) Calcutta High Court / कलकत्ता उच्च न्यायालय
65. How much of the Earth's surface is covered by sedimentary rocks? / पृथ्वी की सतह का कितना हिस्सा अवसादी चट्टानों से ढका है?  
a) 71%  
b) 81%  
c) 85%  
d) 75%
66. Who can change the number of judges of the Supreme Court? / सर्वोच्च न्यायालय के न्यायाधीशों की संख्या कौन बदल सकता है?  
a) Parliament by law / संसद कानून द्वारा  
b) Presidential Order / राष्ट्रपति का आदेश  
c) Notification of the Central Government / केंद्र सरकार की अधिसूचना  
d) Supreme Court notification / सर्वोच्च न्यायालय की अधिसूचना
67. Who among the following can remove the Governor from his office? / निम्नलिखित में से कौन राज्यपाल को उसके पद से हटा सकता है?  
a) Parliament / संसद  
b) State Legislative Assembly / राज्य विधानसभा  
c) President / राष्ट्रपति  
d) none of these / इनमें से कोई नहीं
68. Which statement is correct about the laws of reflection: / परावर्तन के नियमों के बारे में कौन सा कथन सही है:  
i. The incident ray, normal ray and the reflected ray all lie in the same plane. / आपतित किरण, अभिलंब किरण और परावर्तित किरण सभी एक ही तल में होती हैं।  
ii. The angle of reflection is always equal to the angle of incidence. / परावर्तन कोण हमेशा आपतन कोण के बराबर होता है।  
iii. The angle of incidence is equal to the angle formed by normal ray. / आपतन कोण अभिलंब किरण द्वारा बनाए गए कोण के बराबर होता है।  
iv. The angle of reflection is equal to  $90^\circ$ . / परावर्तन कोण  $90^\circ$  के बराबर है।  
a) Both i. and ii. / i. और ii दोनों  
b) Both ii. and iii. / ii. और iii दोनों  
c) Both iii. and iv. / iii. और iv दोनों  
d) i., ii. and iv. are correct / i., ii. और iv. सही हैं
69. The Article 123 of the Constitution deals with? / संविधान का अनुच्छेद 123 किससे संबंधित है?  
a) Advisory Jurisdiction of the Supreme Court / सर्वोच्च न्यायालय का सलाहकार क्षेत्राधिकार  
b) Presidential Ordinances / राष्ट्रपति के अध्यादेश  
c) Election Commission / चुनाव आयोग  
d) Special status of Jammu and Kashmir / जम्मू और कश्मीर का विशेष दर्जा
70. The Department of Border Management is a department under which ministry? / सीमा प्रबंधन विभाग किस मंत्रालय के अधीन एक विभाग है?  
a) Ministry of Home Affairs / गृह मंत्रालय  
b) Ministry of Defense / रक्षा मंत्रालय  
c) Ministry of Road Transport / सड़क परिवहन मंत्रालय  
d) Ministry of External Affairs / विदेश मंत्रालय
71. Fatehpur Sikri was founded as the capital of the Mughal Empire by \_\_\_\_\_. / फतेहपुर सीकरी की स्थापना मुगल साम्राज्य की राजधानी के रूप में \_\_\_\_\_ द्वारा की गई थी।  
a) Jahangir / जहाँगीर  
b) Akbar / अकबर  
c) Babur / बाबर  
d) Humayun / हुमायूँ
72. The proposal to remove the Vice-President can be moved in / उपराष्ट्रपति को हटाने का प्रस्ताव कहाँ रखा जा सकता है  
a) Rajya Sabha only / केवल राज्यसभा  
b) Lok Sabha only / केवल लोकसभा  
c) in a joint session of Lok Sabha and Rajya Sabha / लोकसभा और राज्यसभा के संयुक्त सत्र में  
d) Both Lok Sabha and Rajya Sabha / लोकसभा और राज्यसभा दोनों
73. Sound can not travel in which medium? / ध्वनि किस माध्यम में यात्रा नहीं कर सकती?  
a) Solid / ठोस  
b) Liquid / तरल  
c) Gas / गैस  
d) Vacuum / निर्वात
74. Which one of the following schedules of the Constitution of India is to be amended to create a new state? / भारतीय संविधान की निम्नलिखित में से किस अनुसूची में संशोधन करके एक नया राज्य बनाया जाना है?

- a) First Schedule / पहली अनुसूची
- b) Second Schedule/दूसरी अनुसूची
- c) Third Schedule /तीसरी अनुसूची
- d) Fourth Schedule/ चौथी अनुसूची

75. Which is the largest Lok Sabha constituency of India in terms of area? / क्षेत्रफल की दृष्टि से भारत का सबसे

बड़ा लोकसभा निर्वाचन क्षेत्र कौन सा है?

- a) Ladakh /लद्दाख
- b) Arunachal Pradesh / अरुणाचल प्रदेश
- c) Kutch / कच्छ
- d) Barmer /बाड़मेर



**MATHEMATICS**  
**SOLUTIONS**  
**PART A**

1. Area of sector / सेक्टर का क्षेत्रफल =  $\frac{\theta}{360} \times \pi r^2$   
 $= \frac{40}{360} \times \frac{22}{7} \times 4 \times 4$   
 $= \frac{1}{9} \times \frac{22}{7} \times 16 = 5.59$

2.  $\frac{16}{25}, \frac{25}{3}, \frac{7}{15}, \frac{8}{5}, \frac{1}{15}$

Taking LCM of 25, 3, 15, 5, 15 : / 25, 3, 15, 5, 15 का LCM लेते हुए:

3	25, 3, 15, 5, 15
5	25, 1, 5, 5, 5
5	5, 1, 1, 1, 1
	1, 1, 1, 1, 1

LCM =  $3 \times 5 \times 5 = 75$

Now, we will make the denominator of each term = 75. / अब, हम प्रत्येक पद का हर = 75 बनाएँगे

$$\frac{16}{25} \times \frac{3}{3} = \frac{48}{75}$$

$$\frac{25}{3} \times \frac{25}{25} = \frac{625}{75}$$

$$\frac{7}{15} \times \frac{5}{5} = \frac{35}{75}$$

$$\frac{8}{5} \times \frac{15}{15} = \frac{120}{75}$$

$$\frac{1}{15} \times \frac{5}{5} = \frac{5}{75}$$

Now, compare the numerators and arrange in ascending order. / अब, तुलना करें अंशों को आरोही क्रम में व्यवस्थित करें।

$$\frac{3}{75}, \frac{35}{75}, \frac{48}{75}, \frac{120}{75}, \frac{625}{75}$$

$$\frac{1}{15}, \frac{7}{15}, \frac{16}{25}, \frac{8}{5}, \frac{25}{3}$$

3. LCM of 24 and 32 : / 24 और 32 का LCM:

2	24, 32
2	12, 16
2	6, 8
3	3, 4
2	1, 4
2	1, 2
	1, 1

LCM =  $2 \times 2 \times 2 \times 3 \times 2 \times 2 = 96$

Now, divide 2000 by 96 / अब, 2000 को 96 से भाग दें

$$\begin{array}{r} 96 \overline{) 2000} \quad (2 \\ \underline{192} \\ 80 \end{array}$$

80 Remainder/ शेष

The greatest number less than 2000 which is divisible by 24 and 32 are  $2000 - 80 = 1920$   
 / 2000 से कम सबसे बड़ी संख्या जो 24 और 32 से विभाज्य है,  $2000 - 80 = 1920$

4.  $27 - [48 \div \{4 + (15 - 13 - 2)\}]$   
 $27 - [48 \div \{4 + (15 - 15)\}]$   
 $27 - [48 \div \{4 + (0)\}]$   
 $27 - [48 \div \{4\}]$   
 $27 - [48 \div 4]$   
 $27 - \left[\frac{48}{4} = 12\right]$   
 $27 - 12 = 15$

5.  $a + b + c = 9$   
 $ab + bc + ca = 15$   
 $a^2 + b^2 + c^2 = ?$   
 $(a + b + c)^2 = a^2 + b^2 + c^2 + 2(ab + bc + ca)$   
 $9^2 = a^2 + b^2 + c^2 + 2(15)$   
 $81 = a^2 + b^2 + c^2 + 30$   
 $81 - 30 = a^2 + b^2 + c^2$   
 $a^2 + b^2 + c^2 = 51$

6. Let the numbers be  $x - 1, x, x + 1$  . / संख्याएँ  $x-1, x, x+1$  हैं

According to the question; / प्रश्न के अनुसार;

$$\frac{x-1}{5} + \frac{x}{3} + \frac{x+1}{4} = 40$$

$$\frac{12(x-1)+20(x)+15(x+1)}{60} = 40$$

$$\frac{12x-12+20x+15x+15}{60} = 40$$

$$47x + 3 = 60 \times 40$$

$$47x + 3 = 2400 = 47x = 2400 - 3$$

$$47x = \frac{2397}{47} = 51$$

$$x = 51$$

Numbers are : / संख्याएँ हैं:

$$x - 1 = 51 - 1 = 50$$

$$x = 51$$

$$x + 1 = 51 + 1 = 52$$

7. Speed = 120 km/hr  
 Time = 36 min  
 $= \frac{36}{60} \text{ hours}$   
 Distance = Speed x Time  
 $= 120 \times \frac{36}{60}$   
 $= 72 \text{ km}$

गति = 120 किमी/घंटा

समय = 36 मिनट

$= \frac{36}{60}$  घंटे

दूरी = गति x समय

$$= 120 \times \frac{36}{60}$$

$$= 72 \text{ किमी}$$

8. Let the first part be  $x$ .

Then, the second part is  $= 34 - x$

Given :

$$\frac{4}{7} \times x = \frac{2}{5} \times (34 - x)$$

$$\frac{4x}{7} = \frac{68 - 2x}{5}$$

$$4x \times 5 = 7(68 - 2x)$$

$$20x = 7 \times 68 - 14x$$

$$34x = 7 \times 68$$

$$x = \frac{7 \times 68}{34}$$

$$x = 14$$

First part  $= x = 14$

Second part  $= 34 - x = 34 - 14 = 20$

मान लीजिए पहला भाग  $x$  है।

फिर, दूसरा भाग  $= 34 - x$

दिया गया :

$$\frac{4}{7} \times x = \frac{2}{5} \times (34 - x)$$

$$\frac{4x}{7} = \frac{68 - 2x}{5}$$

$$4x \times 5 = 7(68 - 2x)$$

$$20x = 7 \times 68 - 14x$$

$$34x = 7 \times 68$$

$$x = \frac{7 \times 68}{34}$$

$$x = 14$$

पहला भाग  $= x = 14$

दूसरा भाग  $= 34 - x = 34 - 14 = 20$

9.

$$\begin{array}{r} 3x - 5 \\ 2x^2 - x - 6 \sqrt{6x^3 - 13x^2 - 13x + 30} \\ \underline{6x^3 - 3x^2 - 18x} \\ - \quad + \quad + \\ -10x^2 + 5x + 30 \\ \underline{-10x^2 + 5x + 30} \\ + \quad - \quad - \\ \hline 0 \end{array}$$

Ans  $= (3x - 5)$

10. Area of inner square ABCD  $= \text{side} \times \text{side}$

$$= 21 \times 21$$

$$= 441 \text{ m}^2$$

Area of outer square EFGH  $= \text{side} \times \text{side}$

$$= (21 + 6) \times (21 + 6)$$

$$= 27 \times 27$$

$$= 729 \text{ m}^2$$

Area running area between both square

$$= 729 \text{ m}^2 - 441 \text{ m}^2$$

$$= 288 \text{ m}^2$$

आंतरिक वर्ग ABCD का क्षेत्रफल  $= \text{भुजा} \times \text{भुजा}$

$$= 21 \times 21$$

$$= 441 \text{ m}^2$$

बाहरी वर्ग EFGH का क्षेत्रफल  $= \text{भुजा} \times \text{भुजा}$

$$= (21 + 6) \times (21 + 6)$$

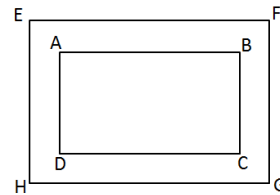
$$= 27 \times 27$$

$$= 729 \text{ m}^2$$

क्षेत्रफल दोनों वर्गों के बीच का रनिंग एरिया

$$= 729 \text{ m}^2 - 441 \text{ m}^2$$

$$= 288 \text{ m}^2$$



11. Amount  $= \text{Rs } 3825/-$  in 4 years

Amount  $= \text{Rs } 4050/-$  in 6 years

Interest in 2 years  $= 4050 - 3825$

$$= 225$$

$$SI = \frac{P \times R \times T}{100}$$

$$225 = \frac{P \times R \times 2}{100}$$

$$PR = \frac{225 \times 100}{2} = 11250$$

$$PR = 11250 \quad \dots\dots\dots(i)$$

$$SI = \frac{P \times R \times 4}{100}$$

$$SI = \frac{PR}{25}$$

$$P + SI = 3825$$

$$P + \frac{PR}{25} = 3825$$

Putting  $PR = 11250$  from (i)

$$= P + \frac{11250}{25} = 3825$$

$$P + 450 = 3825$$

$$P = 3825 - 450$$

$$P = 3375$$

Putting this in equation (i)

$$PR = 11250$$

$$R = \frac{11250}{3375} = \frac{10}{3} \%$$

$$\text{Rate} = \frac{10}{3} \%$$

राशि  $= 4$  वर्षों में  $3825/-$  रुपये

राशि  $= 6$  वर्षों में  $4050/-$  रुपये

2 वर्षों में ब्याज  $= 4050 - 3825$

$$= 225$$

$$\text{साधारण ब्याज} = \frac{P \times R \times T}{100}$$

$$225 = \frac{P \times R \times 2}{100}$$

$$PR = \frac{225 \times 100}{2} = 11250$$

$$PR = 11250 \quad \dots\dots\dots(i)$$

$$\text{साधारण ब्याज} = \frac{P \times R \times 4}{100}$$

$$\text{साधारण ब्याज} = \frac{PR}{25}$$

$$P + SI = 3825$$

$$P + \frac{PR}{25} = 3825$$

(i) से  $PR = 11250$  रखने पर

$$= P + \frac{11250}{25} = 3825$$

$$P + 450 = 3825$$

$$P = 3825 - 450$$

$$P = 3375$$

इसे समीकरण (i) में रखने पर

$$PR = 11250$$

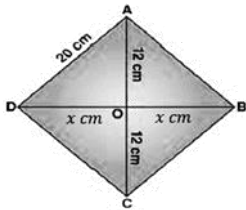
$$R = \frac{11250}{3375} = \frac{10}{3} \%$$

$$\text{दर} = \frac{10}{3} \%$$

12. Men Work / Earn Days

पुरुष	काम / कमाई	दिन
15	900	5
20	$x$ (let)	8
$15 \times x \times 5 = 20 \times 900 \times 8$		
$x = \frac{20 \times 900 \times 8}{15 \times 5}$		
$x = 4 \times 60 \times 8 = 240 \times 8$		
$x = \text{Rs } 1920/-$		

13.



Let the other triangle be  $2x$  / मान लीजिए दूसरा त्रिभुज  $2x$  है

$$x^2 + 12^2 = (20)^2$$

$$x^2 + 144 = 400$$

$$x^2 = 400 - 144$$

$$x^2 = 256$$

$$x = 16$$

$$2x = 32$$

$$\text{Area of Rhombus} = \frac{1}{2} \times \text{diagonal}_1 \times \text{diagonal}_2$$

$$\text{समचतुर्भुज का क्षेत्रफल} = \frac{1}{2} \times \text{विकर्ण}_1 \times \text{विकर्ण}_2$$

$$= \frac{1}{2} \times 32 \times 24$$

$$= 16 \times 24 \text{ cm}$$

$$= 384 \text{ cm}^2$$

14. MP = Rs 4600/-

$$\text{Discount} = 5\%$$

$$\text{GST} = 10\%$$

$$\text{CP} = \text{MP} - \text{Discount}$$

$$\text{Discount} = \frac{5}{100} \times 4600 = \text{Rs } 230/-$$

$$\text{CP} = 4600 - 230$$

$$= \text{Rs } 4370/-$$

$$\text{SP} = \text{CP} + \text{GST}$$

$$= 4370 + \frac{10}{100} \times 4370$$

$$= 4370 + 437$$

$$\text{SP} = \text{Rs } 4807/-$$

$$\text{MP} = 4600/- \text{ रु.}$$

$$\text{छूट} = 5\%$$

$$\text{GST} = 10\%$$

$$\text{CP} = \text{MP} - \text{छूट}$$

$$\text{छूट} = \frac{5}{100} \times 4600 = 230/- \text{ रु.}$$

$$\text{CP} = 4600 - 230$$

$$= 4370/- \text{ रु.}$$

$$\text{SP} = \text{CP} + \text{GST}$$

$$= 4370 + \frac{10}{100} \times 4370$$

$$= 4370 + 437$$

$$\text{SP} = 4807/- \text{ रु.}$$

15. 200% of a number is 90

Let the number be  $x$

$$\frac{200}{100} \times x = 90$$

$$x = \frac{90}{2} = 45$$

80% of the number

$$\frac{80}{100} \times 45 = 36$$

किसी संख्या का 200% 90 है

मान लीजिए संख्या है  $x$

$$\frac{200}{100} \times x = 90$$

$$x = \frac{90}{2} = 45$$

संख्या का 80%

$$\frac{80}{100} \times 45 = 36$$

$$16. \frac{1}{2^{1990}} - \frac{1}{2^{1991}} = 2^x$$

$$2^{-1990} - 2^{-1991} = 2^x$$

$$2^{-1991}(2^1 - 1) = 2^x$$

$$= 2^{-1991}(2 - 1) = 2^x$$

$$2^{-1991} = 2^x$$

$$x = -1991$$

17. Rate = ?

$$\text{Let sum} = x$$

$$\text{Amount given} = 2x$$

$$\text{Time} = \frac{25}{4} \text{ years}$$

$$\text{SI} = 2x - x = x$$

$$\text{SI} = \frac{P \times R \times T}{100}$$

$$1x = \frac{x \times R \times 25}{100 \times 4}$$

$$R = 4 \times 4 = 16\%$$

Rate of interest 16% p.a.

$$\text{दर} = ?$$

$$\text{मान लीजिए योग} = x$$

$$\text{दी गई राशि} = 2x$$

$$\text{समय} = \frac{25}{4} \text{ वर्ष}$$

$$SI = 2x - x = x$$

$$SI = \frac{P \times R \times T}{100}$$

$$1x = \frac{x \times R \times 25}{100 \times 4}$$

$$R = 4 \times 4 = 16\%$$

ब्याज दर 16% प्रति वर्ष

18. Let the exterior angle be  $x$ .

Then, interior angle =  $5x$

$$x + 5x = 180^\circ$$

$$6x = 180^\circ$$

$$x = \frac{180}{6} = 30^\circ$$

$$\text{Interior angle} = 5x = 150^\circ$$

Sum of interior angle of a regular polygon with  $n$  sides :

$$(2n - 4) \times 90^\circ$$

$$\text{Each interior angle} = \frac{(2n-4) \times 90^\circ}{n} = 150^\circ$$

$$(2n - 4)90 = 150n$$

$$180n - 360 = 150n$$

$$180n - 150n = 360$$

$$30n = 360^\circ$$

$$n = \frac{360}{30} = 12$$

Number of sides = 12

मान लीजिए बाह्य कोण  $x$  है।

फिर, आंतरिक कोण =  $5x$

$$x + 5x = 180^\circ$$

$$6x = 180^\circ$$

$$x = \frac{180}{6} = 30^\circ$$

$$\text{आंतरिक कोण} = 5x = 150^\circ$$

$n$  भुजाओं वाले एक नियमित बहुभुज के आंतरिक कोणों का योग:

$$(2n-4) \times 90^\circ$$

$$\text{प्रत्येक आंतरिक कोण} = \frac{(2n-4) \times 90^\circ}{n} = 150^\circ$$

$$(2n-4)90 = 150n$$

$$180n - 360 = 150n$$

$$180n - 150n = 360$$

$$30n = 360^\circ$$

$$n = \frac{360}{30} = 12$$

भुजाओं की संख्या = 12

$$19. \frac{a-1}{a} = \frac{1}{2}$$

To find:

$$4a^2 + \frac{4}{a^2}$$

$$\frac{a-1}{a} = \frac{1}{2}$$

$$\frac{a}{a} - \frac{1}{a} = \frac{1}{2}$$

$$1 - \frac{1}{a} = \frac{1}{2} \Rightarrow \frac{-1}{a} = \frac{1}{2} - 1 = -\frac{1}{2}$$

$$\frac{-1}{a} = \frac{-1}{2}$$

$$a = 2$$

$$4a^2 + \frac{4}{a^2} = 4 \cdot (2)^2 + \frac{4}{(2)^2}$$

$$= 4 \times 4 + \frac{4}{4}$$

$$= 16 + 1$$

$$= 17$$

$$20. 4x^2 - [3y^2 - \{5x^2 - 2y^2 - (x^2 - y^2)\}]$$

$$4x^2 - [3y^2 - \{5x^2 - 2y^2 - x^2 + y^2\}]$$

$$4x^2 - [3y^2 - \{4x^2 - y^2\}]$$

$$4x^2 - [4y^2 - 4x^2]$$

$$4x^2 - 4y^2 + 4x^2$$

$$8x^2 - 4y^2$$

## PART B

1. CP = Rs 2400/-

Marked at 25% above CP

$$\begin{aligned} MP &= CP + CP \times \frac{25}{100} \\ &= 2400 + 2400 \times \frac{25}{100} \end{aligned}$$

$$= 2400 + 600$$

MP = Rs 3000/-

Discount = 15%

$$\text{Discount} = \frac{15}{100} \times 3000$$

$$= \text{Rs } 450/-$$

$$SP = MP - \text{Discount}$$

$$SP = 3000 - 450$$

$$SP = \text{Rs } 2550/-$$

$$\text{Profit} = SP - CP$$

$$= 2550 - 2400$$

$$= \text{Rs } 150/-$$

$$\text{Profit Percent} = \frac{\text{Profit}}{CP} \times 100$$

$$= \frac{150}{2400} \times 100$$

$$= \frac{25}{4} = 6\frac{1}{4}\%$$

CP = 2400/-

CP से 25% ऊपर अंकित

$$MP = CP + CP \times \frac{25}{100}$$

$$= 2400 + 2400 \times \frac{25}{100}$$

$$= 2400 + 600$$

MP = 3000/-

छूट = 15%

$$\text{छूट} = \frac{15}{100} \times 3000$$

$$= 450/-$$

$$SP = MP - \text{छूट}$$

$$SP = 3000 - 450$$

$$SP = 2550/-$$

$$\text{लाभ} = SP - CP$$

$$= 2550 - 2400$$

$$= 150/-$$

$$\text{लाभ प्रतिशत} = \frac{\text{लाभ}}{CP} \times 100$$

$$= \frac{150}{2400} \times 100$$

$$= \frac{25}{4} = 6\frac{1}{4}\%$$

2. Dimensions of cuboid = 9 cm, 3.5 cm, 4 cm

$$\text{Volume} = l \times b \times h$$

$$9 \times 3.5 \times 4$$

$$= 126 \text{ m}^3$$

$$\text{Surface area} = 2(lb + bh + hl)$$

$$= 2(9 \times 3.5 + 3.5 \times 4 + 4 \times 9)$$

$$= 2(31.5 + 14 + 36)$$

$$= 2 \times 81.5$$

$$= 163 \text{ m}^2$$

$$\text{घनाभ के आयाम} = 9 \text{ सेमी, } 3.5 \text{ सेमी, } 4 \text{ सेमी}$$

$$\text{आयतन} = l \times b \times h$$

$$9 \times 3.5 \times 4$$

$$= 126 \text{ m}^3$$

$$\text{सतह क्षेत्र} = 2(lb + bh + hl)$$

$$= 2(9 \times 3.5 + 3.5 \times 4 + 4 \times 9)$$

$$= 2(31.5 + 14 + 36)$$

$$= 2 \times 81.5$$

$$= 163 \text{ m}^2$$

3. External volume of the box =  $(10 \times 8 \times 7)$

$$= 560 \text{ cm}^3$$

$$\text{Internal volume of the box} =$$

$$(10-2) \times (8-2) \times (7-2) = 8 \times 6 \times 5$$

$$= 240 \text{ cm}^3$$

$$\text{Volume of wood} =$$

$$\text{External volume} - \text{Internal volume}$$

$$= 560 \text{ cm}^3 - 240 \text{ cm}^3$$

$$= 320 \text{ cm}^3$$

$$\text{Total cost of wood} = 320 \times 2$$

$$= \text{Rs } 640/-$$

$$\text{बॉक्स का बाहरी आयतन} = (10 \times 8 \times 7)$$

$$= 560 \text{ सेमी}^3$$

$$\text{बॉक्स का आंतरिक आयतन} =$$

$$(10-2) \times (8-2) \times (7-2) = 8 \times 6 \times 5$$

$$= 240 \text{ सेमी}^3$$

$$\text{लकड़ी का आयतन} =$$

$$\text{बाहरी आयतन} - \text{आंतरिक आयतन}$$

$$= 560 \text{ सेमी}^3 - 240 \text{ सेमी}^3$$

$$= 320 \text{ सेमी}^3$$

$$\text{लकड़ी की कुल कीमत} = 320 \times 2$$

$$= 640/- \text{ रुपये}$$

4. Average speed / औसत गति =  $\frac{2S_1S_2}{S_1+S_2}$

$$= \frac{2 \times 60 \times 90}{60+90}$$

$$= \frac{2 \times 60 \times 90}{150}$$

$$= 72 \text{ km/hr}$$

5. Let Son's age be  $x$ .

$$\text{Then father's age} = 2x^2$$

$$\text{After 8 years ;}$$

$$\text{Son's age} = x + 8$$

$$\text{Father's age} = 2x^2 + 8$$

$$\text{According to questions :}$$

$$2x^2 + 8 = 4 + 3(x + 8)$$

$$2x^2 + 8 = 4 + 3x + 24$$

$$2x^2 + 8 = 3x + 28$$

$$2x^2 + 8 - 3x - 28 = 0$$

$$2x^2 - 8x + 5x - 20 = 0$$

$$2x(x - 4) + 5(x - 4) = 0$$

$$(2x + 5)(x - 4) = 0$$

$$(2x + 5) = 0 \quad (x - 4) = 0$$

$$2x = -5 \quad x - 4 = 0$$

$$x = \frac{-5}{2} \quad x = 4$$

$$\text{Age cannot be negative}$$

$$\text{Son's age} = 4 \text{ years}$$

$$\text{Father's age} = 2x^2 = 2(4)^2 = 32 \text{ years}$$

$$\text{माना बेटे की उम्र } x \text{ है}$$

$$\text{तो पिता की उम्र} = 2x^2$$

$$8 \text{ साल बाद;}$$

$$\text{बेटे की आयु} = x + 8$$

$$\text{पिता की आयु} = 2x^2 + 8$$

$$\text{प्रश्नों के अनुसार:}$$

$$2x^2 + 8 = 4 + 3(x + 8)$$

$$2x^2 + 8 = 4 + 3x + 24$$

$$2x^2 + 8 = 3x + 28$$

$$2x^2 + 8 - 3x - 28 = 0$$

$$2x^2 - 8x + 5x - 20 = 0$$

$$2x(x - 4) + 5(x - 4) = 0$$

$$(2x + 5)(x - 4) = 0$$

$$(2x + 5) = 0 \quad (x - 4) = 0$$

$$2x = -5 \quad x - 4 = 0$$

$$x = \frac{-5}{2} \quad x = 4$$

$$\text{आयु ऋणात्मक नहीं हो सकती}$$

$$\text{बेटे की आयु} = 4 \text{ वर्ष}$$

$$\text{पिता की आयु} = 2x^2 = 2(4)^2 = 32 \text{ वर्ष}$$

6. Edge if a cube = 22 cm

$$\text{Diameter of bullet} = 2 \text{ cm}$$

$$r = 1 \text{ cm}$$

$$\text{Volume of cube} = (\text{side})^3$$

$$= (22)^3 = 10,648$$

$$\text{Volume of each bullet which is spherical in}$$

$$\text{shape} = \frac{4}{3} \pi r^3$$

$$= \frac{4}{3} \times \frac{22}{7} \times (1) = \frac{88}{21} \text{ cm}^3$$

$$\begin{aligned}\text{No of bullet} &= \frac{\text{volume of cube}}{\text{volume of bullet}} \\ &= \frac{10648}{88} \times 21 \\ &= 2541 \text{ Bullets}\end{aligned}$$

यदि घन = 22 सेमी

गोली का व्यास = 2 सेमी

$r=1$  सेमी

घन का आयतन = (भुजा)<sup>3</sup>

$$= (22)^3 = 10,648$$

प्रत्येक गोली का आयतन जो गोलाकार है  $= \frac{4}{3}\pi r^3$

$$= \frac{4}{3} \times \frac{22}{7} \times (1)^3 = \frac{88}{21} \text{ cm}^3$$

गोली की संख्या =  $\frac{\text{घन का आयतन}}{\text{गोली का आयतन}}$

$$= \frac{10648}{88} \times 21$$

$$= 2541 \text{ गोलियां}$$

$$7. A's \text{ one day work} = \frac{1}{10}$$

$$B's \text{ one day work} = \frac{1}{12}$$

$$C's \text{ one day work} = \frac{1}{15}$$

$$(A + B + C)'s \text{ one day work} = \frac{1}{10} + \frac{1}{12} + \frac{1}{15}$$

$$= \frac{6+5+4}{60}$$

$$= \frac{15}{60} = \frac{1}{4}$$

Suppose work is completed in  $x$  days.

$$A's \text{ 2 day work} + B's (x-3) \text{ day work} + C's x \text{ day work} = 1$$

$$2 \times \frac{1}{10} + (x-3) \times \frac{1}{12} + x \times \frac{1}{15} = 1$$

$$\frac{1}{5} + \frac{x-3}{12} + \frac{x}{15} = 1$$

$$= \frac{12+5(x-3)+4x}{60} = 1$$

$$= \frac{12+5x-15+4x}{60} = 1$$

$$= \frac{9x-3}{60} = 1$$

$$9x - 3 = 60$$

$$9x = 63$$

$$x = \frac{63}{9} = 7$$

Work lasts for 7 days.

$$A \text{ का एक दिन का काम} = \frac{1}{10}$$

$$B \text{ का एक दिन का काम} = \frac{1}{12}$$

$$C \text{ का एक दिन का काम} = \frac{1}{15}$$

$$(A+B+C)' \text{ का एक दिन का काम} = \frac{1}{10} + \frac{1}{12} + \frac{1}{15}$$

$$= \frac{6+5+4}{60}$$

$$= \frac{15}{60} = \frac{1}{4}$$

मान लीजिए काम  $x$  दिनों में पूरा हो जाता है

$$A \text{ का 2 दिन का कार्य} + B \text{ का } (x-3) \text{ दिन का कार्य} + C \text{ का } x \text{ दिन का कार्य} = 1$$

$$2 \times \frac{1}{10} + (x-3) \times \frac{1}{12} + x \times \frac{1}{15} = 1$$

$$\begin{aligned}\frac{1}{5} + \frac{x-3}{12} + \frac{x}{15} &= 1 \\ &= \frac{12+5(x-3)+4x}{60} = 1 \\ &= \frac{12+5x-15+4x}{60} = 1 \\ &= \frac{9x-3}{60} = 1\end{aligned}$$

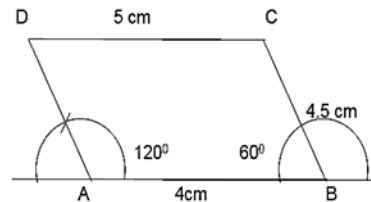
$$9x-3=60$$

$$9x=63$$

$$x = \frac{63}{9} = 7$$

कार्य 7 दिनों तक चलता है।

8.



1. Draw  $AB = 4$  cm

2. From A, draw angle  $= 120^\circ$

3. From B, draw angle  $= 60^\circ$

4. From B, draw line  $= 4.5$  cm to C passing through  $60^\circ$  arc.

5. Draw an arc from C measuring 5 cm

6. Join C to the point where 5 cm arc passes the AD line.

1.  $AB = 4$  सेमी खींचें

2. A से, कोण  $= 120^\circ$  खींचें

3. B से, कच्चा कोण  $= 60^\circ$  खींचें

4. B से,  $60^\circ$  चाप से होकर C तक  $= 4.5$  सेमी रेखा खींचें।

5. C से 5 सेमी माप का चाप खींचें

6. C को उस बिंदु से जोड़ें जहाँ 5 सेमी चाप AD रेखा से गुजरता है

$$9. \text{ Volume of wall/ दीवार का आयतन} = \left( 33 \times \frac{3.5}{10} \times \frac{40}{100} \right) m^3$$

$$= \left( 33 \times \frac{35}{10} \times \frac{40}{100} \right) m^3$$

$$= \frac{231}{5} m^3$$

Cement and sand part/ सीमेंट और रेत वाला भाग =

$$\frac{1}{10} \times \frac{231}{5} \Rightarrow \frac{231}{50} m^3$$

$$\text{Remaining part/ शेष भाग} = \frac{231}{5} - \frac{231}{50}$$

$$= \frac{2310-231}{50}$$

$$= \frac{2079}{50} m^3$$

Volume of each brick/ प्रत्येक ईंट का आयतन =

$$\frac{22}{100} \times \frac{10}{100} \times \frac{7}{100}$$

$$= \frac{22 \times 7}{100 \times 10 \times 100}$$

$$\text{Number of bricks/ ईंटों की संख्या} = \frac{\frac{2079}{50}}{\frac{22 \times 7}{100 \times 10 \times 100}}$$

$$= \frac{2079}{50} \times \frac{100 \times 10 \times 100}{22 \times 7}$$

$$= 27 \times 10 \times 100 = 27000$$

$$\therefore \text{Bricks used/} \therefore \text{उपयोग की गई ईंटें} = 27000$$

$$\begin{aligned}
 10. \text{ a) } \frac{17-3x}{5} - \frac{4x+2}{3} &= (5-6x) + \frac{7x+14}{3} \\
 \frac{51-9x-20x-10}{15} &= \frac{15-18x+7x+14}{3} \\
 41-29x &= 75-90x+35x+70 \\
 41-29x &= 145-55x \\
 -29x-55x &= 145-41 \\
 26x &= 104 \\
 x = \frac{104}{26} &\Rightarrow x = 4
 \end{aligned}$$

$$\text{b) } \frac{2}{x-3} + \frac{3}{x-4} = \frac{5}{x}$$

$$\frac{2(x-4)+3(x-3)}{(x-3)(x-4)} = \frac{5}{x}$$

$$\frac{2x-8+3x-9}{x^2-4x-3x+12} = \frac{5}{x}$$

$$\begin{aligned}
 \frac{5x-17}{x^2-7x+12} &= \frac{5}{x} \\
 5x^2-17x &= 5x^2-35x+60 \\
 -17x+35x &= 60 \\
 18x &= 60 \\
 x &= \frac{60}{18} \\
 x &= \frac{10}{3}
 \end{aligned}$$

## ENGLISH SOLUTIONS

### SECTION 'A'

1. a)
  - i. Disgusting
  - ii. To keep something
  - iii. To live in a particular place
  - iv. To make somebody go away
  - v. Higher than the usual.b)
  - i. Ari was convinced that he was not a bird at all because he had no parents to teach him how to fly.
  - ii. If you walk fast with Ari, he would be left behind. He would run after you cooing frantically and showing anger.
  - iii. As Ari was raised with human beings, he refused to fly and walked instead like humans.
  - iv. The phrase which is used to express Ari's anger if he was left too far behind while going for a walk with the family is "cooing frantically, his chest pouting out with indignation."
  - v. Ari loved music, he would move around the gramophone bowing and cooing to a waltz tune, to military march he would raise his chest higher and stomp up and down the room.
2. a) The mother has compared her life to a stair which had cracks in it and splinters and boards torn up. It has places with no carpet on the floor.
  - b) It has been a hard and struggling life for the mother. She had struggled and worked hard in her life. She has faced a lot of difficulties in life.
  - c) The mother's attitude towards life has been determined and optimistic. Though life has not been easy for her, she has not lost hope and had worked hard to excel in life. She has faced a lot of problems but has never been disheartened. She has always fought hard and moved ahead.
  - d) Here 'crystal stair' implies an easy and comfortable life. The mother says that life has not been a 'crystal stair' for her i.e., it has not been easy and comfortable for her.

### SECTION 'B'

3. a) Leadership is the art of motivating and guiding people towards achieving a common goal. It involves having a vision, setting goals, inspiring and empowering others to work towards those goals, and making decisions that align with the vision. Leadership is a critical factor in the success of any organization, group, or team. There are different types of leadership, and one of the most effective is transformational leadership. Transformational leadership is a style of leadership that focuses on inspiring and motivating followers to achieve their full potential. It involves creating a vision and inspiring others to work towards it. Transformational leaders empower their followers to take ownership of their work and encourage them to develop their skills and abilities. They provide support and encouragement and foster a positive and inclusive work environment. One of the key features of transformational leadership is charisma. Transformational leaders have a magnetic personality that attracts and inspires others. They are passionate about their vision and their enthusiasm is contagious. They have excellent communication skills and can effectively articulate their vision to others. They also listen actively to their followers, take time to understand their needs and concerns. Another feature of transformational leadership is individualized consideration. Transformational leaders recognize that each follower has unique talents, abilities and aspirations. They take the time to understand their followers' strengths and weaknesses and provide them with the support they need to develop their full potential. They also provide opportunities for their followers to learn and grow. Intellectual stimulation is another aspect of transformational leadership. Transformational leaders encourage their followers to think creatively and explore new ideas. They challenge their followers to question assumptions and think critically. They also provide a safe space for their followers to experiment and take risks, knowing that failure is an essential part of the learning process. Finally, transformational leadership is characterized by inspirational motivation. Transformational leaders inspire their followers



to work towards a common goal. They create a sense of purpose and meaning which motivates their followers to go above and beyond what is expected of them. They celebrate successes and acknowledge the contributions of their followers, creating a positive and supportive work environment.

In conclusion, transformational leadership is an effective style of leadership that focuses on inspiring and motivating followers to achieve their full potential. Transformational leaders create a vision and inspire others to work towards it. They provide individualized consideration, intellectual stimulation and inspirational motivation. Transformational leaders have a magnetic personality that attracts and inspires others. They create a positive and supportive work environment that encourages learning, growth and development.

- b) I met a stranger at the railway station and it turned out to be an unforgettable experience. It was a bright and sunny day and I was on my way back home from a weekend trip with my family. As we waited for our train, I noticed a man sitting on a bench across from us. He looked tired and seemed lost in his thoughts. Curiosity got the better of me and I decided to strike up a conversation with him. At first, he seemed hesitant to talk, but eventually, he opened up. He told me that he had just lost his job and was headed to a new city to start over. As he spoke, I could sense his frustration and fear of the unknown. I listened to him patiently and tried my best to offer words of encouragement. We continued to talk and as the train arrived, he got up to leave. Before he left, he thanked me for listening to him and said that our conversation had given him hope. He left with a smile on his face and I was left feeling a sense of accomplishment. Meeting a stranger can be an intimidating experience, but it can also be a life-changing one. It was fascinating to see how a simple conversation could have a profound impact on someone's life. It taught me that everyone has a story to tell and sometimes, all they need is someone to listen. This experience also taught me the importance of empathy and compassion. It made me realize that we should never judge someone based on their appearance or situation. We should always be kind and understanding towards others, especially strangers, as we never know what they might be going through. In conclusion, meeting a stranger at the railway station was an experience that I will never forget. It was a reminder of the power of human connection and

the impact that we can have on each other's lives. It taught me the importance of kindness, empathy, and compassion towards others and I will always carry these lessons with me.

- c) As a Class 8 student, using a mobile phone has become an integral part of my life. I use it to stay connected with my friends, to browse the internet and to play games. However, recently my father asked me to stop using my mobile phone, which came as a shock to me. At first, I didn't understand why he was asking me to do this, but upon reflection, I realize that there are several reasons why it might be a good idea. Firstly, using a mobile phone can be a major distraction. As a student, I need to focus on my studies and complete my homework on time. However, my mobile phone often distracts me, and I end up spending more time than I should browsing social media or playing games. This can affect my grades and my overall academic performance. Secondly, using a mobile phone excessively can be harmful to my health. Studies have shown that the blue light emitted by mobile phone screens can disrupt our sleep patterns and cause eye strain. Moreover, constantly using a mobile phone can lead to poor posture and neck pain. These health issues may seem minor at first, but they can have long-term consequences if left unchecked. Finally, using a mobile phone can be a source of addiction. It's easy to get hooked on the constant stream of notifications and updates that our phones provide. This addiction can lead to a sense of disconnection from the world around us and can even affect our mental health. In light of these concerns, I realize that my father's request to stop using my mobile phone is a reasonable one. However, I also recognize that giving up my mobile phone completely may not be practical or desirable. Instead, I need to find a way to use my phone responsibly, without letting it distract me from my studies, harm my health or fuel an addiction. To achieve this, I plan to set some guidelines for myself. For example, I will limit my mobile phone use to certain times of the day, such as after completing my homework or during designated break times. I will also turn off notifications for social media and gaming apps, so that I am not constantly distracted. Finally, I will make an effort to engage in activities that do not involve my phone, such as reading or playing sports. In conclusion, while it may be difficult to give up using a mobile phone completely, it is important to use it responsibly. My father's request to limit my phone use is a reminder that there are other important things

in life, such as education, health and human connection, that require our attention and focus. By setting some guidelines for myself, I hope to strike a balance between using my mobile phone and living a well-rounded life.

4. Sender's Name,  
Address.

Receiver's Name,  
Address.

Dear [Brother's Name],

I hope this letter finds you in good health and high spirits. I am writing to you to tell you about a recent incident that took place at my school which left a lasting impression on me. Last week, during the lunch break, I was hanging out with my friends in the school courtyard when suddenly there was a loud commotion. I rushed over to see what was happening and to my horror, I saw one of my fellow students, Mark, drowning in the school pool. I was frozen with fear, but one of our classmates, John, sprang into action. He dove into the pool and managed to pull Mark to safety. John's quick thinking and bravery saved Mark's life. After the incident, everyone was talking about John's heroic act. The school principal called an assembly and praised John's bravery in front of the entire school. John was overwhelmed with emotions and received a standing ovation from everyone. The incident left a deep impact on me. It made me realize the importance of being courageous and selfless in the face of danger. I feel proud to be a part of such a brave and compassionate school community. I hope you find this account of the incident interesting. Take care of yourself and give my regards to everyone at home.

Yours affectionately,  
[Your name]

5. As the man sat on his chair, his eyes glued to the screen in front of him, he couldn't help but glance towards the window. Outside, the sun was shining bright and the birds were chirping, but he knew that the world outside was not safe. The room around him was in complete disarray, with papers and files strewn across the floor and the desk. It was as if a storm had swept through the room, leaving behind a trail of chaos. Behind him, his faithful companion, a brown Labrador Retriever, sat quietly, watching him with his big brown eyes, he too was eager to step outside and enjoy the beautiful weather. However, the man knew better than to risk it. He knew that the world outside was still dangerous, with harmful germs and viruses lurking around every corner. Despite the mess around him, the man remained focused on his computer screen. He was in the middle of an important meeting, and he could not afford to be distracted. The conversation on the screen was intense and he knew that every word mattered. However, even as he listened intently to the discussion, his mind kept drifting towards the window. He longed to step outside and feel the warm sun on his face, to breathe in the fresh air and to run free with his loyal companion. But for now, he knew that he had to stay inside and do his part to keep himself and others safe. He silently wished for the day when the world would be safe again, when he could step outside without fear and when his furry friend could run free without any worries. The environment inside his room heightened his longingness to go outside. The picture describes the barriers present between us and nature in the modern times.

### SECTION 'C'

1. a) Suman works hard at school.  
b) Somebody will trip over your bicycle if you don't move it.  
c) Was she upset when she heard the news?  
d) The pastor preached to an attentive crowd of people.  
e) It was a good laughable idea.  
f) These apartments have been often broken into by thieves.  
g) I am giving you this medicine to take it at bed time.  
h) How many people can be accommodated in this auditorium?  
i) She is too clever to be fooled.  
j) The manager handled the situation skilfully.

2. a) Ayush neither likes tea nor coffee.  
b) I do not know the time when Shubham will come back.  
c) Payal left for Yemen so she sold all the furniture.  
d) Monica was to reach here at 8 but she has not turned up yet.  
e) Ankit have no apples in the shop therefore he has to buy them.

### 3. Antonym

- a) Permanent  
b) Bad  
c) Increase  
d) Smile  
e) Soft

4. **Synonym**

- a) Difficulty
- b) Still
- c) Finish
- d) Strange
- e) Alike

5. Correct form of verb

- a) Leave
- b) were
- c) hit
- d) was lying
- e) went
- f) escaped
- g) been traveling
- h) we would have been involved
- i) delayed
- j) dampen

6. Fill in the blanks.

- a) With
- b) Upon/On
- c) Out
- d) Up
- e) Though
- f) Down
- g) In
- h) Out
- i) Into
- j) Across

7. a) I am unduly harassed by the police.  
b) This information might have been given earlier.  
c) The admission tickets are checked at the gate.  
d) I am being called by her.  
e) By whom was your pen stolen?

8. **Idioms**

- a) At the helm of the ship
- b) A quarrel

- c) Talk about nothing
- d) Work single handedly
- e) An eventful day

9. **Indirect speech**

- a) She exclaimed that she had spilt coffee on the table.
- b) He asked me when she would go to Jaipur.
- c) He commanded his servant to go away at once.
- d) He admitted that he was at fault.
- e) They exclaimed with amazement that it was a very pleasant weather.
- f) Mohan suggested Lata that they should watch some good movie.
- g) She asked me affectionately what could she do for me.
- h) Veena told her mother to cheer up, she would go and get work somewhere.
- i) The girl exclaimed that the paper was very difficult.
- j) I asked the guard when the next flight would come in.

10. **Similes.**

- a) Fiddle
- b) Dove
- c) Drum
- d) Happy
- e) Bee

11. a) Epitaph

- b) Aristocracy
- c) Celibacy
- d) Conference

12. Fill in the blanks

- a) Practise
- b) Lightning
- c) Assent
- d) Site
- e) Effect

## GENERAL KNOWLEDGE SOLUTIONS

1. a) India / भारत
2. d) Bihar Astronomical Observatory / बिहार खगोलीय वेधशाला
3. d) Brendan Fraser / ब्रेंडन फ्रेजर
4. b) Jammu & Kashmir / जम्मू और कश्मीर
5. d) Council of Scientific and Industrial Research (CSIR) / वैज्ञानिक और औद्योगिक अनुसंधान परिषद (CSIR)
6. b) Bhutan/ भूटान
7. c) South Korea / दक्षिण कोरिया
8. d) Victoria / विक्टोरिया
9. b) Kolkata/ कोलकाता
10. c) Potato / आलू
11. b) Uttar Pradesh / उत्तर प्रदेश
12. c) Novak Djokovic / नोवाक जोकोविच
13. c) All India Radio News / ऑल इंडिया रेडियो न्यूज
14. b) Ministry of Chemicals and Fertilisers / रसायन और उर्वरक मंत्रालय
15. c) Chai (Tea) / चाय
16. a) Indian Oil Corporation / इंडियन ऑयल कॉर्पोरेशन  
Explanation: At Tinsukia, Assam (M15 is a blend of 15% methanol and 85% gasoline).  
स्पष्टीकरण: असम के तिनसुकिया में (M15 15% मेथनॉल और 85% गैसोलीन का मिश्रण है)।
17. d) Mumbai to Ahmedabad/ मुंबई से अहमदाबाद
18. a) Ministry of Culture/ संस्कृति मंत्रालय
19. c) USA/यूएसए
20. b) Prime Minister/प्रधानमंत्री
21. b) Cricket/क्रिकेट
22. b) 2014
23. d) 2025
24. d) Tamil Nadu/तमिलनाडु
25. d) Kolkata/कोलकाता
26. b) 26 January 1950/26 जनवरी 1950
27. c) Vaishali in 383 BC/वैशाली 383 ईसा पूर्व

Explanation: The second Buddhist Council was held at ancient city of Vaishali, what is now in the state of Bihar bordering Nepal. It was held under the patronage of king Kalasoka and was presided by sabakami. This council was held about a century after the first council.

स्पष्टीकरण: दूसरी बौद्ध परिषद वैशाली के प्राचीन शहर में आयोजित की गई थी, जो अब नेपाल की सीमा से लगे बिहार राज्य में है। यह राजा कालासोका के

संरक्षण में आयोजित की गई थी और इसकी अध्यक्षता सबकामी ने की थी। यह परिषद पहली परिषद के लगभग एक सदी बाद आयोजित की गई थी।

28. a) Andromeda galaxy / एंड्रोमेडा आकाशगंगा

29. c) Kalibangan/कालीबंगन

Explanation: Kalibangan is a town located on banks of river Ghaggar between Suratgarh and Hanumangarh in Hanumangarh district, Rajasthan.

स्पष्टीकरण: कालीबंगन राजस्थान के हनुमानगढ़ जिले में सूरतगढ़ और हनुमानगढ़ के बीच घग्गर नदी के तट पर स्थित एक शहर है।

30. a) 2 Years 11 Months 18 Days / 2 वर्ष 11 महीने 18 दिन

31. c) Nagananda, Priyadarshika and Ratnavali / नागनंद, प्रियदर्शिका और रत्नावली

32. a) Iltutmish / इल्तुतमिश

33. c) Sap of Plants / पौधों का रस

Explanation: Plant nectar, honeydew and other fluids.

स्पष्टीकरण: पौधों का रस, शहद और अन्य तरल पदार्थ।

34. c) automatically maintaining a steady temperature / स्वचालित रूप से एक स्थिर तापमान बनाए रखना

35. b) Art. 14

36. a) Age of Earth is 4.543 billion years / पृथ्वी की आयु 4.543 बिलियन वर्ष है

37. a) Ratti/रत्ती

38. d) Periyar/रियार

39. b) Ammonia/अमोनिया

40. c) 1923

41. c) Mariana Trench / मारियाना ट्रेंच

Explanation: Near the southern tip there the deep crescent-shaped trench, near the southern tip there is a small shaped area called 'Challenger Deep' which is the deepest point and is 36,000 feet below sea level.

स्पष्टीकरण: दक्षिणी सिरे के पास गहरी अर्धचंद्राकार खाई है, दक्षिणी सिरे के पास एक छोटा आकार का क्षेत्र है जिसे 'चैलेंजर डीप' कहा जाता है जो सबसे गहरा बिंदु है और समुद्र तल से 36,000 फीट नीचे है।

42. c) Junko Tabei / जुंको ताबेई

43. d) India / भारत

Explanation: The member countries of ASEAN are Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore.

स्पष्टीकरण: आसियान के सदस्य देश ब्रुनेई, कंबोडिया, इंडोनेशिया, लाओस, मलेशिया, म्यांमार, फिलीपींस, सिंगापुर हैं।

44. a) 1920

45. a) Rowlatt Act / रौलट एक्ट

Explanation: The Rowlatt Act of 1919 authorised the British government to arrest anybody suspected of terrorist activity and such people could be detained/arrested of to two years. / स्पष्टीकरण: 1919 के रौलट एक्ट ने ब्रिटिश सरकार को आतंकवादी गतिविधि के संदिग्ध किसी भी व्यक्ति को गिरफ्तार करने का अधिकार दिया और ऐसे लोगों को दो साल तक हिरासत में रखा जा सकता था।

46. d) Magma/ मैग्मा

47. d) 06 August 2019 / 06 अगस्त 2019

48. c) upper and lower crust and solid upper part of mantle/ ऊपरी और निचली पपड़ी और मेंटल का ठोस ऊपरी हिस्सा

49. b) Titan (Saturn moon) / टाइटन (शनि का चंद्रमा)

50. c) Yajurveda / यजुर्वेद

51. a) The Hague / द हेग

52. c) hydrochloric acid / हाइड्रोक्लोरिक एसिड

Explanation: The gastric juice is a unique combination of Hydrochloric acid (HCl) Lipase and Pepsin. These inactivate any microorganism before they reach the intestines. / स्पष्टीकरण: गैस्ट्रिक जूस हाइड्रोक्लोरिक एसिड (HCl) लाइपेस और पेप्सिन का एक अनूठा संयोजन है। ये आंतों तक पहुँचने से पहले किसी भी सूक्ष्मजीव को निष्क्रिय कर देते हैं।

53. d) New Delhi/ नई दिल्ली

54. b) S-Wave (Transverse Wave) / एस-वेव (ट्रांसवर्स वेव)

55. a) European Space Agency / यूरोपीय अंतरिक्ष एजेंसी

56. b) 1966

Explanation: On 17 November 1966 the UN General Assembly passed a resolution 2152 (XXI) establishing UNIDO as an autonomous body within the UN to promote and accelerate industrialization of developing countries. स्पष्टीकरण: 17 नवंबर 1966 को संयुक्त राष्ट्र महासभा ने विकासशील देशों के औद्योगीकरण को बढ़ावा देने और उसमें तेजी लाने के लिए संयुक्त राष्ट्र के भीतर एक स्वायत्त निकाय के रूप में UNIDO की स्थापना करते हुए एक प्रस्ताव 2152 (XXI) पारित किया।

57. c) Baldev Singh/ बलदेव सिंह

58. b) Venus / शुक्र

Explanation: Our nearest planet Venus is 7,521 miles (12,104 kilometers) across and earth is 7,926 miles (12,756 kilometers) across. स्पष्टीकरण: हमारा निकटतम ग्रह शुक्र 7,521 मील (12,104 किलोमीटर) चौड़ा है और पृथ्वी 7,926 मील (12,756 किलोमीटर) चौड़ी है।

59. a) Igneous rock / आग्नेय चट्टान

60. a) Tele-conferencing / टेली-कॉन्फ्रेंसिंग

61. a) Goa / गोवा

Explanation: The Basilica of Bom Jesus is a catholic Basilica located at Goa in the Konkan region.

स्पष्टीकरण: बेसिलिका ऑफ बोम जीसस कोंकण क्षेत्र में गोवा में स्थित एक कैथोलिक बेसिलिका है।

62. a) Kerala/ केरल

Explanation: Sabarimala is 191 km away from Thiruvanthapuram.

स्पष्टीकरण: सबरीमाला तिरुवनंतपुरम से 191 किमी दूर है।

63. b) Assam/ असम

Explanation: Husari is carol singing, Bihu songs and dancing invariably follow the main item of Husari singing.

स्पष्टीकरण: हुसरी कैरोल गायन है, बिहू गीत और नृत्य हमेशा हुसरी गायन के मुख्य आइटम का अनुसरण करते हैं।

64. a) Kerala High Court/ केरल उच्च न्यायालय

65. a) 71%

Explanation: 71% of the Earth's surface is water covered and ocean hold 96.5% of all Earth's water.

स्पष्टीकरण: पृथ्वी की सतह का 71% हिस्सा पानी से ढका हुआ है और समुद्र में पृथ्वी के सभी पानी का 96.5% हिस्सा है।

66. a) Parliament by law/संसद द्वारा कानून

67. c) President / राष्ट्रपति

68. a) Both (i) and (ii) / दोनों (i) और (ii)

69. b) Presidential Ordinances/ राष्ट्रपति अध्यादेश

70. a) Ministry of Home Affairs/ गृह मंत्रालय

71. b) Akbar/ अकबर

72. a) Rajya Sabha only/ केवल राज्यसभा

73. c) Vacuum/ शून्य

74. a) First Schedule/ पहली अनुसूची

Explanation: The first schedule of the Indian Constitution contains list of states and UTs, their extent and territorial jurisdictions.

स्पष्टीकरण: भारतीय संविधान की पहली अनुसूची में राज्यों और केंद्र शासित प्रदेशों की सूची, उनकी सीमा और क्षेत्रीय अधिकार क्षेत्र शामिल हैं।

75. a) Ladakh / लद्दाख