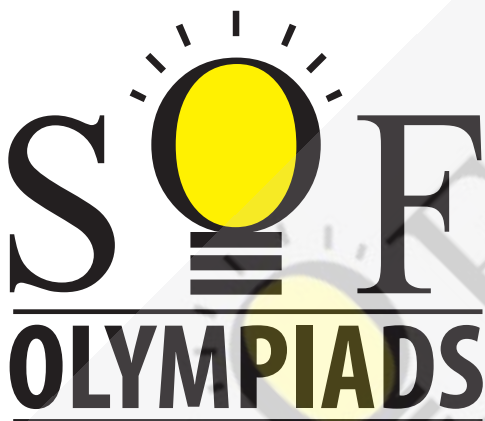


CLASS

8



Teacher Handbook

SYLLABUS 2025-26 **SAMPLE PAPER**





Important:
Applications
must reach us by
August 30,
2025.

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About SOF Olympiads*

	IGK Q	IEQ	NSQ	IMQ	ICSQ	ISSQ	IHQ	ICQ	IEQ	NSQ	IMQ
	Level 1										
Duration	60 Minutes										
Test Center	Your School										
Eligibility	All students										
Classes	1-10	1-12	1-12	1-12	1-10	3-10	3-10	11 & 12	Level 2		
Type of Test	OBJECTIVE TYPE. MCQs - MULTIPLE CHOICE QUESTIONS (CLASSWISE NO. OF QUESTIONS ARE GIVEN BELOW)										
Classes 1-4	35	35	35	35	35	35	35	-	60 Minutes		
Classes 5-12	50	50	50	50	50	50	50	50	SOF Centers		
Sections	4	4	3	4	4	2/4/5	3	4	Class toppers, Level 1 rank holders, Zonal top 25		
	1-10	1-12	1-12	1-12	1-10	3-10	3-10	11 & 12	3-12	3-12	3-12
OBJECTIVE TYPE. MCQs - MULTIPLE CHOICE QUESTIONS											
Classes 1-4	35	35	35	35	35	35	35	-	35	35	35
Classes 5-12	50	50	50	50	50	50	50	50	50	50	50
Sections	4	4	3	4	4	2/4/5	3	4	3	2/3	2/3
	<ul style="list-style-type: none">General AwarenessCurrent AffairsLife SkillsAchievers Section	<ul style="list-style-type: none">Word and Structure KnowledgeReadingSpoken and Written ExpressionAchievers Section	<ul style="list-style-type: none">For Classes 1-10<ul style="list-style-type: none">Logical ReasoningScienceAchievers SectionFor Classes 11 & 12<ul style="list-style-type: none">Physics & ChemistryAchievers SectionMathematics or Biology	<ul style="list-style-type: none">For Classes 1-10<ul style="list-style-type: none">Logical ReasoningMathematical ReasoningEveryday MathematicsAchievers SectionFor Classes 11 & 12<ul style="list-style-type: none">Logical ReasoningMathematical Reasoning or Applied MathematicsEveryday MathematicsAchievers Section	<ul style="list-style-type: none">For Classes 1-5<ul style="list-style-type: none">Logical ReasoningComputer ScienceInformation TechnologyAchievers SectionFor Classes 6-10<ul style="list-style-type: none">Logical ReasoningComputer ScienceAI, Robotics and Information TechnologyAchievers Section	<ul style="list-style-type: none">For Classes 3-6<ul style="list-style-type: none">Social StudiesAchievers SectionFor Classes 7 & 8<ul style="list-style-type: none">HistoryGeographySocial and Political LifeAchievers SectionFor Classes 9 & 10<ul style="list-style-type: none">HistoryGeographyPolitical ScienceEconomicsAchievers Section	<ul style="list-style-type: none">शब्द और व्याकरण बोधरचनात्मक बोधमेधावी खंड	<ul style="list-style-type: none">EconomicsBusiness StudiesAccountancyAchievers Section	<ul style="list-style-type: none">Word and Structure KnowledgeReadingAchievers Section	<ul style="list-style-type: none">For Classes 3-10<ul style="list-style-type: none">ScienceAchievers SectionFor Classes 11 & 12<ul style="list-style-type: none">Physics & ChemistryAchievers SectionMathematics or Biology	<ul style="list-style-type: none">For Classes 3-10<ul style="list-style-type: none">MathematicsAchievers SectionFor Classes 11 & 12<ul style="list-style-type: none">MathematicsMathematical Reasoning or Applied MathematicsAchievers Section



SCHOOL AWARDS



	Principal			Teacher and Olympiad Incharge		
	Cash Award	Trophy	Certificate	Cash Award	Trophy	Certificate
School	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
District	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Zonal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
International	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

SOF SCHOOL ACADEMIC PROGRESS REPORT FOR EVERY SCHOOL

<input checked="" type="checkbox"/> Annual SOF Gifts	<input checked="" type="checkbox"/> New Year SOF Gifts
--	--

Scholarships

SOF's dedicated scholarships, including the Girl Child Scholarship Scheme, Defence Services Academic excellence Scholarship and Academic Excellence Scholarship, demonstrate its commitment to fostering inclusivity and supporting education for all.



SOF
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**Girl Child
Scholarship
Scheme
2025-26**



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SOF
DSAS

**Defence Services
Academic excellence
Scholarship
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SOF
AES

**Academic Excellence
Scholarship
2025-26**



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Scholarships & Awards*

The Science Olympiad Foundation (SOF) is committed to nurturing young talent and recognizing excellence in academics and beyond. Through its prestigious Olympiads, SOF not only challenges students to reach their highest potential but also acknowledges their achievements with an extensive range of awards, scholarships and recognitions.



Scan the QR code for more details

Level 1 - Scholarships and Awards

Level	Recognition
Level 1	<ul style="list-style-type: none"> All participating students receive a Certificate of Participation*. All participating students receive a detailed SPR - Student Progress Report. Gold Medal of Distinction and Certificate of Distinction for top 25 Zonal toppers per class per exam*. Gold Medal of Excellence for top 10% students from each class. SAPR - School Academic Progress Report for school management.



Final Level - Scholarships and Awards

Level	Category	Award	Additional Recognition	Numbers
Level 2 (IEO, NSO, IMO)	Top 3 International Rankers	₹50,000, ₹25,000 and ₹10,000 for ranks 1, 2 and 3 respectively	International Medals: Gold, Silver and Bronze Certificate of Outstanding Performance	222 Winners
Level 1 (IGKO, ICSSO, ISSO, IHO, ICO)	Top 3 Zonal Rankers	₹5,000, ₹2,500 and ₹1,000 for ranks 1, 2 and 3 respectively	Zonal Medals: Gold, Silver and Bronze Certificate of Zonal Excellence	5,772 Winners
Level 1 (IEO, NSO, IMO) Class 1 & 2	Zonal Rankers 4 to 10	Gift worth ₹500 each	Certificate of Zonal Excellence	13,468 Winners
	Zonal Rankers 11 to 25		Certificate of Zonal Excellence	28,860 Winners
Level 2 (IEO, NSO, IMO)	Zonal Rankers 26 onwards		Merit Certificate	

Recognition for Visionary Leaders (School Principals) & Visionary Educators (Teachers)



Best Principal (International) Citation + Trophy + ₹25,000

Best Principal (Zonal) Citation + Trophy + ₹10,000

Best Principal (District) Citation + Trophy + ₹5,100

Best Teacher (International) Citation + Trophy + ₹10,000

Best Teacher (Zonal) Citation + Trophy + ₹5,000

Best Teacher (District) Citation + Trophy + ₹1,000

* For further details, please visit www.sofworld.org **Note:** TDS as applicable will be deducted.

Guidelines



Scan the QR code to
get important updates

1. Medium of the Olympiads

All SOF Olympiads will be conducted in English, except IHO, which will be conducted in Hindi.

2. School Codes

Each school receives a unique 6-digit code from SOF when it registers for the Olympiads (different from CBSE or any other education board affiliation code). Schools should contact the SOF Head Office in Gurugram if they do not know their code.

3. Registration Procedure

Schools must complete all columns of the SRF (School Registration Form) and SRS (Student Registration Sheet) accurately and legibly and submit them before the due date. Schools are requested to display the enclosed posters on noticeboards, classrooms, or other prominent places. Students must register through their schools only. Individual or direct registrations will not be accepted.

Schools may register in one of the following ways:

- Fill out and courier the registration forms.
- Fill out, scan, and email the registration forms.
- Register online at ors.sofworld.org.

4. Sample Questions & Study Material

Sample questions and study material for each class are included with the prospectus. They can also be downloaded from the SOF website: www.sofworld.org.

5. Exam Format

All questions are multiple-choice questions (MCQ). There is no negative marking. Schools must choose one available date to conduct the exam. They must conduct it strictly on that chosen date only. Different sets of question papers are provided for each date, and non-adherence to the chosen date may lead to cancellation of the exam.

6. OMR Sheets

Students must fill in all columns of the OMR sheet correctly. Any incorrect or incomplete information may lead to disqualification from ranking. A sample OMR sheet is available on the SOF website and is also attached with the prospectus.

7. After the Exam

Answer sheets should be returned to the SOF Head Office next day of the exam. Schools must ensure the answer sheets reach the SOF Head Office within 7 days of the exam date. SOF will not evaluate any answer sheets received beyond the stipulated date.

8. Result

Results are typically declared about 8 weeks after the answer sheets are received. They will be sent to the respective schools and will also be uploaded on the SOF website.

LEVEL 1 SOF OLYMPIADS

1. Examination Centre

All Level 1 Olympiads will be conducted in the students' own schools.

2. Time of the Olympiads

The Level 1 Olympiads are held during school hours.

3. Criteria for Level 1

All students (as per their school's registration) in the relevant classes for the respective Olympiads.

Note : Some exams are single-level only: IGKO, ICSSO, ISSO, IHO and ICO. Students appearing for these exams will not have a Level 2 exam.

LEVEL 2 SOF OLYMPIADS

1. Applicable Olympiads

Level 2 Olympiads are conducted for IEO, NSO, and IMO for classes 3 to 12. IGKO, ICSSO, ISSO, IHO and ICO do not have a Level 2 (they are single-level exams).

2. Date and Examination Centre

The Level 2 exam is scheduled for 8th February, 2026 tentatively. It will be conducted at centers finalized by SOF (not in the students' own schools).

3. No Registration Fee

No separate registration fee is charged for the Level 2 exams.

4. Qualification Criteria

- Top 5% of students (class-wise) who appear in the Level 1 exam, internationally.
- Top 25 rank holders from each zone and each class.
- Class topper (where at least 10 students from a class register for the exam and the topper scores at least 50% marks). In the case of multiple sections in a class, the topper with the highest marks across all sections qualifies.

5. Admit Cards

Admit Cards for the Level 2 Olympiads will be dispatched to schools or uploaded on the SOF website (www.sofworld.org) before the Level 2 exam. The Roll Number slip from the Level 1 exam may also serve as the admit card for Level 2 for qualifying students.

Total Questions : 50

Time : 1 hr.

PATTERN & MARKING SCHEME

Section	(1) General Awareness	(2) Current Affairs	(3) Life Skills	(4) Achievers Section
No. of Questions	30	10	5	5
Marks per Ques.	1	1	1	3

SYLLABUS

Plants and Animals, India and the World, Science and Technology, Earth and Its Environment, Universe, Language and Literature, Entertainment, Social Studies, Sports, Quantitative Aptitude and Reasoning, Current Affairs, Life Skills (Empathy, Effective Communication, Critical Thinking, Creative Thinking, Coping with Stress, Decision Making, Problem Solving, Interpersonal Skills, Managing Emotions, Self-awareness).

Achievers Section : Higher Order Thinking Questions from the above given Syllabus.

- Which of the following is not a mammal?
(A) Echidna (B) Platypus
(C) Gila Monster (D) Dolphin
- What does PCMCIA stand for?
(A) Personal Computer Memory Card Interface Association
(B) Portable Card Memory of Computers Interface Association
(C) Personal Computer Memory Card International Association
(D) Portable Computer Memory Card International Association
- Who among the following was not a crew member of Apollo-11 mission?



Neil Armstrong



Michael Collins



Edwin Aldrin



Thomas P. Stafford

- He was an Indian tribal freedom fighter, religious leader and a folk hero. His portrait hangs in the Central Hall of the Indian Parliament, the only tribal leader to have been so honoured. Name him.
(A) Nana Saheb (B) Birsa Munda
(C) Karmi Hatu (D) Pasna Munda
- What is the meaning of idiom 'cut to the quick'?
(A) Surprise someone (B) Hurt someone's feelings a lot
(C) Make someone happy (D) Make someone angry

6. Tickets numbered from 1 to 30 were mixed and then a ticket is drawn at random. What is the probability that the drawn ticket has a number which is divisible by both 2 and 6?
- (A) $\frac{1}{2}$ (B) $\frac{2}{5}$ (C) $\frac{8}{15}$ (D) $\frac{1}{6}$
7. Zoran Milanovic has been elected as president of which of the following countries in January 2025?
- (A) Romania (B) Bulgaria (C) Albania (D) Croatia
8. Sometimes saying 'NO' helps with time management as
- (A) It helps us to avoid all commitments
 (B) It allows us to focus on our own tasks and priorities
 (C) It always prevents us from taking on new responsibilities
 (D) It increases stress and workload.

ACHIEVERS SECTION

9. Which of the following statements are correct about an operating system?
- (i) It controls various application software and device drivers.
 (ii) It is not capable of managing all the resources of a computer, i.e., its hardware including CPU, RAM, disk and network.
 (iii) It provides an interface to the user through which the user can interact with the computer.
- (A) (i) and (ii) only (B) (ii) and (iii) only (C) (i) and (iii) only (D) (i), (ii) and (iii)
10. Identify W, X, Y and Z from the given information and select the correct option.
- W : First athlete to win 8 gold medals at a single Olympics.
 X : With 18 Olympic medals, she is the woman who has won the most number of medals in the Olympics.
 Y : With 55 total medals, she is the athlete to win the most number of medals in Paralympic Games.
 Z : The athlete to have won the most athletics medals in a single Paralympic Games.
- | W | X | Y | Z |
|--------------------|-----------------|-----------------|----------------|
| (A) Mark Spitz | Shannon Miller | Sarah Storey | Teresa Perales |
| (B) Michael Phelps | Larisa Latynina | Trischa Zorn | Maria Scutti |
| (C) Mark Spitz | Shannon Miller | Natalia Partyka | Yu Chui Yee |
| (D) Michael Phelps | Larisa Latynina | Natalia Partyka | Yu Chui Yee |

ANSWER KEY

1. (C) 2. (C) 3. (D) 4. (B) 5. (B) 6. (D) 7. (D) 8. (B) 9. (C) 10. (B)

Total Questions : 50

Time : 1 hr.

PATTERN & MARKING SCHEME

Section	(1) Word and Structure Knowledge	(2) Reading	(3) Spoken and Written Expression	(4) Achievers Section
No. of Questions	30	10	5	5
Marks per Ques.	1	1	1	3

SYLLABUS

Section – 1 : Synonyms, Antonyms, Analogies and Spellings, Collocations, Phrasal Verbs, Idioms or Proverbs, Homonyms and Homophones, One word, Nouns, Pronouns, Verbs, Adverbs, Adjectives, Articles, Prepositions, Prepositional Phrases, Participle Phrases, Conjunctions, Determiners, Jumbled Words and Punctuations, Tenses, Voices and Narrations, Question Tags, etc. Words related to leisure, Household items/issues, Social causes, Outdoor locations and activities, etc.

Section – 2 : Search for and retrieve information from various text types like News reports, Blurp, Dictionaries, etc., Understand information presented in instruction manual format, Message format and others. Acquire broad understanding of and look for specific information in longer texts like Editorials, Essays, etc.

Section – 3 : Ability to understand situation-based variations in functions like Requesting, Giving information, Expressing surprise, Pronunciation, etc.

Section – 4 : Higher Order Thinking Questions - Syllabus as per Sections 1, 2 and 3.

WORD AND STRUCTURE KNOWLEDGE

- Choose the correct option to fill in the blank.
Friends are not books, _____ books are friends. Friends may betray you, _____ books are always loyal.
(A) while, so (B) if, and
(C) but, and (D) yet, while
- Choose the option with correct spelling.
How do you spell the word that means "irritable, quick-tempered"?
(A) Irrescible (B) Irascible
(C) Irecessible (D) Irescible
- Choose the correct antonym of the given word.
Obnoxious
(A) Suspicious (B) Indifferent
(C) Pleasant (D) Empty
- Choose the part of the sentence that has an error.
Nevertheless, he was neither omnipotent or omniscient.
(A) Nevertheless, (B) he was neither
(C) omnipotent or omniscient. (D) No error

READING

Directions (For Q. No. 5 and 6) : Read the passage carefully and answer the questions that follow.

The moon's role in causing tides is much more high and important than that of the sun. The reason is that the moon enjoys more proximity to the earth than the sun. As such, its force of attraction is stronger than that of the sun in attracting the surface water. Tides are of immense importance. In trade, navigation and fishing, tides are very useful. During the high tide, the water depth near the coast goes up and helps big ships to reach the ports. Kandla port in Gujarat and Diamond Harbour in West Bengal owe their very existence to the tides only.

Tides also keep the harbours clear of refuse and mud brought down by rivers and thus they do not allow the harbours to be silted. Commonly, the tidal rivers are navigable. For the purpose of generating electricity, tidal waves are harnessed. Tides do not allow the sea water to be frozen by keeping the sea water in motion. Tides are also made use of by the fishermen for sailing into the sea and returning to the harbour. In the countries like Canada, U.K., France and Japan, tidal power stations are set up.

5. Why does the moon play a greater role than the sun in causing tides?
(A) The moon is closer to the earth as compared to the sun.
(B) The moon has greater gravitational pull.
(C) The moon shines in night.
(D) None of these
6. Which word in the passage mean 'to bring under control'?
(A) Proximity (B) Immense (C) Silted (D) Harness

SPOKEN AND WRITTEN EXPRESSION

Directions (For Q. No. 7 and 8) : Choose the correct option to complete each conversation.

7. Eva : Is it a tradition around here to drink brandy with coffee as a morning _____?
(A) early bird (B) pickup (C) pick-me-up (D) rise and sunshine
8. Manager : Do you have a _____ creative ideas? _____, we would love to hear from you.
(A) knock for, If so (B) knock through, Surely
(C) knock into, Well (D) knock to, Okay

ACHIEVERS SECTION

9. Choose the correct option to fill in the blank.
Nowadays, most people with an interest in blogging engage anonymously in _____ online commentary.
(A) ablative (B) accusation (C) lucrativity (D) vituperative
10. Choose the correct synonym of the given word.
Disparage
(A) Belittle (B) Kind (C) Inspirit (D) Glorify

ANSWER KEY

1. (D) 2. (B) 3. (C) 4. (C) 5. (A) 6. (D) 7. (C) 8. (A) 9. (D) 10. (A)

Total Questions : 50

Time : 1 hr.

PATTERN & MARKING SCHEME

Section	(1) Logical Reasoning	(2) Science	(3) Achievers Section
No. of Questions	10	35	5
Marks per Ques.	1	1	3

SYLLABUS

Section – 1 : Verbal and Non-Verbal Reasoning.

Section – 2 : Crop Production and Management, Microorganisms, Coal and Petroleum, Combustion and Flame, Conservation of Plants and Animals, Reproduction and Endocrine System, Force and Pressure, Friction, Sound, Chemical Effects of Electric Current, Some Natural Phenomena, Light.

Section – 3 : Higher Order Thinking Questions - Syllabus as per Section – 2.

LOGICAL REASONING

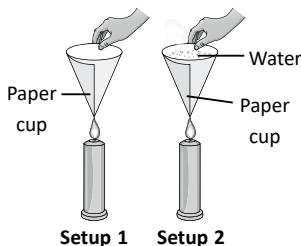
1. Find the missing number, if same rule is followed in all the three figures.

7	12	5	16	8	12
21		20		?	

- (A) 40 (B) 32 (C) 24 (D) 16
2. In a playground, a girl walks 15 m towards West. She then turns left and walks 20 m. She then turns left again and walks 10 m. Finally, she turns left and walks 15 m. How far is she now from the starting point?
(A) 5 m (B) $5\sqrt{2}$ m (C) 8 m (D) $2\sqrt{5}$ m
3. How many such numbers are there in the given arrangement each of which is immediately preceded by an odd number but not immediately followed by a prime number?
2, 3, 5, 7, 8, 9, 3, 6, 2, 4, 7, 6, 9, 8, 3, 5, 2, 2, 9
(A) One (B) Two (C) Three (D) More than three

SCIENCE

4. While demonstrating an activity, the science teacher set up the experiment as shown in the given figure. Which of the following represents the incorrect observation?
(A) Paper cup burns in setup 1.
(B) Temperature of water rises in setup 2.
(C) Paper cup absorbs heat from water in setup 2.
(D) Ignition temperature of paper cup is not reached in setup 2.



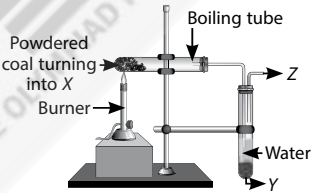
5. Read the given statements and select the correct option.

Statement 1 : Kinetic friction is independent of the area of contact and depends on the material.

Statement 2 : The limiting value of static friction depends on the area of contact and is independent of material.

- (A) Both statements 1 and 2 are true and statement 2 is the correct explanation of statement 1.
 (B) Both statements 1 and 2 are true but statement 2 is not the correct explanation of statement 1.
 (C) Statement 1 is true but statement 2 is false.
 (D) Both statements 1 and 2 are false.
6. Which of the following statements are correct?
 (i) When sound travels from air to water, it bends away from the normal.
 (ii) A trumpet is blown harder resulting in a louder sound with a lower pitch. This implies that both the amplitude of the sound wave and the wavelength are increasing.
 (iii) On arranging speed of sound in steel, water and air in the respective order and proceeding from last to first, represents the descending order of the speed of sound.
 (A) (i) and (ii) only (B) (i) and (iii) only (C) (ii) and (iii) only (D) (i), (ii) and (iii)
7. *Gelidium* is a _____ algae.
 (A) Red (B) Green (C) Brown (D) Purple
8. Which of the following options correctly represents the path taken by male gamete during fertilisation in humans?
 (i) Urethra (ii) Vagina (iii) Oviduct
 (iv) Testis (v) Sperm duct
 (A) (iv) → (v) → (i) → (ii) → (iii) (B) (v) → (iv) → (iii) → (i) → (ii)
 (C) (iv) → (i) → (ii) → (iii) → (v) (D) (iv) → (i) → (iii) → (ii) → (v)

ACHIEVERS SECTION

9. Observe the given figure carefully and select the correct statement from the following.
- 
- (A) Y is a tough, porous and black substance which is used in the extraction of many metals.
 (B) Z contains methane, hydrogen, carbon monoxide and some other gases and is used in the production of naphthalene balls.
 (C) X is an almost pure form of carbon and Z was used for street lighting for the first time in London in 1810.
 (D) X is a mixture of about 200 substances and the products obtained from it are used as starting materials for manufacturing dyes, drugs, paints, etc.
10. Read the given paragraphs where few words have been italicised and select the incorrect statement regarding them.
Thyroid gland secretes the hormone *parathormone* that controls the metabolism of the body. Its *hypersecretion* in human body leads to *simple goitre*.
 Parathyroid gland secretes a hormone *inhibin* which regulates the *calcium* and phosphate balance in the blood. *Melatonin* hormone is secreted by *pituitary* gland and it promotes sleep in our body.
 (A) *Thyroid* should not be changed whereas *parathormone* should be replaced with *thyroxine* as it is mentioned incorrectly.
 (B) *Hypersecretion* must not be changed whereas *simple goitre* must be changed to *diabetes* as it is mentioned incorrectly.
 (C) *Inhibin* must be changed to *parathormone* whereas *calcium* must not be changed as it is mentioned correctly.
 (D) *Melatonin* must not be changed as it is mentioned correctly whereas *pituitary* must be changed to *pineal*.

ANSWER KEY

1. (C) 2. (B) 3. (D) 4. (C) 5. (C) 6. (A) 7. (A) 8. (A) 9. (C) 10. (B)

Total Questions : 50

Time : 1 hr.

PATTERN & MARKING SCHEME

Section	(1) Logical Reasoning	(2) Mathematical Reasoning	(3) Everyday Mathematics	(4) Achievers Section
No. of Questions	15	20	10	5
Marks per Ques.	1	1	1	3

SYLLABUS

Section – 1 : Verbal and Non-Verbal Reasoning.

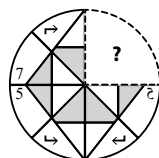
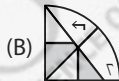
Section – 2 : Rational Numbers, Squares and Square Roots, Cubes and Cube Roots, Exponents and Powers, Comparing Quantities, Algebraic Expressions, Linear Equations in One Variable, Understanding Quadrilaterals, Mensuration, Data Handling, Direct and Inverse Proportions, Factorisation, Introduction to Graphs.

Section – 3 : Syllabus as per Section – 2.

Section – 4 : Higher Order Thinking Questions - Syllabus as per Section – 2.

LOGICAL REASONING

1. Select a figure from the options which when placed in the blank space of the given figure would complete the pattern.



2. Study the following Venn diagram carefully and answer the question that follow.

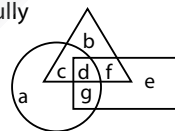
Which of the following letters represents female science students who are not studying in private school?

(A) d

(B) f

(C) b

(D) c



- △ → Science students
□ → Students studying in private school
○ → Females

3. Find the missing number in the given number pattern.

2, 4, 9, 19, ?, 62

(A) 38

(B) 36

(C) 34

(D) 48

MATHEMATICAL REASONING

4. Find the value of $\frac{(x-y)(x+y)(x^2+y^2)\{(x^2+y^2)^2-2x^2y^2\}}{x^{16}-y^{16}}$.

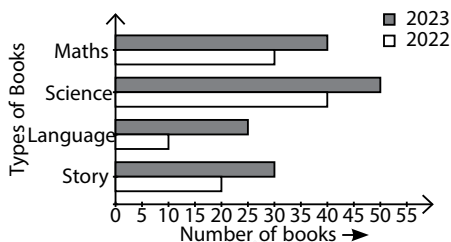
(A) $x^4 + y^4$

(B) $x^8 + y^8$

(C) $\frac{1}{x^8 + y^8}$

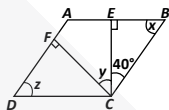
(D) $\frac{1}{x^4 + y^4}$

5. The given bar graph shows the number of books available in a school library for the years 2022 and 2023.



Find the increase in total number of books in 2023.

- (A) 40 (B) 45
(C) 50 (D) 30
6. ABCD is a parallelogram. Find the angles x , y and z respectively in the given figure.
- (A) 40° , 50° , 60°
(B) 60° , 60° , 60°
(C) 50° , 50° , 50°
(D) 60° , 70° , 70°



EVERYDAY MATHEMATICS

7. A survey was conducted among 525 people where 225 were men and rest were women. It was found that 162 women like coffee. What is the probability that a randomly chosen woman dislikes coffee?
- (A) $\frac{162}{525}$ (B) $\frac{25}{49}$ (C) $\frac{13}{50}$ (D) None of these
8. Forty percent of the employees of a certain company are men and 75% of the men earn more than ₹ 25,000 per year. If 45% of the company's employees earn more than ₹ 25,000 per year, then what fraction of the women employed by the company earn ₹ 25,000 or less per year?
- (A) $\frac{1}{4}$ (B) $\frac{3}{5}$ (C) $\frac{3}{4}$ (D) None of these

ACHIEVERS SECTION

9. Read the given statements carefully and select the CORRECT option.
- Statement-I :** If a certain sum, at compound interest become five times in 3 years, then in 9 years, it will be 25 times at the same rate of interest per annum.
- Statement-II :** If ₹ 8920 becomes ₹ 13380 in 3 years at a certain rate of compound interest, then in 6 years it becomes ₹ 20070 at same rate of compound interest.
- (A) Both Statement-I and Statement-II are true.
(B) Both Statement-I and Statement-II are false.
(C) Statement-I is true but Statement-II is false.
(D) Statement-I is false but Statement-II is true.
10. Find the value of $P + Q + R + S$, if
- (i) $(Px - 4)$ and $(x + 3)$ are the factors of $3x^2 + 5x - 12$.
(ii) $(x - 5)$ and $(Qx + 3)$ are the factors of $2x^2 - 7x - 15$.
(iii) $(Rx - 3)$ and $(Sx + 3)$ are the factors of $8x^2 - 18x + 9$.
- (A) 11 (B) 9 (C) 8 (D) 7

ANSWER KEY

1. (B) 2. (D) 3. (B) 4. (C) 5. (B) 6. (C) 7. (D) 8. (C) 9. (D) 10. (A)

Total Questions : 50

Time : 1 hr.

PATTERN & MARKING SCHEME

Section	(1) Logical Reasoning	(2) Computer Science	(3) AI, Robotics and Information Technology	(4) Achievers Section
No. of Questions	10	30	5	5
Marks per Ques.	1	1	1	3

SYLLABUS

Section – 1 : Verbal and Non-Verbal Reasoning.

Section – 2 : Fundamentals of Computer (Hardware, Software, Algorithms & Flowcharts (Advanced symbols) and Introduction to Number System), Using Windows 11, HTML & CSS (Html Elements: A, UI and OI (Attributes: Type, Start), Li and Some More Advanced Tags and Attributes), Programming in Scratch, MS-Access, Networking, MS-Word (Exploring File tab, Language and Translate options, Tracking features -Comments, Reviewing Pane, Tracking Changes, Comparing, Combining and Protecting documents, Working with References), MS-PowerPoint (Exploring File tab and Slide Show tab, Comparing, Combining and Protecting presentations), MS-Excel (Exploring File tab, Useful Formulas and Functions - IF, Even, Odd, LCM, GCD, Power, Product, Round, Sqrt, Sum, Min, Max, Average, Count, Upper, Lower And Replace, Cell referencing, Using Defined Names group), Memory & Storage Devices, Cyber Safety, Operating System (Introduction, Features, Types-single user and multi-user).

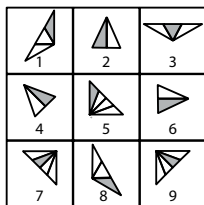
Section – 3 : AI, Robotics, IT Gadgets, Devices, Apps, Computerization, and other Developments in the Field of IT.

Section – 4 : Higher Order Thinking Questions - Syllabus as per Sections 2 and 3.

Questions are based on Windows 11 and MS-Office 2016.

LOGICAL REASONING

- In a certain code language, if CABLE is written as VHHZQ, then how will MOUSE be written in the same code language?
(A) RJAXZ (B) GJAZY (C) JRAZX (D) XZARJ
- In a group of 6 persons, Vijay is taller than only three persons. Arun is taller than Dev and Rahul but shorter than Arjun, who is not the tallest. Ajay is taller than Dev. Who among the following is the tallest?
(A) Arun (B) Ajay (C) Vijay (D) Arjun
- Group the given figures into three classes on the basis of their identical properties using each figure only once.
(A) 1, 3, 8; 2, 4, 6; 5, 7, 9
(B) 1, 2, 8; 3, 4, 6; 5, 7, 9
(C) 1, 3, 8; 2, 5, 7; 4, 6, 9
(D) 1, 5, 8; 2, 4, 6; 3, 7, 9

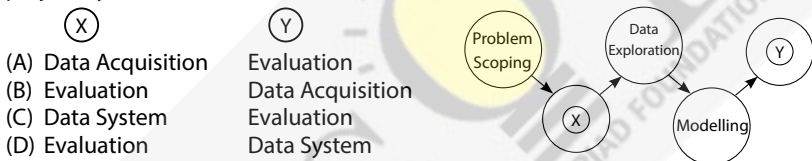


COMPUTER SCIENCE

4. Which of the following statements hold(s) true about the operating system?
Statement 1: Linux is a family of open-source operating systems, which can be modified and distributed by anyone around the world.
Statement 2: macOS is an operating system designed by Apple.
(A) Only Statement 1 (B) Only Statement 2
(C) Both Statement 1 and Statement 2 (D) Neither Statement 1 nor Statement 2
5. Identify the following.
- It is a physical or a virtual device.
 - It is used to send information that is contained in data packets between networks.
 - It analyzes data within the packets to identify the best way for the information to reach the destination.
- (A) Switch (B) Router (C) Hub (D) Bridge
6. _____ is a graphical representation used to represent the logic.
(A) Pseudocode (B) Algorithm (C) Flowchart (D) Program

AI, ROBOTICS AND INFORMATION TECHNOLOGY

7. What will come in the place of (X) and (Y) in the given diagram with respect to project cycle in AI?



8. Which of the following options does not represent a online money transfer app?



ACHIEVERS SECTION

9. Identify the following:
- It is the core part of operating system and it manages the operations of computer and hardware.
 - It is responsible to control the devices by using device drivers.
- (A) Operating system (B) Kernel
(C) System call (D) Process control block
10. Identify the following terms marked as X and Y with respect to transmission media.
- X: It is a high frequency radio wave used for communication between devices on a network.
- Y: It uses infrared light to transmit data between devices. It is commonly used for short-range communication between devices such as printers and mobile devices.
- (A) X - Microwaves, Y - Infrared waves (B) X - Infrared waves, Y - Microwaves
(C) X - Radio waves, Y - Infrared waves (D) X - Microwaves, Y - Radio waves

ANSWER KEY

1. (C) 2. (B) 3. (A) 4. (C) 5. (B) 6. (C) 7. (A) 8. (D) 9. (B) 10. (A)

Total Questions : 50

Time : 1 hr.

PATTERN & MARKING SCHEME

Section	(1) History	(2) Geography	(3) Social and Political Life	(4) Achievers Section
No. of Questions	20	15	10	5
Marks per Ques.	1	1	1	3

SYLLABUS

Section – 1 : History – Modern India-Sources and Significance, The Establishment of Company Power, Rural Life and Tribal Societies, The Revolt of 1857-58, Education and British Rule, Women, Caste and Reforms, Freedom Struggle in India

Section – 2 : Geography – Resources (Natural, Man-made and Human Resources), Land, Soil, Water, Natural Vegetation and Wildlife Resources, Agriculture and Industries

Section – 3 : Social and Political Life – The Indian Constitution and Secularism, Parliamentary Government and the Judiciary, Social Justice and the Marginalised, Economic Presence of the Government

Section – 4 : Higher Order Thinking Questions - Syllabus as per Section – 1, 2 & 3.

- The National Archives of India, which came up in the 1920s is situated in _____.
(A) Mumbai (B) Chennai (C) New Delhi (D) Nagpur
- The First Anglo-Maratha War ended in 1782 with the _____.
(A) Treaty of Salbai (B) Treaty of Surat
(C) Treaty of Mangalore (D) Treaty of Allahabad
- X was a Guru from Ezhava caste. One of his famous statements was “one caste, one religion, one God for humankind”. Identify X.
(A) Guru Ramdas (B) Guru Arjan Dev
(C) Shri Narayana Guru (D) Guru Ghasidas
- Which of the following is/are the source(s) of freshwater on our planet?
(A) Ice sheets and glaciers (B) Groundwater
(C) Rivers (D) All of these
- The way in which people are spread across the earth's surface is known as
(A) Population density (B) Pattern of population distribution
(C) Population growth (D) Population pyramid.
- Identify the crop with the help of clues given below.
(i) It requires warm and wet climate.
(ii) It needs well-drained loamy soil.

(iii) Hill slopes are most suitable for its cultivation.

(iv) Brazil is the leading producer of this crop.

(A) Wheat

(B) Maize

(C) Tea

(D) Coffee

7. Which right allows citizens of India to move the court, if they believe that any of their Fundamental Rights have been violated by the State?

(A) Right to Freedom

(B) Right to Constitutional Remedies

(C) Right to Equality

(D) Right against Exploitation

8. Which among the following is one of the most important functions of the Lok Sabha?

(A) To select the judiciary

(B) To select the legislative

(C) To select the executive

(D) Both (A) and (B)

ACHIEVERS SECTION

9. Starting from the earliest, arrange the following historical events in a chronological order and select the correct option.

(i) The Vernacular Press Act was passed

(ii) The Congress resolved to fight for Purna Swaraj

(iii) Partition of Bengal took place

(iv) Split in Congress

(A) (i) → (ii) → (iv) → (iii)

(B) (ii) → (iv) → (iii) → (i)

(C) (i) → (iii) → (iv) → (ii)

(D) (iii) → (iv) → (i) → (ii)

10. Read the given statements regarding the population pyramid of countries P, Q and R and select the option which correctly identifies them.

P : The pyramid is broad at the base and rapidly narrows towards the top.

Q : The pyramid is broad in the younger age groups.

R : The pyramid is narrow at the base.

P

Q

R

(A) Japan

India

Kenya

(B) Japan

Kenya

United Kingdom

(C) United Kingdom

Japan

India

(D) Kenya

India

Japan

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ANSWER KEY

1. (C) 2. (A) 3. (C) 4. (D) 5. (B) 6. (D) 7. (B) 8. (C) 9. (C) 10. (D)

कुल प्रश्न : 50

समय : 1 घंटा

पैटर्न तथा अंक योजना

खंड	(1) शब्द और व्याकरण बोध	(2) रचनात्मक बोध	(3) मेधावी खंड
प्रश्नों की संख्या	35	10	5
अंक प्रति प्रश्न	1	1	3

पाठ्यक्रम

खंड-1: भाषा-विचार, वर्ण-विचार, शब्द-विचार, संधि एवं समास, शब्द-भंडार, उपसर्ग एवं प्रत्यय, संज्ञा, सर्वनाम एवं विशेषण, काल, क्रिया एवं कारक, लिंग एवं वचन, अविकारी शब्द, वाक्य-रचना एवं विराम-चिह्न, अलंकार, गिनती एवं महीनों के नाम, भारतीय साहित्य एवं संस्कृति

खंड-2: अपठित गद्यांश, अपठित पद्यांश, मुहावरे एवं लोकोक्तियाँ

खंड-3: उच्चतर क्रम सोच कौशल आधारित प्रश्न- खंड 1 और 2 के पाठ्यक्रम के अनुसार

शब्द और व्याकरण बोध

- ‘हमारे देश में विभीषणों की कमी नहीं है।’ वाक्य में रेखांकित शब्द, संज्ञा का कौन-सा भेद है?
(क) भाववाचक (ख) जातिवाचक (ग) व्यक्तिवाचक (घ) द्रव्यवाचक
- _____ शब्द व्युत्पत्ति के आधार पर यौगिक है।
(क) कमल (ख) रसोईघर (ग) घर (घ) (क) और (ग) दोनों
- ज्ञान हमें तिमिर से _____ की ओर ले जाता है। (उचित विलोम शब्द द्वारा रिक्त स्थान भरिए।)
(क) प्रकाश (ख) अंबर (ग) सूर्य (घ) अतिमिर
- निम्नलिखित में से ‘संस्कार’ शब्द में प्रयुक्त उपसर्ग चुनिए—
(क) सं (ख) संस् (ग) सन् (घ) सम्
- ‘जो पौधों में पानी डाल रहा है, वह मेरा भाई है।’ इस वाक्य में कौन-सा सर्वनाम प्रयुक्त है?
(क) निजवाचक सर्वनाम (ख) पुरुषवाचक सर्वनाम
(ग) संबंधवाचक सर्वनाम (घ) निश्चयवाचक सर्वनाम
- निम्नलिखित में से किस वाक्य में अनुप्रास अलंकार नहीं है?
(क) रहिमान पानी रखिये, बिन पानी सब सूना। (ख) सेवक सचिव सुमंत बुलाए।
(ग) गिरी का गौरव गाकर, झर-झर। (घ) कूलन में केलिन में, कछारन में कुंजन में।

रचनात्मक बोध

निम्नलिखित गद्यांश को पढ़कर प्रश्न संख्या 7 और 8 के उत्तर दीजिए—

प्रचारित किया जाता रहा है कि कश्मीर भू-स्वर्ग है। उसका प्राकृतिक सौंदर्य अपूर्व है। इस प्रचार के पीछे कोई विशेष उद्देश्य होगा। ऐसे प्रचारकों ने किसी निहित उद्देश्य के कारण

मनाली की मनोरम प्राकृतिक सुषमा को अनदेखा कर दिया। कुल्लू के निवासी अत्यंत कठोर जीवन के अभ्यस्त हैं। हँसते-मुसकराते उन्हें खेतों एवं बगीचों में कठिन परिश्रम करते देख सकते हैं। सेब के उत्पादन में विशिष्टता के साथ-साथ अब यहाँ अखरोट, बादाम, नाशपाती तथा विभिन्न प्रकार की जीवनदायिनी जड़ी-बूटियों का भी उत्पादन होने लगा है।

मनाली महर्षि मनु की पावन भूमि है। मनाली अर्थात् 'मनु आलय'। 'मनुस्मृति' महर्षि मनु द्वारा रचित हिंदू धर्मशास्त्र का एक प्रमुख ग्रंथ है। इस ग्रंथ में बारह अध्याय हैं।

मनाली को ही कुल्लू का मुख्य पर्यटक स्थल माना जाता है। प्रकृति की मनोरम दृश्यावली हृदय को अभिभूत कर देती है। ब्यास को हिमाचल की नदियों में श्रेष्ठतम माना जाता है। वैदिक काल में इसका नाम विपाशा था। शाब्दिक अर्थ के अनुसार, विपाशा का मतलब है— 'बंधन-रहित' या 'बंधन-मुक्त' अर्थात् वह नदी जो अपना किनारा स्वयं बनाती है। पथ में आई प्रत्येक रुकावट, शिलाखंड, हर प्रकार की बाधा को दूर करती हुई मुक्त रूप से उमगती किलकती प्रवाहित हो, यह है विपाशा।

7. किसकी प्राकृतिक सुषमा को अनदेखा कर दिया गया?

- (क) शिमला (ख) कश्मीर (ग) हिमालय (घ) मनाली

8. मनुस्मृति _____ की रचना है।

- (क) महर्षि वाल्मीकि (ख) विष्णु शर्मा (ग) महर्षि मनु (घ) कालिदास

मेधावी खंड

9. अविकारी शब्दों के भेदों के आधार पर उचित मिलान के विकल्प का चयन कीजिए—

अविकारी शब्द **उदाहरण**

- (अ) संबंधबोधक (i) गरीबों को दुत्कारना नहीं चाहिए बल्कि उनकी मदद करनी चाहिए।
 (ब) समुच्चयबोधक (ii) गरमी के मारे सभी का बुरा हाल है।
 (स) क्रियाविशेषण (iii) तुम अंदर चलो।
 (द) निपात (iv) मैं भी दिल्ली जाऊँगा।
 (क) (अ)-(iii), (ब)-(iv), (स)-(i), (द)-(ii)
 (ख) (अ)-(ii), (ब)-(i), (स)-(iii), (द)-(iv)
 (ग) (अ)-(ii), (ब)-(i), (स)-(iv), (द)-(iii)
 (घ) (अ)-(i), (ब)-(iii), (स)-(ii), (द)-(iv)

10. दिए गए शब्दों तथा उनसे संबंधित उपसर्गों का ध्यानपूर्वक अध्ययन कर उचित विकल्प का चयन कीजिए—

शब्द **उपसर्ग**

- (अ) नादान — ना
 (ब) अभिनय — अभि
 (स) अनाथ — अ
 (द) अनमोल — अन

- (क) केवल (अ) सही है। (ख) (अ) और (द) दोनों सही हैं।
 (ग) (अ) और (ब) दोनों सही हैं। (घ) (अ), (ब), (स) तथा (द) चारों सही हैं।

उत्तर कुंजी

1. (ख) 2. (ख) 3. (क) 4. (घ) 5. (ग) 6. (क) 7. (घ) 8. (ग) 9. (ख) 10. (घ)



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