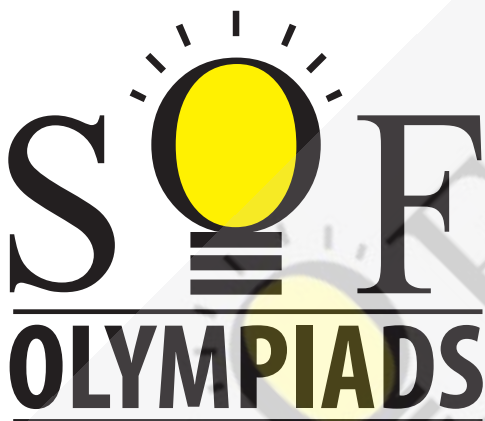


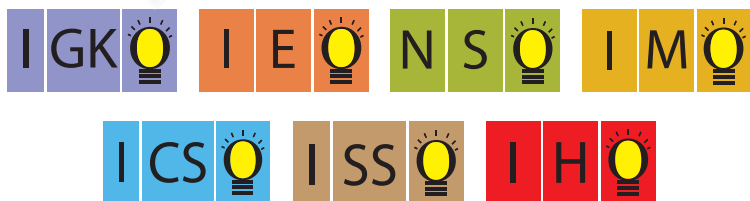
CLASS

10



Teacher Handbook

SYLLABUS 2025-26 **SAMPLE PAPER**





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

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8
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About SOF Olympiads*

											
	Level 1										
Duration	60 Minutes										
Test Center	Your School										
Eligibility	All students										
Classes	1-10	1-12	1-12	1-12	1-12	1-10	3-10	3-10	11 & 12		
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	35	-		
Classes 5-12	50	50	50	50	50	50	50	50	50		
Sections	4	4	3	4	4	4	2/4/5	3	4		
	<ul style="list-style-type: none">• General Awareness• Current Affairs• Life Skills• Achievers Section	<ul style="list-style-type: none">• Word and Structure Knowledge• Reading• Spoken and Written Expression• Achievers Section	<ul style="list-style-type: none">For Classes 1-10• Logical Reasoning• Science• Achievers SectionFor Classes 11 & 12• Physics & Chemistry• Achievers Section• Mathematics or Biology	<ul style="list-style-type: none">For Classes 1-10• Logical Reasoning• Mathematical Reasoning• Everyday Mathematics• Achievers SectionFor Classes 11&12• Logical Reasoning• Mathematical Reasoning or Applied Mathematics• Everyday Mathematics• Achievers Section	<ul style="list-style-type: none">For Classes 1-5• Logical Reasoning• Computer Science• Information Technology• Achievers SectionFor Classes 6-10• Logical Reasoning• Computer Science• AI, Robotics and Information Technology• Achievers Section	<ul style="list-style-type: none">For Classes 3-6• Social Studies• Achievers SectionFor Classes 7 & 8• History• Geography• Social and Political Life• Achievers SectionFor Classes 9 & 10• History• Geography• Political Science• Economics• Achievers Section	<ul style="list-style-type: none">• शब्द और व्याकरण बोध• रचनात्मक बोध• मेधावी खंड	<ul style="list-style-type: none">• Economics• Business Studies• Accountancy• Achievers Section	<ul style="list-style-type: none">• Word and Structure Knowledge• Reading• Achievers Section	<ul style="list-style-type: none">For Classes 3-10• Science• Achievers SectionFor Classes 11 & 12• Physics & Chemistry• Achievers Section• Mathematical Reasoning or Applied Mathematics• Mathematics or Biology• Achievers Section	<ul style="list-style-type: none">For Classes 3-10• Mathematics• Achievers SectionFor Classes 11 & 12• Mathematics• Mathematical Reasoning or Applied Mathematics• Achievers 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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Scholarship
Scheme
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Scholarship
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AES

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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, Our Environment, Science and Technology, India and the World, Social Studies, Language, Literature and Media, 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 hormone is primarily involved in the regulation of the sleep-wake cycle in humans?
(A) Endorphin (B) Insulin (C) Melatonin (D) Adrenaline
- The Ozone Depleting Substances (Regulation and Control) Rules, 2000 were established under which act?
(A) Environment (Protection) Act, 1986 (B) Biological Diversity Act, 2002
(C) Forest (Conservation) Act, 1980 (D) Wildlife (Protection) Act, 1972
- Who among the following is considered as the 'Founder of Modern Nursing'?



(A)

Florence
Nightingale



(B)

Clara Barton



(C)

Rosa Parks

(D) None of these

- What does the idiom "work one's fingers to the bone" mean?
(A) To do some mild activity (B) To achieve something big
(C) To work very hard (D) To make a bad situation even worse
- Who is the only boxer to win world titles in eight different weight divisions?
(A) Manny Pacquiao (B) David Diaz
(C) Antonio Margarito (D) Ricky Hatton

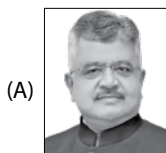
6. Which of the following statements hold(s) true about 'Recycle Bin' folder of Windows 10?

Statement 1 : You can see and adjust the amount of space currently used by Recycle Bin for each drive.

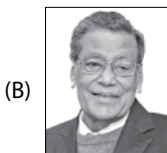
Statement 2 : A deleted file in Recycle Bin does not take up any hard disk space.

- (A) Statement 1 only (B) Statement 2 only
(C) Both statement 1 and statement 2 (D) Neither statement 1 nor statement 2

7. Who is the current Attorney General of India?



Tushar Mehta



K.K. Venugopal



R. Venkataramani

(D) None of these

8. During a period of stress, which approach is most effective for maintaining mental health?

- (A) Have a lot of coffee to concentrate on your work.
(B) Develop a comprehensive stress management plan that includes regular exercise, adequate sleep and cognitive behaviour technique.
(C) Isolate yourself completely and focus on your work only.
(D) Watch a lot of TV and eat a lot of junk food to feel happy.

ACHIEVERS SECTION

9. Identify W, X, Y and Z from the given information and select the correct option.

W : This country was the first to introduce a polymer banknote.

X : This country issued the smallest ever banknote that measured 27.5 mm × 38 mm.

Y : This country's banknote features Sir Edmund Hillary on one of its banknotes.

Z : This country issued a 100 trillion dollars banknote.

W	X	Y	Z
(A) Australia	Romania	New Zealand	Zimbabwe
(B) China	Japan	Romania	Argentina
(C) Switzerland	China	Canada	Venezuela
(D) Canada	Belgium	Australia	Brazil

10. Solve the following and select the correct option.

- (i) 4 men and 6 boys can finish a piece of work in 5 days while 3 men and 4 boys can finish it in 7 days. Find the time taken by 1 man alone to do the same work.
(ii) Six years hence, a man's age will be three times the age of his son and three years ago, he was nine times as old as his son. Find the present age of the man.

- | | |
|-------------|----------|
| (i) | (ii) |
| (A) 30 days | 40 years |
| (B) 35 days | 28 years |
| (C) 30 days | 35 years |
| (D) 35 days | 30 years |

ANSWER KEY

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

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, One Word, Word order, Nouns, Pronouns, Verbs, Adverbs, Adjectives, Articles, Prepositions, Conjunctions, Punctuations, Voices, Narration, Concord, Question forms, Tenses, Conditionals, Modals, Collocations, Phrasal verbs, Idioms, Homonyms and homophones, Words related to weather, Countries, Language and people, Global problems, etc.

Section – 2 : Search for and retrieve information from various text types like Encyclopedias, 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., Make inferences from advanced texts.

Section – 3 : Ability to understand situation-based variations in functions like Giving/ Accepting compliments, Agreeing, Disagreeing, Requesting, Seeking information, Pronunciation, etc.

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

WORD AND STRUCTURE KNOWLEDGE

1. Choose the correct option to fill in the blank.

I would like to suggest that we _____ a step back and reconsider our stance _____ the team.

- (A) may took, thanks to (B) should take, on behalf of
(C) shall take, on top of (D) must took, in view at

2. Choose the correct synonym of the given word.

Erudite

- (A) Annoying (B) Ignorant (C) Simple (D) Scholarly

3. Choose the correct antonym of the given word.

Sustainable

- (A) Plannable (B) Process (C) Continuable (D) Fleeting

4. Choose the option with correct spelling.

How do you spell the word that means 'to think'?

- (A) Rumminate (B) Roominate
(C) Ruminare (D) Roomineit

READING

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

The Paleolithic remains have been found in all parts of India, especially in the Deccan. In ancient times, south of the Vindhya mountain and the Narmada river, was known as Dakshinapath; now it is called the Deccan. There were two main cultures in the Paleolithic Age, the Sonnian and the Acheulian. Some tools from the Sonnian culture have been found in the Shivalik hills of the Indian subcontinent. Most Sonnian tools belong to late middle period found into past Shivalik sediments. Sonnian artifacts have been recovered in Pakistan. Acheulian sites have been divided in early Acheulian and late Acheulian, on the basis of the tools produced. Early Acheulian tools have been recovered at the edge of the Vindhya hills in the Narmada Basin. Flake tools were the major features of the late Acheulian Age. Small and medium size hand axes and cleavers were main tools of this age used for chopping meat. Various sites of Acheulian in the Deccan are excavated like Chirki-Nevasa, Guhox, Saswad, Nasre, Yeduwadi, Attirampakkam and Bhimbetka. Various Acheulian tools have been discovered from Nevasa, a tributary of the Godavari in Maharashtra.

All this indicates that Nevasa was a popular habitation of the Paleolithic man for a long time. From these stone-tools we come to know about food and shelters of early man. One of these sites is Attirampakkam valley in the northwest of Tamil Nadu. Archaeological research has discovered evidence of fossil remains of animals and primitive stone implements in northern Tamil Nadu around 300,000 BC. Man in Deccan lived in this Paleolithic period for a long time, using only crude implements.

5. Which of the following area was known as 'Dakshinapath' in ancient times?
(A) North to Narmada river
(B) South of Vindhya mountain and Narmada river
(C) Shivalik Hills
(D) None of these
6. Name the two main cultures of the Paleolithic age.
(A) Dakshinapath and Deccan
(B) Vindhya hills and Narmada basin
(C) The Sonnian and the Acheulian
(D) The new and the old Paleolithic

SPOKEN AND WRITTEN EXPRESSION

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

7. Shama : Siya _____ reporting, at a small-town newspaper before moving to the city.
(A) cut to the quick (B) cut her teeth on (C) cut corners (D) cut both ways
8. Claire : Kids are asked to practise _____ and save money if they want new toys.
(A) scrimping (B) disbursing (C) grousing (D) mafficking

ACHIEVERS SECTION

9. Choose the correct option to fill in the blank.
Science _____ that hunger affects our tongue's taste receptors and how the brain perceives _____ information.
(A) proving, gustation (B) proved, guilelessness
(C) has proven, gustatory (D) could prove, gussetting
10. Choose the correct antonym of the given word.
Condescending
(A) Acquiescing (B) Descending (C) Welcoming (D) Condensing

ANSWER KEY

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

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 : Chemical Reactions and Equations, Acids, Bases and Salts, Metals and Non-metals, Carbon and Its Compounds, Life Processes, Control and Coordination, Reproduction in Organisms, Heredity, Light-Reflection and Refraction, The Human Eye and the Colourful World, Electricity, Magnetic Effects of Electric Current, Our Environment and Its Management.

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

LOGICAL REASONING

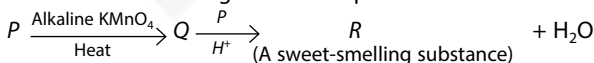
1. There is a certain relationship between figures (i) and (ii). Establish the similar relationship between figures (iii) and (iv) by selecting a suitable figure from the options that would replace the (?) in Fig. (iv).



2. P and Q both are children of R. If R is the mother of P, P is the son of R but Q is not the daughter of R, then how are Q and P related?
(A) Q is the cousin of P (B) Q is the niece of P
(C) Q is the nephew of P (D) Q is the brother of P
3. The positions of how many alphabets will remain unchanged, if each of the alphabets in the word MIRAGE is arranged in alphabetical order from left to right?
(A) None (B) One (C) Two (D) More than two

SCIENCE

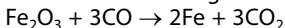
4. Consider the following reaction sequence :



R gives back P and sodium salt of Q on saponification. Select the correct statement about P, Q and R from the following.

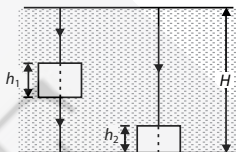
- (A) P is CH_4 and Q is used in making perfumes.
(B) 5 – 8% solution of P in water is called vinegar.
(C) Q is CH_3COOH and R is used in making perfumes and as flavouring agents.
(D) R undergoes dehydration reaction in presence of conc. H_2SO_4 to give ethene.

5. Which of the following statements about the given reaction is correct?



- (A) Fe_2O_3 is getting oxidised to Fe. (B) Fe_2O_3 is acting as a reducing agent.
(C) CO is acting as a reducing agent. (D) CO is getting reduced to CO_2 .
6. Which one of the given statements is correct?
- (A) Among the copper wires of length and cross-section area as (l, a) , $(2l, a/2)$ and $(l/2, 2a)$, wire with $(2l, a/2)$ values has minimum resistance.
(B) If the length of wire is increased by 25% and its area of cross-section is decreased by 75%, then its resistivity will decrease by 80% of its initial value.
(C) Resistivity of an alloy is generally higher than that of its constituent metal.
(D) It is not possible to have two wires of same length, one of copper and the other one of iron having the same resistance at same temperature.

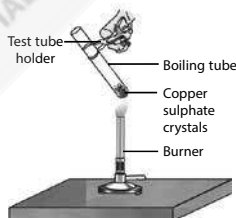
7. Two rays of light are incident normally on water. Both the rays pass through glass slabs of different heights, as shown in the given figure. Refractive indices of water and glass are $4/3$ and $3/2$ respectively. If c is the speed of light in vacuum, then the time difference between the rays of light to reach the bottom is



- (A) $\frac{H}{2c}$ (B) $\frac{8H}{9c}$ (C) $\frac{H-h_1-h_2}{3c}$ (D) $\frac{h_1-h_2}{6c}$
8. Select the option that correctly fills in the blanks.
In generative fertilisation, a (i) fuses with a (ii). (i) and (ii) respectively are
(A) Polar nucleus, Secondary nucleus (B) Male gamete, Polar nucleus
(C) Male gamete, Female gamete (D) Female gamete, Secondary nucleus.

ACHIEVERS SECTION

9. Observe the following experimental set-up carefully and select the correct statement from the following.
- (A) The blue colour of copper sulphate crystals changes to white and water droplets appear on the upper cooler part inside the test tube.
(B) The blue colour of copper sulphate crystals changes to pale-yellow and water droplets appear on the upper cooler part outside the test tube.
(C) If we put 2-3 drops of water on the anhydrous salt (which is obtained after heating), white crystals of copper sulphate appears.
(D) One molecule of hydrated copper sulphate contains seven molecules of water.
10. Correct the following statements by replacing the underlined terms (wherever necessary) and select the correct option.
- (i) Chlamydomonas reproduces by fragmentation.
(ii) Grafting is performed between two plants of closely related monocot varieties having vascular cambia.
(iii) Wind pollinated flowers are small in size.



- | (i) | (ii) | (iii) |
|------------------------|---------|-------|
| (A) <i>Plasmodium</i> | Monocot | Small |
| (B) <i>Microstomum</i> | Dicot | Large |
| (C) <i>Spirogyra</i> | Dicot | Small |
| (D) <i>Planaria</i> | Monocot | Large |

ANSWER KEY

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

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 : Real Numbers, Polynomials, Pair of Linear Equations in Two Variables, Quadratic Equations, Arithmetic Progressions, Triangles, Coordinate Geometry, Introduction to Trigonometry, Some Applications of Trigonometry, Circles, Areas Related to Circles, Surface Areas and Volumes, Statistics, Probability.


Section – 3 : The syllabus of this section will be based on the syllabus of Mathematical Reasoning and Quantitative Aptitude.


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


LOGICAL REASONING

- A square transparent sheet with a pattern and a dotted line on it is shown here. Select a figure from the options as to how the pattern would appear when the transparent sheet is folded along the dotted line.
 

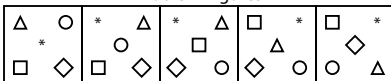
(A) 


(B) 


(C) 


(D) 
- Select a figure from the options which will continue the same series as established by the Problem Figures.


Problem Figures



(A) 

(B) 

(C) 

(D) 
- In a row of boys, Nitish is 8th from the right end and Prem is 17th from the left end. If they interchange their positions, then Nitish becomes 10th from the right end. How many boys are there in the row?

(A) 25

(B) 26

(C) 27

(D) 24

MATHEMATICAL REASONING

- Let S_n denotes the sum of first n terms of an A.P. If $S_{2n} = 3S_n$, then the value of $\frac{S_{3n}}{S_n}$ is equal to

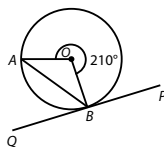
(A) 4

(B) 6

(C) 8

(D) 10

5. If AB is chord of a circle with centre O & PQ is a tangent to the circle at B with reflex $\angle AOB = 210^\circ$, then the value of $\angle ABQ$ is
- (A) 105° (B) 150°
(C) 210° (D) 75°



6. The angles of depression of two consecutive kilometre stones on the road on right and left of an aeroplane are 60° and 45° , respectively as observed from the aeroplane. Find the height of the aeroplane from the ground. (Use : $\sqrt{3} = 1.732$)
- (A) 0.634 km (B) 1.682 km (C) 2.384 km (D) 0.236 km

EVERYDAY MATHEMATICS

7. Two trains leave a railway station at the same time. The first train travels due West and the second train due North. The first train travels 5 km/hr faster than the second train. If after two hours, they are 50 km apart, then find the average speed of each train.
- (A) 20 km/hr, 15 km/hr (B) 25 km/hr, 30 km/hr
(C) 40 km/hr, 30 km/hr (D) 60 km/hr, 55 km/hr
8. A design on a floor is made up of triangular tiles. The sides of each triangle being 24 cm, 32 cm and 40 cm. Find the cost of polishing all 170 tiles on the floor at the rate of ₹ 1.50 per cm^2 .
- (A) ₹ 97920 (B) ₹ 65280 (C) ₹ 99480 (D) ₹ 89460

ACHIEVERS SECTION

9. Solve the following questions and select the correct option.
- (i) If $\frac{\cos \alpha}{\cos \beta} = m$ and $\frac{\cos \alpha}{\sin \beta} = n$, then $(m^2 + n^2) \cos \alpha \cos \beta \cot \beta$ is equal to _____.
- (ii) If $\operatorname{cosec} A = 2$, then the value of $\frac{1}{\tan A} + \frac{1 - \cos A}{\sin A}$ is _____.
- (A) (i) - n^3 ; (ii) - $\sqrt{2} - 1$ (B) (i) - n ; (ii) - 2
(C) (i) - n^3 ; (ii) - 2 (D) (i) - n^2 ; (ii) - $\sqrt{3} + 2$
10. Read the given statements carefully and select the correct option.
- Statement-I :** If the quadratic equation $(4 - k)x^2 + (2k + 4)x + (8k + 1) = 0$ is a perfect square, then the values of k are 0 and 3.
- Statement-II :** If α, β are the roots of the equation $25x^2 + 20x + 4 = 0$, then the equation whose roots are $\frac{1}{\alpha}$ and $\frac{1}{\beta}$ is $4x^2 + 20x + 25 = 0$.
- (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.

ANSWER KEY

1. (A) 2. (C) 3. (B) 4. (B) 5. (D) 6. (A) 7. (A) 8. (A) 9. (C) 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, I/O Devices, Memory and Storage Devices, Basics of IT and Number System), Operating System, MS-Word, Networking, MS-PowerPoint, MS-Excel, HTML & CSS, Cyber Safety, Database Management System (Functions, Types, MS-Access), Using Windows 11, Programming in Scratch, Programming in Python 3.13 (as of December 2024), Programming in Visual Basic.

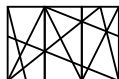
Section – 3 : AI, Robotics, IT Gadgets, Devices, Apps, Computerization and other Developments in the Field of IT.

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

- Point T is to the East of point O and North of point M, which is to the North of point N. Point K is to the South of point S. Point S is to the West of point N and South of point O. In which direction is point M with respect to point S?
(A) North-East (B) South-West
(C) South (D) North
- If it is possible to form only one meaningful English word with the second, third, fifth, sixth and eighth letters of the word YOUNGSTER, then which of the following will be the second letter of that word? If no such word can be formed, then give 'X' as your answer and if more than one such word can be formed, then give 'Y' as your answer.
(A) N (B) G (C) X (D) Y
- Which of the following figures is exactly embedded in the given figure as one of its parts?



COMPUTER SCIENCE

4. Identify the following.
- It is a form of computer that uses continuous physical phenomena such as electrical, mechanical, or hydraulic quantities to model the problem being solved.
 - Differential Analyzers and Slide Rules are examples of such type of computer.
- (A) Analog computer (B) Digital computer
(C) Hybrid computer (D) Both (A) and (B)
5. Which of the following is correct binary representation of the given octal number (345)
- (A) 011000101 (B) 01100010 (C) 111000101 (D) 011100101
6. Identify the following with respect to cyber ethics.
- The programmers who break into secure systems for malicious purpose.
 - They are more interested in gaining information about computer systems.
- (A) Malware (B) Hackers (C) Spyware (D) Worms

AI, ROBOTICS AND INFORMATION TECHNOLOGY

7. Which of the following technologies enables the collection of a single, secure ledger that is updated only when all the linked computers have been nodes within the network to verify the transactions?
- (A) Blockchain (B) Cloud computing
(C) Data analytics (D) Virtual reality
8. Which of the following statements hold(s) true about the given icon?
- Statement 1 :** It is a remote access software that allows users to connect to another computer from anywhere in the world.
- Statement 2 :** It is a type of attack that occurs when criminals hijack web protocols to steal data.
- (A) Only Statement 1 (B) Only Statement 2
(C) Both Statement 1 and Statement 2 (D) Neither Statement 1 nor Statement 2



ACHIEVERS SECTION

9. Select the correct characteristics of the type of networking topology shown in the given image.
- (i) Such topology can handle large amount of traffic as multiple nodes can simultaneously transmit data.
(ii) Failure of a single device won't break the entire network.
(iii) Provides high privacy and security.
- (A) (i) and (ii) only (B) (ii) and (iii) only (C) (i) and (iii) only (D) (i), (ii) and (iii)
10. Which of the following statements are correct regarding Database Management System?
- (i) It is a collection of data.
(ii) It provides an abstract view of data that hides the details.
(iii) It is a computerized record-keeping system.
(iv) It allow users to define, store, retrieve and update the information contained in the database.
- (A) (i) and (ii) only (B) (ii) and (iii) only
(C) (i), (ii) and (iv) only (D) (i), (ii), (iii) and (iv)



ANSWER KEY

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

Total Questions : 50

Time : 1 hr.

PATTERN & MARKING SCHEME

Section	(1) History	(2) Geography	(3) Political Science	(4) Economics	(5) Achievers Section
No. of Questions	15	10	10	10	5
Marks per Ques.	1	1	1	1	3

SYLLABUS

Section – 1 : History – Nationalism in Europe and India, Globalisation and Industrialisation, Print Culture and the Modern World

Section – 2 : Geography – Resources and Development, Forest, Wildlife and Water Resources, Agriculture and Industries, Minerals and Energy Resources, Lifelines of National Economy

Section – 3 : Political Science – Power Sharing and Federalism, Gender, Religion and Caste, Political Parties, Outcomes of Democracy

Section – 4 : Economics – Development and Sectors of the Indian Economy, Money and Credit, Globalisation and Consumer Rights

Section – 5 : Higher Order Thinking Questions - Syllabus as per Section – 1, 2, 3 & 4.

- X was an Act, passed through the Imperial Legislative Council. It gave enormous power to the government to repress political activities and allowed detention of political prisoners without trial for two years. Identify X.
(A) Inland Emigration Act (B) Government of India Act
(C) Rowlatt Act (D) Vernacular Press Act
- _____ was a car manufacturer, who was also well known pioneer of mass production.
(A) John Maynard Keynes (B) Henry Ford
(C) James Watt (D) Andrew Yule
- X was an Italian miller. He reinterpreted the message of the Bible and formulated a view of God and Creation that enraged the Roman Catholic Church. He was hauled up twice and ultimately executed. Identify X.
(A) Erasmus (B) Johann Gutenberg
(C) Martin Luther (D) Menocchio
- Which of the following multi-purpose river projects is built on Kaveri River?
(A) Bhakra Nangal Dam (B) Panchet Dam
(C) Mettur Dam (D) Hirakud Dam
- Which two places of extreme locations are linked by East-West Corridor?
(A) Silchar and Porbandar (B) Guwahati and Vadodara
(C) Nagaon and Junagadh (D) Sivasagar and Jamnagar

6. When did Sri Lanka emerge as an independent country?
 (A) 1945 (B) 1946 (C) 1947 (D) 1948
7. Which of the following factors is considered to be one of the most crucial attributes for comparing development of countries?
 (A) Per capita income (B) Population of old aged people
 (C) Availability of natural resources (D) Level of pollution
8. Which of the following does not comprise the terms of credit?
 (A) Collateral (B) Interest rate
 (C) Mode of repayment (D) None of these

ACHIEVERS SECTION

9. Match the given columns and select the correct option.

Column I

- (i) Anthology
 (ii) Taverns
 (iii) Heretical
 (iv) Vellum

Column II

- (a) Places where people gathered to drink alcohol, eat and meet friends
 (b) Beliefs which do not follow the accepted teachings of the Church
 (c) A parchment made from animal's skin
 (d) Collection of literary passages, primarily poetry and music

- | (i) | (ii) | (iii) | (iv) |
|---------|------|-------|------|
| (A) (a) | (c) | (b) | (d) |
| (B) (d) | (a) | (b) | (c) |
| (C) (c) | (a) | (b) | (d) |
| (D) (d) | (b) | (a) | (c) |

10. Names of few places where iron ore mines are found are given below.
 (i) Chandrapur (ii) Mayurbhanj (iii) Durg (iv) Tumakuru
 Select the option that correctly arranges them in the order of their location from North to South.
 (A) (ii) – (i) – (iii) – (iv) (B) (iii) – (ii) – (iv) – (i)
 (C) (iii) – (ii) – (i) – (iv) (D) (ii) – (iii) – (i) – (iv)

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ANSWER KEY

1. (C) 2. (B) 3. (D) 4. (C) 5. (A) 6. (D) 7. (A) 8. (D) 9. (B) 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, उपसर्ग एवं प्रत्यय, विकारी शब्द, काल एवं कारक, लिंग एवं वचन, अविकारी शब्द, वाच्य, वाक्य-रचना एवं विराम-चिह्न, पदबंध एवं पद-परिचय, अलंकार, 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

- दिए गए वाक्य को सरल वाक्य में बदलिए—
सुकृति गा रही है और नाच रही है।
(क) सुकृति गाते हुए नाच रही है। (ख) जब सुकृति गाती है, तब नाचती भी है।
(ग) सुकृति गा और नाच रही है। (घ) सुकृति गाकर नाच रही है।
- 'रसिया' शब्द में कौन-सा प्रत्यय है?
(क) ईया (ख) या (ग) इया (घ) इनमें से कोई नहीं
- दिए गए वाक्य के रेखांकित वाक्यांश में कौन-सा पदबंध है?
दादा जी पत्र पढ़ रहे हैं।
(क) सर्वनाम पदबंध (ख) क्रियाविशेषण पदबंध
(ग) क्रिया पदबंध (घ) विशेषण पदबंध
- दिए गए वाक्य को उचित शब्द-युग्म द्वारा पूर्ण कीजिए—
प्रत्यय _____ होते हैं तथा मूल शब्द के _____ लगते हैं।
(क) शब्द, पूर्व (ख) शब्द, पश्चात (ग) शब्दांश, पश्चात (घ) शब्दांश, पूर्व
- संज्ञा या सर्वनाम के जिस रूप से क्रिया के साधन का बोध होता है, उसे _____ कारक कहते हैं।
(क) कर्म (ख) करण (ग) संप्रदान (घ) अपादान
- _____ महाराष्ट्र का प्रसिद्ध पारंपरिक नृत्य है।
(क) लावणी (ख) कथकली (ग) घूमर (घ) कजरी

रचनात्मक बोध

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

समय उन्हीं के रथ-अश्वों को हाँकता है, जो कर्मण्य हैं, जो भाग्य के भरोसे बैठना मानवीय पौरुष का अपमान समझते हैं। इतिहास साक्षी है कि भाग्य का आश्रय छोड़कर कर्म में तत्पर होने वाले लोगों ने ही इतिहास का निर्माण किया है, समय पर शासन किया है। भगवान श्री कृष्ण यदि भाग्य के सहारे बैठे रहते तो एक ग्वाले का जीवन बिताकर ही एक दिन काल-कवलित हो जाते, नादिरशाह जन्म भर ईरान में भेड़ों के झुंड को ही चराता रहता, स्टालिन अपने वंश-परंपरागत व्यवसाय जूते बनाने के काम को ही करता हुआ एक कुशल मोची बनता, गोर्की कूड़े-कचरे के ढेर से चिथड़े ही चुनता रहता, प्रेमचंद एक प्राथमिक पाठशाला के अध्यापक के रूप में ही अज्ञात रहकर मर जाता, बाबर समरकंद से भागकर कहीं हिंदूकुश पर्वत की श्रेणियों में ही खो जाता, हैदर अली सेना का एक सामान्य सिपाही ही बना रहता और लाल बहादुर शास्त्री के लिए प्रधानमंत्री बनना एक सुहावना सपना भर ही होता।

7. किस प्रकार के लोगों ने समय पर शासन किया है?

- (क) अकर्मण्य लोगों ने
- (ख) भाग्यवादी लोगों ने
- (ग) कर्म में तत्पर नहीं होने वालों ने
- (घ) भाग्य का आश्रय छोड़कर कर्म में तत्पर होने वालों ने

8. लाल बहादुर शास्त्री जैसे अन्य महापुरुषों का उदाहरण किस संदर्भ में दिया गया है?

- (क) सपने देखना अच्छी बात है।
- (ख) सपनों को साकार करने के लिए दृढ़-संकल्प शक्ति, साहस, धैर्य और कठिन परिश्रम की आवश्यकता होती है।
- (ग) भाग्यवादी इनसान सपनों के आधार पर ही सफलताओं को हासिल कर लेते हैं।
- (घ) उपरोक्त सभी

मेधावी खंड

9. निम्नलिखित समस्तपदों को समास के भेदों के आधार पर सुमेलित कर उचित विकल्प का चयन कीजिए—

- | | |
|----------------|--------------------|
| (अ) कृष्णोपासक | (i) बहुव्रीहि समास |
| (ब) विद्यारत्न | (ii) कर्मधारय समास |
| (स) अठन्नी | (iii) द्विगु समास |
| (द) सुलोचना | (iv) तत्पुरुष समास |

- (क) (अ)-(ii), (ब)-(i), (स)-(iv), (द)-(iii) (ख) (अ)-(i), (ब)-(ii), (स)-(iii), (द)-(iv)
 (ग) (अ)-(iv), (ब)-(ii), (स)-(iii), (द)-(i) (घ) (अ)-(i), (ब)-(iii), (स)-(ii), (द)-(iv)

10. निम्नलिखित पंक्तियों को उनमें प्रयुक्त अलंकार के भेदों के आधार पर सुमेलित कर उचित विकल्प का चयन कीजिए—

- | | |
|---|---------------------|
| (अ) पीपर पात सरिस मन डोला। | (i) अनुप्रास अलंकार |
| (ब) आए महंत वसंत। | (ii) उपमा अलंकार |
| (स) तीन बेर खाती थीं वो, तीन बेर खाती है। | (iii) रूपक अलंकार |
| (द) मिटा मोदु मन भए मलीने। | (iv) यमक अलंकार |
- (क) (अ)-(iii), (ब)-(i), (स)-(ii), (द)-(iv) (ख) (अ)-(ii), (ब)-(iii), (स)-(iv), (द)-(i)
 (ग) (अ)-(iii), (ब)-(ii), (स)-(i), (द)-(iv) (घ) (अ)-(i), (ब)-(iii), (स)-(ii), (द)-(iv)

उत्तर कुंजी

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



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The organisation strives to promote a proper understanding of academic subjects through various activities with the ultimate aim of contributing both qualitatively and quantitatively to the education standards.

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