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We can't let you miss out on this!

Keep yourself updated! For the latest SSC CHSL updates throughout the Academic year 2024 Scan the QR code below

PREFACE

The SSC (Staff Selection Commission) Combined Higher Secondary Level examination is a competitive exam. It is conducted by the SSC to recruit candidates for various clerical positions like Lower Divisional Clerk (LDC), Junior Secretariat Assistant (JSA), Postal Assistant (PA), Sorting Assistant (SA) and Data Entry Operator (DEO in the Central Government Ministries and associated departments.

The intake application rate for SSC CHSL is relatively high. In this situation, candidates compete for a limited number of seats. However, with the right preparation strategy, you can secure a seat in SSC CHSL and give your career the right push.

The term "Previous Years' Solved Papers" refers to actual Question Papers from past years that have been thoroughly solved and explained to aid applicants in understanding the blueprint and format of the exam. For any Competitive Exam, solving Previous Years' Question Papers is a crucial component of the study plan because it enables applicants to identify their learning gaps and fill them at the earliest.

This book aims to help students achieve a high score in SSC CHSL Tier-1, prepared by the Editorial Board of Oswaal Books. It consists of solved question papers, which will enable students to answer the questions with confidence. This book has 25 Solved Papers (2017 -2023) of SSC CHSL Tier-I.

How will this book benefit students?

- **100% Updated** with 2023 Papers Fully Solved
- **Extensive Practice** with 2500+ Previous Years Questions & 2 Sample Papers
- **Concept Clarity:** Learn Key Concepts through Detailed Explanations
- **100% Exam Readiness** with Latest Years' Trend Analysis (2020-2023)
- **Valuable Exam Insights** with Hints, Short-cuts, Expert Tips to Crack SSC CHSL Tier-1 Exam in the first attempt.

This book has developed with the highest editorial standards. The innovative learning pedagogy of the book makes it a must-have for anyone preparing for SSC CHSL Tier-1. To stay true to our motto of 'Learning Made Simple', we constantly strive to present information in ways that are easy to understand and remember. We wish the readers great success ahead!

All the Best!
Team Oswaal

Oswaal Books Expert Tips to Crack the Exam in First Attempt

1. **Start your planning at the right time**
    It is advisable to start early. There are many instances where students fall short of time to finish the syllabus and wind up avoiding a couple of points that show up in the examination. Additionally, beginning the SSC CHSL preparation at the initial stage can help in reviewing all the concepts on time and thus, scoring high marks.

2. **Know the Syllabus**
    The initial step prior to starting the planning is to know the detailed prospectus of SSC CHSL. The syllabus assists with having a reasonable comprehension of what all must be examined. With the assistance of the SSC CHSL syllabus, students can plan their studies and focus on points that will require additional time and concepts.

3. **Check the SSC CHSL Exam Pattern**
    Having a knowledge of how the SSC CHSL exam will be conducted, the type of questions posed or the marking scheme is profoundly advantageous. The SSC CHSL test comprises of Multiple Choice Questions (MCQs).

4. **Get the right tools and study material**
    Success in scoring high in SSC CHSL depends upon studying from the right books such as Oswaal Books. You can refer to Oswaal Books SSC CHSL Tier-1 Solved Papers to your preparation. The books are on the lines of the current syllabus and can be entrusted upon before the examination for sure.

5. **Practice a lot of Sample Papers**
    Sample Papers will not only help the candidates in understanding the examination pattern, but also help them in figuring out the questions that come up every year and this might give them an edge over other students. The candidates can refer to Oswaal SSC CHSL Tier-I: 25 Solved Papers to practice for the upcoming exams.

6. **Revise whenever you get time**
    Make sure to revise as much as possible. Revision will help the candidates in keeping the concepts fresh in their mind.

7. **Analysing your performance**
    While solving papers, make sure to keep a track of time i.e. how much time does it take to solve one section or one question? Make a report of the sections and type of questions, which take minimum and maximum time.

Eligibility Criteria

Nationality/Citizenship: A candidate must be either:

1. a citizen of India, or
2. a subject of Nepal, or
3. a subject of Bhutan, or

Provided that a candidate belonging to categories shall be a person in whose favour a certificate of eligibility has been issued by the Government of India.

Age limit of the candidates should be from 18 to 27 years, Permissible relaxation in upper age limit for different categories in accordance with extant Rules/ guidelines of Government of India are as under:

Category	Age-relaxation permissible beyond the upper age limit
SC/ ST	5 years
OBC	3 years
PwBD (Unreserved)	10 years
PwBD (OBC)	13 years
PwBD (SC/ ST)	15 years

Educational Qualifications:

The educational qualification for the post is a 12th pass or its equivalent from a recognized Educational Board. However, those who appeared for the 12th exam can also apply, provided that they produce the 12th certificate before the cut-off date.

Overview of SSC CHSL Exams

The Staff Selection Commission will hold a competitive examination for recruitment to the Group C posts viz. Lower Divisional Clerk/ Junior Secretariat Assistant, and Data Entry Operators for various Ministries/ Departments/ Offices of the Government of India and various Constitutional Bodies/ Statutory Bodies/ Tribunals, etc. The details of the examination are as under:

Scheme of the Examination:

The Computer Based Examination will be conducted in two tiers as indicated below:

Scheme of Tier-I Examination:

Part	Subject (Not in sequence)	Number of Questions/ Maximum Marks	Time Duration (For all four Parts)
1	English Language (Basic Knowledge)	25/ 50	
2	General Intelligence	25/ 50	
3	Quantitative Aptitude (Basic Arithmetic Skill)	25/ 50	60 Minutes
4	General Awareness	25/ 50	

- The Tier-I Examination will consist of Objective Type, Multiple choice questions only. The questions will be set in English and Hindi for Part-II, III & IV.
- There will be negative marking of 0.50 marks for each wrong answer. Candidates are, therefore, advised to keep this in mind while answering the questions.

Scheme of Tier-II Examination:

Session	Subject	Number of Questions	Maximum Marks	Time allowed
Session-I (2 hours and 15 minutes)	Section-I: Module-I: Mathematical Abilities Module-II: Reasoning and General Intelligence.	30 30 Total = 60	$60 \times 3 = 180$	1 hour (for each section)
	Section-II: Module-I: English Language and Comprehension Module-II: General Awareness	40 20 Total = 60	$60 \times 3 = 180$	1 hour
	Section-III: Module-I: Computer Knowledge Module	15	$15 \times 3 = 45$	15 Minutes
Session-II	Section-III: Module-II: Skill Test/ Typing Test Module	Part A: Skill Test for DEOs.		15 Minutes
		Part B: typing Test for LDC/ JSA.		10 Minutes

Tier-II will include following three sections having two modules each:

Section-I:
    Module-I: Mathematical Abilities
    Module-II: Reasoning and General Intelligence.

Section-II:
    Module-I: English Language and Comprehension
    Module-II: General Awareness

Section-III:
    Module-I: Computer Knowledge Test
    Module-II: Skill Test/ Typing Test

Tier-II will be conducted in two sessions - Session –I & Session-II, on same day. Session-I will include conducting of Section-I, Section-II and Module-I of Section-III. Session-II will include conducting of Module-II of Section-III.

It will be mandatory for the candidates to qualify all the sections of Tier-II.

Tier-II will consist of Objective Type, Multiple choice questions, except for Module-II of Section-III. The questions will be set in English and Hindi except for Module-II (i.e. English Language and Comprehension module) in Section-II.

There will be negative marking of 1 mark for each wrong answer in Section-I, Section-II and Module-I of Section-III. Candidates are, therefore, advised to keep this in mind while answering the questions.

Module-I of Section-III i.e. Computer Knowledge Test is mandatory but qualifying in nature.

Module-II of Section-III i.e. Skill Test/ Typing Test:

Module-II of Section-III will include conducting of Skill Test/ Typing Test in Session-II on the same day.

Skill Test/ Typing Test will be of qualifying nature.

Errors in the Skill Test will be calculated up to 2 decimal places.

Latest Syllabus

Indicative Syllabus (Tier-I):

English Language: Spot the Error, Fill in the Blanks, Synonyms/ Homonyms, Antonyms, Spellings/ Detecting mis-spelt words, Idioms & Phrases, One word substitution, Improvement of Sentences, Active/ Passive Voice of Verbs, Conversion into Direct/ Indirect narration, Shuffling of Sentence parts, Shuffling of Sentences in a passage, Cloze Passage, Comprehension Passage.

General Intelligence: It would include questions of both verbal and non-verbal type. The test will include questions on Semantic Analogy, Symbolic operations, Symbolic/ Number Analogy, Trends, Figural Analogy, Space Orientation, Semantic Classification, Venn Diagrams, Symbolic/ Number Classification, Drawing inferences, Figural Classification, Punched hole/pattern-folding & unfolding, Semantic Series, Figural Pattern-folding and completion, Number Series, Embedded figures, Figural Series, Critical Thinking, Problem Solving, Emotional Intelligence, Word Building, Social Intelligence, Coding and de-coding, Numerical operations, Other sub-topics, if Any.

Quantitative Aptitude:

Number Systems: Computation of Whole Number, Decimal and Fractions, Relationship between numbers.

Fundamental arithmetical operations: Percentages, Ratio and Proportion, Square roots, Averages, Interest (Simple and Compound), Profit and Loss, Discount, Partnership Business, Mixture and Allegation, Time and distance, Time and work.

Algebra: Basic algebraic identities of School Algebra and Elementary surds (simple problems) and Graphs of Linear Equations.

Geometry: Familiarity with elementary geometric figures and facts:

Triangle and its various kinds of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of a circle, common tangents to two or more circles.

Mensuration: Triangle, Quadrilaterals, Regular Polygons, Circle, Right Prism, Right Circular Cone, Right Circular Cylinder, Sphere, Hemispheres, Rectangular Parallelepiped, Regular Right Pyramid with triangular or square Base.

Trigonometry: Trigonometry, Trigonometric ratios, Complementary angles, Height and distances (simple problems only) Standard Identities like $\sin^2\theta + \cos^2\theta = 1$ etc.,

Statistical Charts: Use of Tables and Graphs: Histogram, Frequency polygon, Bar-diagram, Pie-chart.

General Awareness: Questions are designed to test the candidate's general awareness of the environment around him and its application to society. Questions are also designed to test knowledge of current events and of such matters of everyday observation and experience in their scientific aspect as may be expected of an educated person. The test will also include questions relating to India and its neighbouring countries especially pertaining to History, Culture, Geography, Economic Scene, General policy and scientific research.

For VH candidates of 40% and above visual disability, there will be no component of Maps/ Graphs/ Diagrams/ Statistical Data in the General Intelligence and Quantitative Aptitude parts.

Trend Analysis (2023-2020)

English Language		Aug-23	Mar-23	May-22	Aug-21	Oct-20
Chapter Name	**Topic Name**	**Aug-23**	**Mar-23**	**May-22**	**Aug-21**	**Oct-20**
Vacabulary	Antonym	3	1	3	2	2
	Synonym	2	3	2	2	2
	Spelling	1	3	3	2	3
	Idioms & Phrases	1	2	3	2	2
	One word substitution	1	2	2	5	3
Reading Comprehension	Reading Comprehension	5	0	0	5	1
Grammar	Error Identification	2	2	3	1	2
Fill in the blanks	Cloze test	2	0	0	0	0
	One Word	1	8	8	2	5
Sentence Formation & Logical Sequence	Parajumbles	4	0	1	2	3
	Sentence Corrections	0	0	0	0	0
	Actice & Passive	2	1	0	1	1
	Direct & Indirect Narration	1	1	0	1	1
Total Questions		25	25	25	25	25

Quantitative Aptitude		Aug-23	Mar-23	May-22	Aug-21	Oct-20
Chapter Name	**Topic Name**	**Aug-23**	**Mar-23**	**May-22**	**Aug-21**	**Oct-20**
Number System	Simplification	1	2	2	2	2
	Divisibility Rules	1	2	2	1	1
	Sum of Numbers	1	0	2	0	1
	HCF & LCM	0	0	0	0	0
	Factors	0	0	0	0	0

Trend Analysis (2023 -2020)

	Percentage	2	2	4	3	1
	Simple Interest & Compund Interest	3	1	0	1	1
	Average	1	3	1	1	1
Arithmetic	Profit, loss and Discount	1	1	0	0	2
	Ratio & Proportion and Partnership	1	1	2	1	1
	Time, Speed & Distance	2	2	1	1	2
	Time & Work	1	1	1	1	0
Algebra	Algebraic Expression	1	0	2	2	1
	Triangles	1	1	0	2	2
Geometry	Circles	2	3	1	2	1
	Quadrilateral	0	0	0	0	0
	Sphere	0	0	2	1	0
	Cube	0	0	0	0	0
	Hemishpere	0	0	0	0	0
Mensuration	Cylinder/cone	1	0	0	0	0
	Trapezium	0	0	0	0	0
	Rectangles	0	0	0	0	1
	Hexagon	0	0	0	0	0
	Trigonometric Ratios	2	1	1	3	3
Trigonometry	Properties of Triangle	0	0	0	0	1
	Trigonometric Identities	1	2	0	0	0
	Height & Distance	0	0	1	0	0
	Pie Chart	1	1	1	2	0
Data Interpretation	Tabular	1	1	1	0	0
	Bar Graph	1	1	1	2	4
Total Questions		25	25	25	25	25

Trend Analysis (2023 -2020)

General Intelligence						
Chapter Name	**Topic Name**	**Aug-23**	**Mar-23**	**May-22**	**Aug-21**	**Oct-20**
Mathematical Operations	Mathematical Symbol	0	3	0	0	1
	Mathematical Symbol & Alphabet letter	2	1	1	1	
Blood Relations	Symbol & Letter Based Relation	1	4	0	0	0
	Family Relation	1	0	0	0	0
Matrix	Number Based	3	1	0	1	0
Non-Verbal (Mirror Image, Counting figure, Embedded figure)	Embedded figure	0	3		1	0
	Mirror Image	2	2	3	1	1
	Figure Letter & Symbol Series	0	1	0	0	0
	Paper Cutting	0	1	1	1	1
	Figure Series	0	0	0	1	2
Coding-Decoding	Word Coding	1	2	5	0	1
	Word & Number Coding	1	0	0	2	1
	Group of words Coding	0	0	0	0	0
Odd one out	Letters or word	2	2	0	2	3
	Number Based	1	0	2	1	1
Direction Sense Test	Movement - Left & Right	0	0	0	0	0
Sitting Arrangement	Row Arrangement	0	0	2	1	0
	Ractangular Arrangement	0	0	0	0	0
	Circular Arrangement	0	0	0	0	0
Statement & Conclusion	3 Statements & 4 Conclusions	0	0	0	0	0
	3 Statements & 3 Conclusions	0	1	1	0	0
	3 Statements & 2 Conclusions	0	0	0	0	0
	1 Statements & 2 Conclusions	1	0	0	1	1

Trend Analysis (2023 -2020)

Analogy	Word /Letter Analogy	1	0	0	2	1
	Number Analogy	0	1	1	0	2
Series	Alphabet Letter Series	1	1	1	1	1
	Number Series	1	1	3	1	0
Calendar	Day & Date Based	1	0	1	0	0
Cube & Dice	Face Number, Letter & Colour Based	0	0	1	0	1
	Symbol Based Cube	0	0	0	1	0
Miscellaneous	English Dictionary Order Words Sequence	1	1	1	1	2
	Venn Diagram	0	0	0	1	1
	Logical Words Sequence	4	0	0	2	2
	Number Ratio/ percentage	0	0	1	2	3
	Logical Puzzle	0	0	0	0	0
	Number of Triangles/ Squares in the Figure	1	0	1	1	1
Total Questions		**25**	**25**	**25**	**25**	**25**

General Awareness						
Chapter Name	**Topic Name**	**Aug-23**	**Mar-23**	**May-22**	**Aug-21**	**Oct-20**
Polity & Indian Costitution	Indian Constitution	2	2	4	1	1
	Five Year Plan	0	0	0	0	0
Economics	GDP	2	2	0	0	0
	Schemes	2	0	0	2	0
	Budget	1	0	0	0	0
History	Modern History	0	1	0	1	2
	Medieval History	1	0	0	1	0
	Ancient History	1	1	1	1	0
Geography	Ecology & Environment	1	4	1	2	4

Science & Technology	Physics	0	2	1	1	0
	Chemistry	3	2	0	0	1
	Biology	1	1	2	2	3
Miscellaneous	Sports	2	3	2	2	2
	Awards	3	3	3	3	5
	Art & Culture	2	2	3	1	2
	Book & Author	0	0	2	1	0
	Autobiography	0	0	1	0	1
	Personality	2	1	3	3	2
	Appointment	0	0	0	0	0
	Organizations	0	0	0	0	0
	Fact Based	2	1	2	4	2
Total Questions		**25**	**25**	**25**	**25**	**25**

SSC CHSL 2017 -2023 Tier-1 Cut Off

Category	2017	2018	2019	2020	2021	2022	2023
UR/GEN	143.5	135.6	159.52	141.88710	140.18226	140.18226	154.94
OBC	139	133.74	156.10	139.42190	140.12370	140.12370	151.00
EWS	-	127.25	149.98	117.59855	131.40838	131.40838	....
SC	122.5	110.09	136.10	114.16235	112.86061	112.86061	134.52
ST	112	99.09	127.32	108.88518	104.78368	104.78368	127.63
ESM	-	56.11	87.32	72.06370	55.58610	55.58610	.....
VH	95.5	84.87	123.78	93.81684	89.87114	89.87114	124.00
OH	111.5	102.75	124.36	106.37481	107.63592	107.63592	124.45
HH	73.5	58.43	81.08	63.80870	65.89994	65.89994	80.98
EXS	83	-	-	-	-	-	74.31
Other PWD	-	50	74.32	51.12050	56.41375	56.41375	.....

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0808

Time Allotted- 1 hour　　　　　　　　　　　　　　　　　**Max marks-** 200

Important Instructions:-
⇨ This paper contains 100 questions which are divided into 4 sections and each section contains 25 questions.
　✓ English Language (Basic Knowledge)
　✓ General Intelligence
　✓ Quantitative Aptitude (Basic Arithmetic Skill)
　✓ General Awareness
⇨ There will be 2 marks for each correct answer and also there will be negative marking of 0.50 marks for each wrong answer.
⇨ Each question is compulsory to attempt and there will be no negative marking for unattempted questions.

English Language

1. Select the most appropriate synonym of the given word.
Dynamic
1. Famous　　　**2.** Halt　　　**3.** Innate　　　**4.** Energetic

2. Choose the correct meaning of the underlined word in the given sentence.
The museum's <u>archive</u> is a great place to find valuable artifacts such as ancient manuscripts.
1. A collection of essays
2. A room to store lots of books
3. A room to store important official documents
4. A collection of historical documents or records

3. Select the most appropriate ANTONYM of the given word.
Guile
1. Deceit　　　**2.** Treachery　**3.** Honesty　　**4.** Terseness

4. Select the most appropriate homophone to fill in the blank.
Ants _____ food during the summer and save it for winter.
1. horde　　　**2.** hoard　　　**3.** heard　　　**4.** herd

5. The following sentence has been divided into parts. One of them may contain an error.
Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer.
A owl was / hooting throughout / the night.
1. A owl was　　　　　　　**2.** the night
3. No error　　　　　　　　**4.** hooting throughout

6. Select the option that can be used as a one-word substitute for the given group of words.
One who studies the evolution of mankind
1. Anarchist　　　　　　　**2.** Amateur
3. Anthropologist　　　　　**4.** Antagonist

7. Select the most appropriate ANTONYM for 'redeem' in the given sentence.
Shantanu violated the rules of the college when he started screaming and shouting in the premises.
1. Screaming　　**2.** Violated　　**3.** Premises　**4.** Shouting

8. Select the option that can be used as a one-word substitute for the given group of words.
Something to be easily carried or moved
1. Robust　　　**2.** Stagnant　**3.** Portable　**4.** Fragile

9. Select the option that can be used as a one-word substitute for the given group of words.
An imagined place or state of things in which everything is perfect
1. Dwarf　　　　　　　　　**2.** Utopia
3. Chronology　　　　　　　**4.** Octogenarian

10. Select the option that can be used as a one-word substitute for the given group of words.
Poor physical or mental condition.
1. Ill nature　　**2.** Illicit　　**3.** Ill-fated　　**4.** Ill health

11. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.
They were laid / in the sun / the entire morning / till Sudharshan came.
1. till Sudharshan came　　**2.** They were laid
3. the entire morning　　　　**4.** in the sun

12. Select the correct spelling of the underlined word in the given sentence.
The feeling of weightlessness while skydiving is known to <u>exilarete</u> many people.
1. exilairate　　**2.** exhilerete　**3.** exilarate　**4.** exhilarate

13. Select the option that expresses the given sentence in active voice.
I was never supported by my family.
1. My family have never supported me.
2. My family had never supported me.
3. My family never supported me.
4. My family never supports me.

14. The following sentence has been split into four segments. Identify the segment that contains a spelling error.
The famous author / clearly mentioned / all the names of his friends / in the acknolledgments of the book.
1. in the acknolledgments of the book
2. The famous author
3. clearly mentioned
4. all the names of his friends

15. Select the most appropriate ANTONYM of the given word.
Mean
1 Minute　　　**2.** Noble　　**3.** Notorious　**4.** Novel

16. Select the most appropriate idiom for the underlined segment in the following sentence.
Nitish's promotion is <u>due</u>.
1. On the cards　　　　　　**2.** Not worth his salt
3. With due respect　　　　**4.** Done to death

17. Parts of a sentence are given below in jumbled order. Select the option that arranges the parts in the correct order to form a meaningful sentence.
A. in social evolution by imitation
B. by reason of its higher standard of living
C. the royal style is the agent
D. and cultural patterns are similarly transmitted by the dominant caste
1. C, D, A, B　　　　　　　**2.** C, A, D, B
3. B, C, D, A　　　　　　　**4.** B, A, C, D

18. Select the option that expresses the following sentence in passive voice.
    An agitated gathering of workers in the company disturbed the meeting.
    1. Meeting of the company was disturbed.
    2. An agitated meeting of workers in the company disturbed the gathering.
    3. The meeting was disturbed by an agitated gathering of workers in the company.
    4. The gathering agitated the meeting of the company.
19. Select the most appropriate meaning of the given idiom.
    Costs an arm and a leg
    1. To be affordable   2. To be moderately priced
    3. To be free of charge   4. To be very expensive
20. Select the most appropriate option to fill in the blank.
    The _____ of the company's CEO was widely praised for her innovative leadership.
   1. rein   2. rayne   3. rain   4. reign

Comprehension:
In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

Globalisation is not a new 1_____. Traders travelled vast distances in ancient times to buy commodities that were 2_____ and expensive for sale in their homelands. The Industrial Revolution brought 3_____ in transportation and communication in the 19th century that eased trade across borders. The think tank, Peterson Institute for International Economics (PIIE), states globalisation 4_____ after World War I and nations moved toward 5_____ as they launched import taxes to more closely guard their industries in the aftermath of the conflict.

21. Select the most appropriate option to fill in blank number 1.
    1. power   2. variation   3. design   4. concept
22. Select the most appropriate option to fill in blank number 2.
    1. plentiful   2. common   3. preserved   4. rare
23. Select the most appropriate option to fill in blank number 3.
    1. chaos   2. advances   3. issues   4. a decline
24. Select the most appropriate option to fill in blank number 4.
    1. trooped   2. soared
    3. de-escalated   4. stalled
25. Select the most appropriate option to fill in blank number 5.
    1. protectionism   2. integration
    3. liberalisation   4. diversification

General Intelligence

26. A square sheet of paper is folded along the dotted line successively along the directions shown and is then punched in the end. How would the paper look when unfolded?
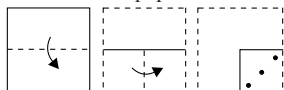
27. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.
    Statements:
    Some houses are trees.
    All flowers are houses.
    No vegetable is a flower.

Conclusions:
 (I) Some vegetables are houses is a possibility.
 (II) Some flowers are trees is a possibility
 (III) No vegetable is a house.
 1. Both conclusions II and III follow
 2. Only conclusion II follows
 3. Both conclusions I and II follow
 4. Only conclusion III follows

28. If 'A' stands for '÷', 'B' stands for '×', 'C' stands for '+' and 'D' stands for '−', what will come in place of the question mark '?' in the following equation?
    4 B 18 D 5 C 9 A 9 = ?
    1. 88   2. 58   3. 78   4. 68
29. What will come in the place of '?' in the following equation, if '+' and '−' are interchanged with '÷' and '×', respectively?
    88 + 8 − 17 × 16 ÷ 40 = ?
    1. 203   2. 197   3. 200   4. 211
30. In a certain code language, 'BALD' is coded as '7680' and 'DRAB' is coded as '8097'. What is the code for 'L' in the given code language?
    1. 8   2. 6   3. 0   4. 7
31. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.
    A_DE   FGI_   _LNO   PQ_T   UV_Y
    1. CJKSX   2. CJKRW   3. BJKRW   4. BJKSX
32. Select the word-pair that best represents a similar relationship to the one expressed in the pair of words given below. (The words must be considered as meaningful English words and must not be related to each other based on the number of letters/consonants/vowels in the word.)
    Heat : Cold
    1. Encourage : Motivate   2. Compete : Success
    3. Sustain : Persist   4. Demolish : Build
33. RSPT is related to VWTX in a certain way based on the English alphabetical order. In the same way, MNKO is related to QROS. Which of the following is GHEI related to, following the same logic?
    1. KLHI   2. KLJM   3. KLIM   4. JKHL
34. Three of the following four are alike in a certain way and thus form a group. Which is the one that does NOT belong to that group?
    (NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g.. 13 – Operations on 13 such as adding / subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on I and 3 is not allowed)
    1. 2 – 6   2. 4 – 20   3. 5 – 30   4. 8 – 75
35. In a certain code language, 'QUEZAL' is coded as '82' and 'LUCKY' is coded as '72'. What is the code for 'ADVERSE' in the given code language?
    1. 68   2. 78   3. 74   4. 62
36. GIEK is related to OQMS in a certain way based on the English alphabetical order. In the same way, KMIO is related to SUQW. To which of the following is EGCI related to, following the same logic?
    1. MQOK   2. MOKQ   3. PRNT   4. UWSY
37. The second number in the given number pairs is obtained by performing certain mathematical operations(s) on the first number. The same operation(s) are followed in all the number pairs except one. Find that odd number pair.
    1. 5 : 20   2. 4 : 12   3. 7 : 42   4. 6 : 36
38. Based on the alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which of the following does NOT belong to that group?
    1. WZB   2. UWX   3. ORT   4. GJL

39. In a certain code language,
A+B means 'A is the sister of B'
A – B means 'A is the husband of B'
A × B means 'A is the son of B'
A ÷ B means 'A is the mother of B'
Based on the above, how is F related to J if 'F × G – H ÷ I + J'?
1. Brother　　　　　**2.** Mother's brother
3. Father　　　　　**4.** Father's brother

40. If 9th July 1978 is Sunday, then what will be the day of the week on 19th September 1983?
1. Monday　　**2.** Friday　　**3.** Tuesday　　**4.** Sunday

41. How many triangles are there in the given figure?
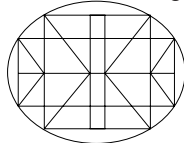
1. 24　　　　**2.** 28　　　　**3.** 22　　　　**4.** 30

42. N is the brother of X. X is the wife of M. S is the daughter of M. K is the brother of S. P is the mother of N. How is K related to P?
1. Son's Son　　　　　**2.** Daughter's son
3. Mother's brother　　　**4.** Sister's Son

43. What should come in place of X in the given series?
23　31　47　71　103　X
1. 153　　　**2.** 147　　　**3.** 150　　　**4.** 143

44. Select the number from among the given options that can replace the question mark (?) in the following series.
136, 135, 137, 136, 138, 137, ?
**1.** 136　　　**2.** 140　　　**3.** 138　　　**4.** 139

45. In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. Select the set in which the numbers are related in the same way as are the numbers of the following sets.
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding/ subtracting/ multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)
(15, 96)
(35, 216)
1. (41,250)　　**2.** (18, 102)　**3.** (29, 180)　**4.** (21, 122)

46. The position of how many letters will remain unchanged if each of the letter in the word 'ACQUIRE' is arranged in alphabetical order?
1. Three　　　**2.** Four　　　**3.** Two　　　**4.** One

47. Select the correct mirror image of the given figure when the mirror is placed at MN as shown.
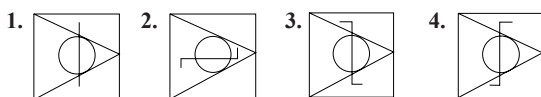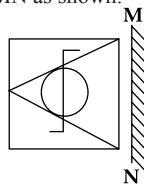
48. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.
A_CD_CDAC_AB_ABC
1. AACD　　**2.** AABB　　**3.** BBDD　　**4.** BDBD

49. Identify the figure given in the options which when put in place of the question mark (?) will logically complete the series.
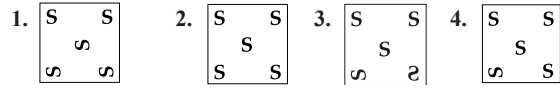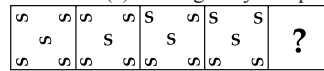
50. Select the set in which the numbers are related in the same way as are the numbers of the given sets.
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g.. 13 – Operations on 13 such as adding/ deleting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)
11 : 87 : 34
6 : 28 : 8
1. 9 : 25 : 54　　　　**2.** 7 : 35 : 12
3. 8 : 19 : 47　　　　**4.** 12 : 81 : 63

Quantitative Aptitude

51. The table below shows the laptop sold on different days by different wholesalers. Study the table and answer the questions that follow.

	Monday	Tuesday	Wednesday	Thursday	Friday
Wholesaler 1	22	20	14	24	10
Wholesaler 2	46	45	06	14	8
Wholesaler 3	18	40	07	15	19
Wholesaler 4	23	30	32	06	26

Laptop sold by wholesaler 1 and wholesaler 2 together on Thursday is what percent of laptop sold by wholesalers 3 on Friday?
1. 200%　　**2.** 150%　　**3.** 100%　　**4.** 50%

52. Find the area of a right-angled triangle whose base is 12 cm and hypotenuse is 13 cm.
1. 30 cm^2　　**2.** 55 cm^2　　**3.** 65 cm^2　　**4.** 22 cm^2

53. Find the value of $\tan(50 + \theta) - \cot(40 - \theta)$.
1. $\dfrac{1}{2}$　　　**2.** –1　　　**3.** 0　　　**4.** 1

54. In 2021, Sam received an annual increment in his salary by 40% but due to recession in 2022, company started taking cost cutting measures and his salary was reduced by 15%. What was the net change in his salary?
1. 17% increase　　　　**2.** 19% increase
3. 9% decrease　　　　**4.** 11% increase

55. A rod of 5 cm radius and 52 cm length is converted into a wire of 100 cm length of uniform thickness. The radius of the wire (in cm) is:
1. $\sqrt{13}$　　**2.** $\sqrt{15}$　　**3.** $\sqrt{23}$　　**4.** $\sqrt{17}$

56. If $\left(y^2 + \dfrac{1}{y^2} \right) = 74$ and $y > 1$, find the value of $\left(y - \dfrac{1}{y} \right)$.
1. $6\sqrt{2}$　　**2.** $-2\sqrt{19}$　　**3.** $2\sqrt{19}$　　**4.** $-6\sqrt{2}$

57. If a sum of money at simple interest becomes 45 times in 110 years, then in how many years will that sum become 23 times?
1. 48　　　**2.** 60　　　**3.** 55　　　**4.** 50

58. Two trains 320 m and 205 m in length are running towards each other on parallel lines. One train runs at the rate of 70 kmph and the other train runs at the rate of 56 kmph. Find the time they will take to cross each other (in seconds).
　1. 10　　　　　**2.** 20　　　　　**3.** 12　　　　　**4.** 15

59. A can complete a task in the same time in which B and C work together. If A and B could complete it jointly in 10 days and C alone in 50 days, then B could complete it independently in:
　1. 26 days　　**2.** 27 days　　**3.** 25 days　　**4.** 23 days

60. What is the value of $(1 - \sin^2 A)\,\text{cosec}^2 A$?
　1. $\cot^2 A$　　**2.** $\cos^2 A$　　**3.** $\tan^2 A$　　**4.** $\sin^2 A$

61. If $3x - 2y = 3$ and $xy = 9$, then find the value of $3x + 2y$.
　1. 16　　　　　**2.** 13　　　　　**3.** 14　　　　　**4.** 15

62. Study the table given below and answer the question that follows.
The table below shows the total number of students studying different subjects in a college and the percentage of boys and girls.

Subject	Number of Students	Percentage of Girls	Percentage of Boys
Hindi	110	60	40
English	70	50	50
Physics	50	30	70
Chemistry	40	80	20
Mathematics	80	20	80
Computers	90	40	60

What is the ratio of the total number of girls in all the subjects to that of boys in all the subjects?
　1. 5 : 6　　**2.** 7 : 9　　**3.** 6 : 7　　**4.** 2 : 3

63. Simplify the following:
$18 \times [24 \div 70 \times \{25 \times 49 \div (5 \times 7)\}]$
　1. 218　　**2.** 216　　**3.** 215　　**4.** 220

64. A 40-litre mixture of milk and water contains milk and water in the ratio of 7 : 3. How many litres of water should be added to the mixture so that the resulting mixture has 60% of water in it?
　1. 30　　　　**2.** 35　　　　**3.** 20　　　　**4.** 25

65. Δ ABC inscribe in a circle with center O, if AB = 9 cm, BC = 40 cm and AC = 41 cm, then what is the circum-radius of a triangle?
　1. $20\frac{1}{2}$ cm　　　　　　**2.** $12\frac{1}{2}$ cm
　3. $18\frac{1}{2}$ cm　　　　　　**4.** $16\frac{1}{2}$ cm

66. The compound interest accrued on a sum of ₹20,000 at the end of 2 years compounded annually is ₹2,050. Find the compound interest at the end of the 3rd year.
　1. ₹3,153.50　　　　**2.** ₹2,852.50
　3. ₹3,152.50　　　　**4.** ₹3,154.50

67. If $\tan 15° = 2 - \sqrt{3}$, then the value of tan 15° cot 75° + tan 75° cot 15° is:
　1. 6　　　　**2.** 10　　　　**3.** 8　　　　**4.** 14

68. A certain sum was to be divided between A and B in the ratio 8 : 5. However, be mistake, it was divided in the ratio 5 : 8. Thus, A gets ₹300 less than his original share. Find the sum.
　1. ₹2,600　　**2.** ₹1,500　　**3.** ₹1,300　　**4.** ₹600

69. Akash sold a motorcycle to Navin at a profit of 10%. Navin sold it to Vinay at a profit of 20%. Vinay sold it to Vishal at a loss of 5%. If Vishal paid 162,700 for the motorcycle, then what was the cost of the motorcycle (in ₹) for Akash?
　1. 48,000　　**2.** 48,500　　**3.** 52,500　　**4.** 50,000

70. The perimeters of two similar triangles XYZ and PQR are respectively 62 cm and 42 cm. If PQ = 21 cm, find XY.
　1. 27 cm　　**2.** 28 cm　　**3.** 29 cm　　**4.** 31 cm

71. If $px + qy = 1$ and $qx + py = \dfrac{2pq}{p^2 + q^2}$, then $(x^2 + y^2)(p^2 + q^2)$ is equal to:
　1. 2　　　　**2.** 3　　　　**3.** 0　　　　**4.** 1

72. The radii of two circles are 9 cm and 4 cm, the distance between their centres is 13 cm, then the length of the direct common tangent is:
　1. 8 cm　　**2.** 14 cm　　**3.** 12 cm　　**4.** 16 cm

73. If an electricity bill is paid before the due date, one gets a reduction of 13% on the amount of the bill. By paying the bill before the due date, Ravi got a reduction of ₹260.39. The amount of his electricity bill (in ₹) was:
　1. 2,003　　**2.** 2,580　　**3.** 2,230　　**4.** 2,064

74. A salesman marks his goods 30% above the cost and gives a discount of 10% on them. Find his gain or loss percentage.
　1. Loss 7%　　**2.** Gain 7%　　**3.** Loss 17%　　**4.** Gain 17%

75. Study the given pie-chart and answer the question that follows.
Percentage-wise distribution of teachers in six different subjects in a school is given in the pie-chart. The total number of teachers is 600. The ratio of male and female teachers is 3 : 1.
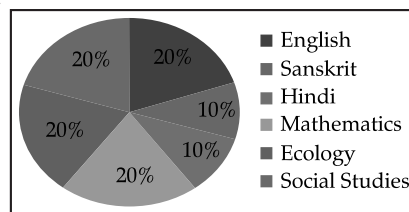
Find the ratio of teachers in English, Sanskrit and Hindi to teachers in Mathematics, Biology and Social Studies.
　1. 2 : 5　　**2.** 1 : 2　　**3.** 2 : 3　　**4.** 1 : 5

General Awareness

76. Which is the most powerful river in the world in terms of its volume and extensive drainage into the Atlantic Ocean?
　1. Congo　　**2.** Amazon　**3.** Amur　　**4.** Nile

77. Who among the following was India's sherpa for the G20 summit 2023?
　1. Amitabh Kant　　　　**2.** B.V.R. Subrahmanyam
　3. Arvind Panagariya　　**4.** Suman Bery

78. The law of octaves asserts that every eighth element has comparable properties when grouped in increasing order of their atomic masses and is also known as:
　1. Gravity relation　　　**2.** Doppler relation
　3. Coulomb's relation　　**4.** Newland's relation

79. Which of the following regions in India is nicknamed as the storehouse of minerals?
　1. Deccan Plateau　　　**2.** Western Ghats
　3. Chota Nagpur　　　　**4.** Himalayas

80. Which of the following is consistent with import substitution policy?
　1. Capital account convertibility
　2. Flexible exchange rate policy
　3. Tariffs and quotas
　4. Current account convertibility

81. Which of the following will be considered as normal residents of India?
　A. Indians working in foreign embassies in India
　B. Ambassador for India in rest of the world
　1. Only A　　　　　　**2.** Only B
　3. Both A and B　　　　**4.** Neither A nor B

82. Which of the following is the most problematic and primary difficulty of barter exchanges as against money-based exchanges?
1. Bartered exchanges involve difficulty in preserving value.
2. Barter exchanges may result in an incorrect valuation of the goods transacted.
3. Barter exchanges may be imperfectly divisible.
4. Barter exchanges require a double coincidence of wants.

83. Who among the following personalities is a professional Kuchipudi Dancer?
1. Radha Sridhar
2. Surupa Sen
3. Anupama Hoskere
4. Kaushalya Reddy

84. Which region has the maximum concentration of Iron and Steel industries?
1. Shillong Plateau
2. Deccan Plateau
3. Chota Nagpur Plateau
4. Malwa Plateau

85. Who among the following has been accused of committing the judicial murder of Raja Nand Kumar?
1. Lord Wellesly
2. Lord Dalhousie
3. Lord Cornwallis
4. Warren Hastings

86. In which year did Swami Dayanand Saraswati establish Arya Samaj?
1. 1875
2. 1867
3. 1828
4. 1887

87. Which of the following is a transfer payment?
a. Unemployment allowances b. Scholarships
c. Retirement pension
1. Only a
2. All of a, b and c
3. Only a and b
4. Only c

88. Which equation was verified by American scientists Nichols and Hull in 1903 by measuring the radiation pressure of visible light?
1. $Pr = C/N$
2. $P = L/M$
3. $P = F/A$
4. $P = U/C$

89. Match the items in list I with those in list II.

Measure of Money Supply	Formula
i. M_1	a. $M_1 + T_d$
ii. M_2	b. $C_p + D_d + O_d$
iii. M_3	c. $M_3 + TPO_d$
iv. M_4	d. $M_1 + POSB_d$

1. i-d, ii-a, iii-c, iv-b
2. i-b, ii-d, iii-a, iv-c
3. i-a, ii-d, iii-b, iv-c
4. i-c, ii-b, iii-a, iv-d

90. Sheorinarayan fair is held in which of the following states?
1. West Bengal
2. Jharkhand
3. Chhattisgarh
4. Madhya Pradesh

91. Where is Bhimrao Ambedkar Multipurpose Stadium situated?
1. Faizabad
2. Ghaziabad
3. Kanpur
4. Patna

92. Which of the following Articles of the Indian Constitution has the idea that 'No child below the age of fourteen years shall be employed to work in any factory or mine or engaged in any other hazardous employment?
1. Article 22
2. Article 24
3. Article 19
4. Article 20

93. Totaram Sharma is associated with which of the following instruments?
1. Tanpura
2. Panchavadyam
3. Pakhawaj
4. Sarangi

94. The founders of Vijayanagara Empire were the feudatories of which of the following dynasties?
1. Hoysala
2. Pandya
3. Kakatiya
4. Chola

95. The Pakhawaj syllables are primarily used to conclude which of the following Indian classical dances?
1. Manipuri
2. Kathak
3. Odissi
4. Kathakali

96. Who among the following was a member of the Drafting Committee of the Constituent Assembly?
1. Dr. KM Munshi
2. BN Rao
3. TT Krishnamachari
4. N Madhav Rau

97. Which of the following is the official sponsor of the Indian contingent at Hangzhou Asian Games?
1. Unacademy
2. Byju's
3. Amul
4. Pepsico

98. In which of the following cities was the 43rd ASEAN summit held in September 2023?
1. Jakarta
2. Kaula Lumpur
3. Vientiane
4. Hanoi

99. Which of the following is the first city in India to measure its progress towards achieving the Sustainable Development Goals (SDGs)?
1. Lucknow
2. Pune
3. Bhopal
4. Chandigarh

100. In which year did Rudolf Ludwig Karl Virchow formulate his famous aphorism 'Omnis cellula-e cellula' which became a part of the foundation of cell theory?
1. 1855
2. 1869
3. 1840
4. 1835

Answer Key

1.	(4)	**2.**	(4)	**3.**	(3)	**4.**	(2)	**5.**	(1)	**6.**	(3)	**7.**	(2)	**8.**	(3)	**9.**	(2)	**10.**	(4)
11.	(2)	**12.**	(4)	**13.**	(3)	**14.**	(1)	**15.**	(2)	**16.**	(1)	**17.**	(2)	**18.**	(3)	**19.**	(4)	**20.**	(4)
21.	(4)	**22.**	(4)	**23.**	(2)	**24.**	(4)	**25.**	(1)	**26.**	(4)	**27.**	(4)	**28.**	(4)	**29.**	(4)	**30.**	(2)
31.	(4)	**32.**	(4)	**33.**	(3)	**34.**	(4)	**35.**	(3)	**36.**	(2)	**37.**	(4)	**38.**	(2)	**39.**	(1)	**40.**	(1)
41.	(2)	**42.**	(2)	**43.**	(4)	**44.**	(4)	**45.**	(3)	**46.**	(1)	**47.**	(3)	**48.**	(3)	**49.**	(4)	**50.**	(4)
51.	(1)	**52.**	(1)	**53.**	(3)	**54.**	(2)	**55.**	(1)	**56.**	(1)	**57.**	(3)	**58.**	(4)	**59.**	(3)	**60.**	(1)
61.	(4)	**62.**	(1)	**63.**	(2)	**64.**	(1)	**65.**	(1)	**66.**	(3)	**67.**	(4)	**68.**	(3)	**69.**	(4)	**70.**	(4)
71.	(4)	**72.**	(3)	**73.**	(1)	**74.**	(4)	**75.**	(3)	**76.**	(2)	**77.**	(1)	**78.**	(4)	**79.**	(3)	**80.**	(3)
81.	(3)	**82.**	(4)	**83.**	(4)	**84.**	(3)	**85.**	(4)	**86.**	(1)	**87.**	(2)	**88.**	(4)	**89.**	(2)	**90.**	(3)
91.	(1)	**92.**	(2)	**93.**	(3)	**94.**	(3)	**95.**	(3)	**96.**	(1)	**97.**	(3)	**98.**	(1)	**99.**	(3)	**100.**	(1)

Answers with Explanations

1. Option (4) is correct.
Dynamic means continuously changing or developing. So 'energetic' is the correct synonym.

2. Option (4) is correct.
The word 'archive' in 'The museum's archive is a great place to find valuable artifacts such as ancient Manuscripts' implies a collection of historical documents or records. A collection of essays is referred to as an anthology; a room to store lots of books is called a library; an archive is not a room to store important official documents.

3. Option (3) is correct.
The word 'guile' implies 'deceitful cunning'. Options (1) and (2) are synonyms. Only 'honesty' justifies as the antonym.

4. Option (2) is correct.
Ants hoard food during the summer and save it for winter. To hoard refers to accumulating items, while to horde is to gather as a group.

5. Option (1) is correct.
An owl was hooting throughout the night. Here, 'a owl was' will be replaced by 'an owl was'. This is so because, 'owl' has a vowel sound, and with such sounds we use 'an' not 'a'.

6. Option (3) is correct.

Anarchist is a person who rebels against any authority, established order, or ruling power. Amateur is a person who engages in a study, sport, or other activity for pleasure rather than for financial benefit or professional reasons. Anthropologist is one who studies the evolution of mankind. Antagonist is one that contends with or opposes another.

7. Option (2) is correct.

Redeem means to buy or win back. While 'violated' implies to break a rule, an agreement, etc. other options hardly justify.

8. Option (3) is correct.

Robust means strong and healthy; Stagnant means not growing or developing; portable refers to something to be easily carried or moved. Fragile implies easily damaged or broken. Therefore, the correct answer is 'portable'.

9. Option (2) is correct.

Chronology is the science that deals with measuring time by regular divisions and that assigns to events their proper dates. Octogenarian is a person aged between 80 and 89 years. Utopia is a place of ideal perfection especially in laws, government, and social conditions. Therefore, the correct answer is 'utopia'.

10. Option (4) is correct.

Ill nature is the quality of being <u>bad-tempered</u>. Illicit means unlawful. Ill-fated means unfortunate; Ill health means poor physical or mental condition. So, the correct answer is 'Ill health'.

11. Option (2) is correct.

They were lying in the sun the entire morning till Sudharshan came. We use the past continuous tense to show a past action that has been interrupted. Here the arrival of Sudharshan interrupts the act of laying down in the sun. Therefore, 'were lying' will replace 'were laid'.

12. Option (4) is correct.

The spelling 'exilarete' is incorrect. It should be 'exhilarate' (meaning excitement).

13. Option (3) is correct.

The sentence 'I was never supported by my family' is in passive voice. In voice change, the object of the active <u>verb</u> becomes the <u>subject</u> of the passive verb. (Active) Subject + 2nd verb form + Object/Noun. You were taught by me. (Passive) Subject + was/were + Past participle form verb + by + object. My family never supported me.

14. Option (1) is correct.

The famous author clearly mentioned all the names of his friends in the acknowledgment of the book. The part 'acknolledgments of the book' will be replaced by 'acknowledgment of the book'. Acknowledgment means 'the fact of accepting that something is true or right'.

15. Option (2) is correct.

Mean implies someone who is unkind and behaves in a hurtful or aggressive way towards others.; whereas 'noble' means 'having, showing, or coming from personal qualities that people admire (such as honesty, generosity, courage, etc.)'.

16. Option (1) is correct.

The idiom 'On the cards' means 'likely to happen'. 'Not worth his salt' means 'not worth the cost or value.' 'With due respect' is used for expressing polite disagreement. 'Done to death' means 'to repeat too often, to the point of becoming monotonous and boring.' So, something is 'due' means it is 'on the cards'.

17. Option (2) is correct.

The correct sequence of the parts of sentence is : C, A, D, B. C starts with the subject 'the agent- the royal style'. This will be followed by an object in A 'agent in social evolution'. The

idea of cultural patterns being transmitted by the dominant caste is due to its higher standard of living. So, the logical sentence is: The royal style is the agent in social evolution by imitation and cultural patterns are similarly transmitted by the dominant caste by reason of its higher standard of living.

18. Option (3) is correct.

The sentence 'An agitated gathering of workers in the company disturbed the meeting' is in active voice. In voice change, the object of the active <u>verb</u> becomes the <u>subject</u> of the passive verb. (Active) Subject + 2nd verb form + Object/Noun. You were taught by me. (Passive) Subject + was/were + Past participle form verb + by + object. The meeting was disturbed by an agitated gathering of workers in the company.

19. Option (4) is correct.

The idiom "cost an arm and a leg" is used to describe something that is extremely expensive or comes at a very high price. To be very expensive.

20. Option (4) is correct.

The reign of the company's CEO was widely praised for her innovative leadership. 'Reign' means 'to exercise authority in the manner of a monarch'.

21. Option (4) is correct.

Globalisation is not a new concept. 'Concept' means an idea/principle. Globalisation cannot be referred to as power/variation/design.

22. Option (4) is correct.

Traders travelled vast distances in ancient times to buy commodities that were rare and expensive for sale in their homelands. The reason behind traders travelling vast distances to buy commodities could be that the products were expensive as they were rare ones. Other options do not qualify for the commodities being expensive.

23. Option (2) is correct.

The Industrial Revolution brought advances in transportation and communication in the 19th century that eased trade across borders. It is easy to conclude that the Industrial Revolution has brought in development in transportation and communication in the 19th century.
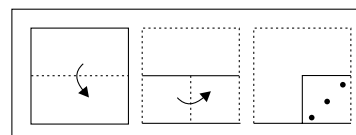
24. Option (4) is correct.

The think tank, Peterson Institute for International Economics (PIIE), states globalisation stalled after World War I. 'Stalled' means at a standstill.
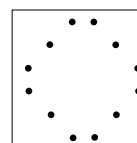
25. Option (1) is correct.

After World War I and nations moved toward protectionism as they launched import taxes to more closely guard their industries in the aftermath of the conflict. Protectionism refers to government policies that restrict international trade to help domestic industries. The meaning is evident in the part 'they launched import taxes to more closely guard their industries in the aftermath of the conflict.'

26. Option (4) is correct.
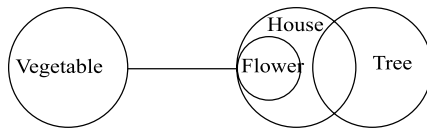
Given figure:

The paper when unfolded looks like:

27. Option (4) is correct.

According to the given statements, following venn diagram can be made:

Hence, Only conclusion III follows.

28. Option (4) is correct.

Given that: 4 B 18 D 5 C 9 A 9 = ?

After putting the signs, we get

$4 \times 18 - 5 + 9 \div 9$

Now, according to the BODMAS rule,

$= 4 \times 18 - 5 + 1 = 68$

29. Option (4) is correct.

Given that: $88 + 8 - 17 \times 16 \div 40 = ?$

After interchanging the signs, we get

$88 \div 8 \times 17 - 16 + 40$

Now, according to the BODMAS rule,

$= 11 \times 17 + 24 = 211$

30. Option (2) is correct.

Given that:

BALD → 7680

DRAB → 8097

If we compare both of the words we get,

The codes for the alphabets D, R, A, B are 8, 0, 9, 7 (In random order), indicating that the only different letter remaining is 'L.'

Therefore, there is only 1 digit left for 'L' which is 6.

31. Option (4) is correct.

Given that: A_DE FGI__LNQ PQ_T UV_Y

After inserting alphabets in the series from option (4) sequentially, we get

A**B**DE FGI**J K**LNQ PQ**S**T UV**X**Y

Here, all the letters of each set are increasing by 5.

Hence, it forms a logical series.

32. Option (4) is correct.

Given pair: Heat : Cold

As we know, heat and cold are antonyms to each other. Therefore, Option (4) is the only pair which are opposite to each other. Demolish means to completely destroy a building, structure or an object. Whereas, Build means to create or construct a structure or an object.

Hence, both of the words are antonyms to each other.

33. Option (3) is correct.

As per the pattern followed,

Given that:

And,

Similarly,

So, GHEI is related to KLIM with same logic.

34. Option (4) is correct.

The pattern followed here is, 2nd term is completely divisible by the 1st term.

Except option (4), all the options are following the same pattern.

Hence, it is the odd one out.

35. Option (3) is correct.

Given that:

QUEZAL ⟶ 82

LUCKY ⟶ 72

Here, the positional values of the alphabets are added.

Hence, ADVERSE will be coded as 74.

36. Option (2) is correct.

As per the pattern followed,

Given that:

And,

Similarly,

So, EGCI is related to MOKQ with same logic.

37. Option (4) is correct.

The pattern followed here is that, 1st term is multiplied by it's preceeding number to get the 2nd term.

Let's check the options:

(1) 5 : 20

$5 \times 4 = 20$

(2) 4 : 12

$4 \times 3 = 12$

(3) 7 : 42

$7 \times 6 = 42$

(4) 6 : 36

$6 \times 5 = 30$

Hence, option (4) is the odd one out.

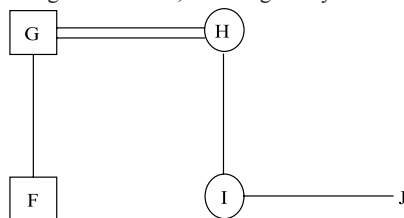**38. Option (2) is correct.**

As per the pattern followed,

(1) W $\xrightarrow{+3}$ Z $\xrightarrow{+2}$ B

(2) U $\xrightarrow{+2}$ W $\xrightarrow{+1}$ X

(3) O $\xrightarrow{+3}$ R $\xrightarrow{+2}$ T

(4) G $\xrightarrow{+3}$ J $\xrightarrow{+2}$ L

Hence, UWX is the odd one out.

39. Option (1) is correct.

Given that: $F \times G - H \div I + J$

After decoding the statement, following family tree can be made:

Hence, F is the brother of J.

40. Option (1) is correct.

Given that: It was a Sunday on 09th July, 1978

Let's count the number of odd days for each year which needs to be added in Sunday.

1978 = +1

1979 = +1

1980 = +2   [Due to leap year]

1981 = +1

1982 = +1

Total no. of odd days = 6 days

So, 6 days ahead of Sunday will be a Saturday (On 09th July 1983)

And, the number of days between 09th July 1983 and 19th September 1983 are 72 = 10 weeks and 2 odd days.

Hence, counting 2 days ahead of Saturday, it will be Monday.

Note: A Non-leap year consists of 365 days, which is when divided by 7 (a week) results in 52 weeks and a remainder of 1, known as an odd day.

A leap year consists of 366 days, which is when divided by 7 (a week) results in 52 weeks and a remainder of 2, known as odd days.
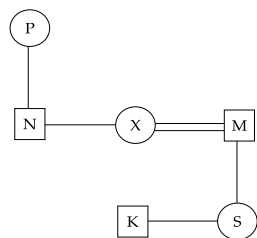
41. Option (2) is correct.
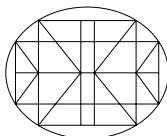
A total of 28 triangles can be seen in the given figure.

42. Option (2) is correct.

According to the question, following family tree can be made.

Hence, K is the daughter's son of P.

43. Option (4) is correct.

Given series: 23 31 47 71 103 X

As per the pattern followed here,

A multiple of 8 is added in the 1st term to obtain the next term.

23 + 8 = 31

31 + 16 = 47

47 + 24 = 71

71 + 32 = 103

103 + 40 = **143**

Hence, the missing number is 143.

44. Option (4) is correct.
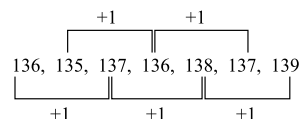
Hence, the missing number is 139.

45. Option (3) is correct.

Given that:

(15, 96)

(35, 216)

The pattern followed here is:

(1st term × 6) + 6 = 2nd term

Checking option (3), (29, 180)

(29 × 6) + 6 = 180

Hence, it follows the same pattern.

46. Option (1) is correct.

Given word: ACQUIRE

After arranging them in alphabetical series, we get,

ACEIQRU,

Hence, position of 3 alphabets will remain the same i.e. A, C, R.

47. Option (3) is correct.
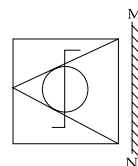
Given figure:

As per the pattern followed and symmetry, the required figure is:
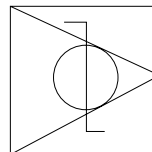
48. Option (3) is correct.

Given series: A_CD_CDA C_AB_ABC

After inserting alphabets from option (3), we get

A**B**CD **B**CDA C**D**AB **D**ABC

Hence, it forms logical series.

49. Option (4) is correct.
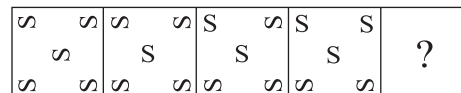
Given figure:

As per the pattern followed and symmetry, the required figure is:
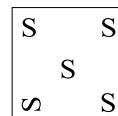
50. Option (4) is correct.

Given that :   11 : 87 : 34

                    6 : 28 : 8

Given pattern : $\left(\dfrac{87}{11}\right)_{Remainder} = -1$

and $\left(\dfrac{34}{11}\right)_{Remainder} = +1$

same for, 6 : 28 : 8,

$$\left(\frac{28}{6}\right)_{Remainder} = -2$$

and

$$\left(\frac{8}{6}\right)_{Remainder} = +2$$

So, in both cases remainders are same with different sign.
From given options, 12 : 81 : 63 is following the same.

$$\left(\frac{81}{12}\right)_{Remainder} = -3$$

$$\left(\frac{83}{12}\right)_{Remainder} = +3$$

51. Option (1) is correct.
Laptop sold by wholesaler 1 and wholesaler 2 together on thursday = 24 + 14 = 38
Laptop sold by the wholesaler 3 on friday = 19

Required percentage = $\frac{38}{19} \times 100\% = 200\%$

52. Option (1) is correct.
Base of triangle = 12 cm
Hypotenuse of triangle = 13 cm
∴ Altitude of triangle = $\sqrt{13^2 - 12^2} = \sqrt{25} = 5$ cm
[By pythagoras theorem]

Area of triangle = $\frac{1}{2} \times 12 \times 5 = 30$ cm^2

53. Option (3) is correct.
$\tan[50° + \theta] - \cot[40° - \theta]$
$= \tan[50° + \theta] - \tan[90° - (40° - \theta)]$
[∵ tan (90° – A) = cot A]
$= \tan[50° + \theta] - \tan[50° + \theta]$
$= 0$

54. Option (2) is correct.
Let salary of Som = ₹100
∴ His salary after 40% increment = ₹140

His salary after 15% reduction $= \left[\frac{100 - 15}{100}\right] \times 140$

$= \frac{85 \times 14}{10} = 119$

∴ Net change in his salary is 19% increase.

55. Option (1) is correct.
Radius of rod, $r_1 = 5$ cm

Length of rod, $h_1 = 52$ cm

Length of wire, $h_2 = 100$ cm

Radius of rod, $r_2 = x$ cm (Assume)

According to question,

$$\pi r_1^2 h_1 = \pi r_2^2 h_2$$

$\Rightarrow \qquad 5 \times 5 \times 52 = r_2^2 \times 100$

$\Rightarrow \qquad \frac{52}{4} = x^2$

$\Rightarrow \qquad x^2 = 13$

$\Rightarrow \qquad x = \sqrt{13}$ cm

Radius of wire, $r_2 = \sqrt{13}$ cm

56. Option (1) is correct.

$$y^2 + \frac{1}{y^2} = 74$$

$\Rightarrow \quad y^2 + \frac{1}{y^2} - 2 \times y \times \frac{1}{y} = 74 - 2$

$\Rightarrow \qquad \left(y - \frac{1}{y}\right)^2 = 72$

$\Rightarrow \qquad y - \frac{1}{y} = \sqrt{72} = 6\sqrt{2}$

57. Option (3) is correct.
Let principal amount = P
Rate of interest = $r\%$
According to first condition

$$44P = \frac{P \times r \times 110}{100} \qquad \left[\because S.I. = \frac{P \times r \times t}{100}\right]$$

$r = 40\%$

Let sum will be become 23 times in x years.

$\Rightarrow \qquad 22P = \frac{P \times r \times x}{100}$

$\Rightarrow \qquad 22 = \frac{40x}{100}$

$\Rightarrow \qquad \frac{2200}{40} = x$

$\Rightarrow \qquad x = 55$ years.

58. Option (4) is correct.
Total length of both trains, $d = 320 + 205 = 525$ m
Relative speed of both trains = (70+56) km/h

$$= 126 \times \frac{5}{18} \text{ m/s} = 35 \text{ m/s}$$

Required time to cross each other = $\frac{525}{35} = 15$ seconds.

59. Option (3) is correct.
A can complete work in days = x
$\Rightarrow$ B and C can complete work in days = x
C can complete work in days = 50
According to question

$$\frac{1}{A} = \frac{1}{B} + \frac{1}{C} = \frac{1}{x} \qquad \dots(i)$$

$\Rightarrow \qquad \frac{1}{A} = \frac{1}{B} + \frac{1}{50} = \frac{1}{x}$

$\Rightarrow \qquad \frac{1}{B} = \frac{1}{x} - \frac{1}{50} \qquad \dots(ii)$

Also, $\qquad \frac{1}{A} + \frac{1}{B} = \frac{1}{10}$

$\Rightarrow \quad \dfrac{1}{x} + \dfrac{1}{x} - \dfrac{1}{50} = \dfrac{1}{10}$ [Using (i) & (ii)]

$\Rightarrow \quad \dfrac{2}{x} = \dfrac{1}{10} + \dfrac{1}{50} = \dfrac{5+1}{50} = \dfrac{6}{50}$

$\Rightarrow \quad \dfrac{1}{x} = \dfrac{3}{50}$

ut in equation (ii),

$\Rightarrow \quad \dfrac{1}{B} = \dfrac{3}{50} - \dfrac{1}{50} = \dfrac{2}{50} = \dfrac{1}{25}$

∴ B can complete the work in 25 days.

60. Option (1) is correct.

$\left(1 - \sin^2 A\right) . \operatorname{cosec}^2 A$

$= \cos^2 A . \operatorname{cosec}^2 A$ $\left[\because \sin^2 A + \cos^2 A = 1 \right]$

$= \cos^2 A . \dfrac{1}{\sin^2 A}$ $\left[\because \operatorname{cosec} A = \dfrac{1}{\sin A} \right]$

$= \left(\dfrac{\cos A}{\sin A} \right)^2 = \cot^2 A$ $\left[\because \ \dfrac{\cos A}{\sin A} = \cot A \right]$

61. Option (4) is correct.

$3x - 2y = 3$

Squaring both sides

$\left(3x - 2y\right)^2 = 3^2$

$\Rightarrow 9x^2 + 4y^2 - 12xy = 9$

$\Rightarrow \ 9x^2 + 4y^2 = 9 + 12xy = 9 + 12 \times 9 = 117$ ...(i)

$3x+2y = \sqrt{\left(3x + 2y\right)^2} = \sqrt{9x^2 + 4y^2 + 12xy}$

$= \sqrt{117 + 12 \times 9} = \sqrt{117 + 108}$

[Using equation (i)]

$= \sqrt{225} = 15$

62. Option (1) is correct.

Total number of girls

$= \dfrac{60}{100} \times 110 + \dfrac{50}{100} \times 70 + \dfrac{30}{100} \times 50 + \dfrac{80}{100} \times 40 +$

$\dfrac{20}{100} \times 80 + \dfrac{40}{100} \times 90 = 200$

∴ Total number of boys

$= 110 + 70 + 50 + 40 + 80 + 90 - 200$

$= 240$

Required ratio $= \dfrac{200}{240} = \dfrac{5}{6} = 5:6$

63. Option (2) is correct.

$18 \times [24 \div 70 \times \{25 \times 49 \div (5 \times 7)\}]$

$= 18 \times [24 \div 70 \times \{25 \times 49 \div 35\}]$

$= 18 \times [24 \div 70 \times (35)]$

$= 18 \times \left[\dfrac{24}{70} \times 35 \right] = 18 \times 12 = 216$

64. Option (1) is correct.

Ratio of milk and water = 7:3

∴   Milk in mixture $= \dfrac{7}{10} \times 40 = 28$ litres

Water in mixture = 12 litres

Let we added x litre water in mixture.

∴ Percentage of water in mixture $= \dfrac{12 + x}{40 + x} \times 100$

According to the question,

$\Rightarrow \quad 60 = \dfrac{12 + x}{40 + x} \times 100$

$\Rightarrow \quad 240 + 6x = 120 + 10x$

$\Rightarrow \quad 4x = 120$

$\Rightarrow \quad x = 30$

We need to add 30 litre water in mixture.

65. Option (1) is correct.

$\because \ AC^2 = AB^2 + BC^2$

$= 9^2 + 40^2 = 1681 = 41^2$

∴ ΔABC is a right triangle and hypotenuse

$= AC = 41$

∴ Circumradius $= \dfrac{AC}{2} = \dfrac{41}{2} = 20.5 \text{ cm} = 20\dfrac{1}{2}$ cm

66. Option (3) is correct.

Principal, P = ₹20000

Time period, $t = 2$ years

Rate of interest = r% compounded annually

∴ $C.I. = P \left[1 + \dfrac{r}{100} \right]^2 - P$

$\Rightarrow \quad 2050 = 20000 \left[1 + \dfrac{r}{100} \right]^2 - 20000$

$\Rightarrow \quad \left[1 + \dfrac{r}{100} \right]^2 = \dfrac{22050}{20000}$

$\Rightarrow \quad 1 + \dfrac{r}{100} = 1.05$

$\Rightarrow \quad r = 5\%$

Now, C.I. after 3 years

$= 20000 \left[1 + \dfrac{5}{100} \right]^3 - 20000$

$= ₹3152.5$

67. Option (4) is correct.

$\because \quad \tan 15° = 2 - \sqrt{3}$

$\Rightarrow \quad \cot [90° - 15°] = 2 - \sqrt{3}$

$\left[\tan \theta = \cot \left(90 - \theta\right) \right]$

$\Rightarrow \quad \cot 75° = 2 - \sqrt{3}$

Now, $\tan 15° . \cot 75° + \tan 75° . \cot 15°$

$= \left(2 - \sqrt{3}\right) + \dfrac{1}{\cot 75°} \times \dfrac{1}{\tan 15°}$

$= \left(4 + 3 - 4\sqrt{3}\right) + \dfrac{1}{\left(2 - \sqrt{3}\right)\left(2 - \sqrt{3}\right)\left(2 - \sqrt{3}\right)}$

$= 7 - 4\sqrt{3} + \dfrac{1}{7 - 4\sqrt{3}}$

$= 7 - 4\sqrt{3} + \dfrac{7 + 4\sqrt{3}}{49 - 48}$

$= 7 - 4\sqrt{3} + 7 + 4\sqrt{3}$

$= 14$

68. Option (3) is correct.

Let the amount to be divided = ₹13x

A's original share = $\dfrac{8}{13}$ ×13x = ₹8x

A's wrongly given share = $\dfrac{5}{13}$ ×13x = ₹5x

According to question

$8x - 5x = 300$

$\Rightarrow \qquad 3x = 300$

$\Rightarrow \qquad x = 100$

$\therefore \qquad$ Amount = 13×100 = ₹1300

69. Option (4) is correct.

Let cost for Akash = ₹x

Cost for Navin = $\dfrac{110}{100}x = \dfrac{11}{10}x$ [10% Profit]

Cost for Vinay = $\dfrac{120}{100}\times\dfrac{11}{10}x = \dfrac{12\times 11}{100}x$ [20% Profit]

Cost for Vishal = $\dfrac{95}{100}\times\dfrac{12\times 11}{100}x$ [5% Loss]

According to question

$\Rightarrow \qquad \dfrac{95\times 12\times 11}{100\times 100}x = 62700$

$\Rightarrow \qquad x = ₹50000$

So, Cost for Akash = ₹50000

70. Option (4) is correct.

$\because \Delta XYZ \sim \Delta PQR$

$\Rightarrow \dfrac{\text{Perimeter of }\Delta XYZ}{\text{Perimeter of }\Delta PQR} = \dfrac{XY}{PQ}$ [C.P. S.T]

$\Rightarrow \qquad \dfrac{62}{42} = \dfrac{XY}{21}$

$\Rightarrow \qquad XY = \dfrac{62}{2} = 31$ cm

71. Option (4) is correct.

$px + qy = 1$ ...(i)

$qx + py = \dfrac{2pq}{p^2+q^2}$ ...(ii)

From equation (i),

$x = \dfrac{1-qy}{p}$

Put the value of x in equation (ii),

$q\left(\dfrac{1-qy}{p}\right) + py = \dfrac{2pq}{p^2+q^2}$

$\Rightarrow \qquad \dfrac{q-q^2y+p^2y}{p} = \dfrac{2pq}{p^2+q^2}$

$\Rightarrow \qquad y(p^2-q^2) = \dfrac{2p^2q}{p^2+q^2} - q$

$\Rightarrow \qquad (p^2-q^2)y = \dfrac{q(p^2-q^2)}{p^2+q^2}$

$\Rightarrow \qquad y = \dfrac{q}{p^2+q^2}$

After putting the value of y in eqn. (i), $x = \dfrac{p}{p^2+q^2}$

So, value of $(x^2+y^2)(p^2+q^2) = \dfrac{(p^2+q^2)}{(p^2+q^2)^2}\times(p^2+q^2) = 1$

Hence, (4) is the correct answer.

72. Option (3) is correct.

As per given figure will be:
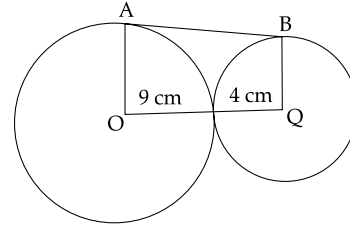
Here, $d = 13$ cm

$r_1 = 9$ cm

$r_2 = 4$ cm

$\because$ Length of direct common tangent

$= \sqrt{d^2-(r_1-r_2)^2}$

$= \sqrt{13^2-(9-4)^2}$

$= \sqrt{13^2-5^2}$

$= \sqrt{144} = 12$ cm

73. Option (1) is correct.

Reduction percent = 13%

Reduction amount = ₹260.39

Let the bill amount = ₹x

According to question

$\dfrac{13}{100}\times x = 260.39$

$x = \dfrac{26039}{13} = 2003$

74. Option (4) is correct.

Let cost price of goods = ₹100

$\therefore$ Marked price = ₹130   [30% more]

Selling price = $\left[\dfrac{100-10}{100}\right]\times 130$

[10% discount]

= ₹117

$\therefore$ Profit percentage = 17%

75. Option (3) is correct.

Percentage of teachers in English, Sanskrit and Hindi = 20% + 10% + 10% = 40%

Percentage of teachers in Mathematics, Biology and Social studies = 20% + 20% + 20% = 60%

$\therefore$ Required ratio = $\dfrac{40}{60}$ = 2:3

76. Option (2) is correct.

Congo River: The Congo River is the second-largest river in Africa and flows into the Atlantic Ocean, but it does not have the same volume or extensive drainage as the Amazon.

Amazon River: The Amazon River is the largest river in the world by both volume and drainage basin. It carries more water than any other river and has a vast drainage basin in South America, which includes parts of Brazil, Peru, Colombia, and several other countries. It empties into the Atlantic Ocean.

Amur River: The Amur River flows into the Pacific Ocean, not the Atlantic Ocean, and it is not as large as the Amazon River in terms of volume or drainage.

Nile River: The Nile River is a significant river in Africa, but it flows northward into the Mediterranean Sea, not the Atlantic Ocean. It is known for its historical and cultural significance but is not as extensive or voluminous as the Amazon.

77. Option (1) is the correct answer

Amitabh Kant was India's Sherpa for the G20 summit 2023. A sherpa is the personal representative of the leader of the member country who focuses on socio-economic issues such as agriculture, anti-corruption, climate, digital economy, education, employment, energy, environment, health, tourism, trade, and investment.

G-20 summit was held from 9th to 10th September 2023 in New Delhi under the theme 'Vasudhaiva Kutumbakam- One Earth, One Family, One Nation.'

78. Option (4) is correct.

John Newlands was a British chemist known for his Law of Octaves for the Periodic table, given in the year 1865. The law stated that any given element will exhibit similar behaviour to the eighth element following it in the table when the elements are arranged in increasing order of atomic masses. Newlands successfully arranged 62 elements from Hydrogen to Thorium using this law. However, it's important to note that this law was only applicable to elements up to Calcium.

79. Option (3) is correct.

Chota Nagpur in India is known as the storehouse of minerals. It is the storehouse of coal, iron ore, mica, bauxite, limestone, and other minerals. Chota Nagpur is a plateau in Eastern India with an area of approximately 65,000 square kilometers.

Deccan Plateau is characterised by elevated terrain and covers the states of Maharashtra, Karnataka, Telangana, Andhra Pradesh, Tamil Nadu, and Madhya Pradesh. The plateau is surrounded by Eastern and Western Ghats. It is known for its diverse flora and fauna.

Western Ghats are the mountain range that stretch 1600 kilometres from Gujarat in the north to Tamil Nadu in the south. These run parallel to the western coast of India and are bounded by the Arabian Sea to the west. They are characterized by their elevated terrain. This is a UNESCO world heritage site and is one of the 36 biodiversity hotspots in the world. They are even older than the Himalayas.

The Himalayas mountain range spans across Nepal, China, Pakistan, Bhutan and India and they form a natural border between the Indian subcontinent and the Tibetan Plateau. They are composed of multiple parallel ranges. These were formed as a result of the collision between the Indian Plate and the Eurasian Plate.

80. Option (3) is correct.

The import substitution policy is an economic strategy employed by a country to diminish its dependence on imported goods while fostering the expansion of domestic industries through the implementation of trade barriers. Two prevalent methods employed to realize this objective include:

1. Tariffs: Tariffs constitute taxes levied on imported goods, elevating their cost for consumers. This encourages consumers to prefer domestically manufactured products over imports, thereby stimulating the growth of domestic industries.

2. Quotas: Quotas, conversely, impose restrictions on the quantity of a specific imported commodity permitted to enter a country. By curbing the volume of imports, quotas are instituted to shield domestic industries from foreign competition.

Both of these strategies align with the import substitution policy's fundamental goal: curbing the influx of foreign goods and bolstering the development of domestic industries. In contrast, alternative options such as capital account convertibility, flexible exchange rate policy, and current account convertibility are not typically associated with import substitution policies but may instead form part of distinct economic strategies or policies.

81. Option (3) is correct.

The citizenship of India is defined under the Citizenship Act, 1955. The citizenship can be acquired by birth, descent, registration, naturalization, or incorporation of territory. Indians working in Foreign embassies in India and Ambassadors for India in the rest of the world are citizens of India.

82. Option (4) is correct.

Barter exchange or transaction is an exchange of goods or services in exchange of other goods or services. Basically, both the involved parties are fulfilling their needs and wants and there is a mutual benefit of both the involved parties. It enables the involved parties to do away with cash. Sometimes, the involved parties monetise their unused capacities and excess inventories. It is an effective method of conserving cash and increasing sales. However, there should be a double coincidence of wants.

83. Option (4) is correct.

Kaushalya Reddy is an esteemed Indian Classical Kuchipudi dancer, renowned for her contributions to the world of dance. In collaboration with Raja Radha Reddy, she played a pivotal role in the establishment of the Natya Tarangini Kuchipudi dance school in 1976. This institution was created with the noble purpose of imparting the intricate and rich traditions of Kuchipudi to aspiring students, thereby preserving and propagating this ancient art form. Additionally, Kaushalya Reddy initiated the annual 'Parampara Series' in 1998, further enhancing the cultural landscape.

Radha Sridhar has made a name for herself as a Bharatnatyam dancer, showcasing her artistry and talent in this classical dance form.

Surupa Sen's expertise lies in Odissi dance, where she not only excels as a performer but also shines as a choreographer, contributing to the evolution and innovation of Odissi dance.

Anupama Hoskere has established herself as a master puppeteer and is the visionary Founder-Director of the Dhaatu Puppet Theater in Bengaluru, India. Her outstanding contributions to the world of puppetry have earned her the prestigious Sangeet Natak Akademi Puraskar, the highest honor bestowed upon practicing artists in India, recognizing her remarkable achievements in the realm of performing arts.

84. Option (3) is correct.

The Chota Nagpur Plateau, located in eastern India, has the maximum concentration of iron and steel industries in the country. This region is rich in iron ore deposits and coal, which are essential raw materials for the iron and steel industry. As a result, it has become a major hub for the iron and steel sector in India.

85. Option (4) is correct answer.

Warren Hastings has been accused of committing the judicial murder of Raja Nand Kumar. Nand Kumar was an Indian tax

collector in West Bengal in the Pre-independence era, and he replaced the then Governor General Warren Hasting as the tax collector. Warren Hasting, the then governor-general of Bengal had conspired against Raja by bringing charges of forgery against him. He was tried under Elijah Impey, who was India's first Chief Justice. Raja was found guilty and hanged on 5th August 1775 becoming the first Indian to be executed by hanging. This was followed by impeachment of Warren hasting and Elijah by the British government.

86. Option (1) is correct.

Arya Samaj was founded by Swami Dayanand Saraswati on 10th April 1875 in Mumbai, India. Arya Samaj was a monotheistic Indian movement the promoted the belief in Indian Vedas- Sam Veda, Rig – Veda, Atharva Veda, and Yajur Veda, paved the Samaj path. It promotes physical, spiritual and social progress of all humans beings of the whole world. It established ten principles called the ten Niyama's or Principles.

Swami Dayanand Saraswathi is considered one of the 'Makers of Modern India'. He was an Indian philosopher and social leader. He is known for the book 'Satyarth Prakash.' In 1876, he was the first person to give the call for Swaraj as 'India for Indians'.

87. Option (2) is correct.

Unemployment allowances, scholarships, and retirement pension are transfer payments. Transfer payments are the payments or the incomes in which no goods or services are being paid for. These include subsidy or benefit payment. These types of payments usually redistribute the money to the strata that require the payment. These are transferred into government accounts as these are methods to achieve social goals such as medicare, welfare programs, and subsidies etc. These are not part of national income as this is a one-sided payment.

88. Option (4) is correct.

American scientists Nichols and Hull verified the equation $P = U/C$ in 1903 by measuring the pressure of visible light. In this equation, 'U' is the total energy transferred to a surface, 'P' is the Pressure, and 'c' is the speed of light. Its value was found to be 7×10^{-6} N/m^2

89. Option (2) is correct.

There are four measures of money supply in India and these are:

M1= Currency notes and coins in circulation with public (but not those held by banks) + Net demand deposits with the commercial banks + Other deposits

M2 = M1 + Deposits with post-office savings banks

M3 = M1 + Fixed deposits with banks

M4 = M3 + All post-office savings bank deposits

Mostly, M3 is used as a measure of money supply.

90. Option (3) is correct.

Sheorinarayan Fair is held in the town of Sheorinarayan, located in the Janjgir district of Chhattisgarh. The devotees of Lord Rama come and visit the temple devoted to Lord Rama as well as be a part of this colorful and vibrant fiesta. It is held on Magh Purnima, which is the full moon day in the month of February. The Sherorinarayan Temple which is devoted to Lord Rama is the main venue of this Sheorinarayan Fair. Sheorinarayan town is located on the confluence of three rivers, Mahandi, Sheonath and Jonk.

91. Option (1) is correct.

Dr. Bhimrao Ambedkar International Sports Stadium is a multipurpose stadium in Faizabad, Ayodhya district, Uttar Pradesh, India. It is a part of multi crores stadium complex. It can host games of Football, athletics, volleyball, hockey, basketball, badminton, cricket, handball, table tennis, taekwondo and wrestling.

92. Option (2) is correct.

Article 24 of the constitution prohibits the employment of children below the age of fourteen in factories, mines etc.

Article 19 of the Constitution provides freedom of speech which is the right to express one's opinion freely without any fear through oral, written, electronic, broadcasting, or press means.

Article 22 of the constitution grants protection to persons who are arrested or detained.

Article 20 of the Constitution of India is a fundamental right that safeguards the rights of an accused/convict. It provides protection against the convictions of offenses.

93. Option (3) is correct.

Totaram Sharma and Pakhavaj:

Totaram Sharma is a pakhavaj expert.

Pakhavaj is a two-headed barrel-shaped drum.

It's commonly used in dhrupad style Indian classical music.

Made with animal skins like goat and cow, it's a percussion instrument.

Tanpura: Tanpura, or tambura/tanpuri, is a long-necked string instrument.

Its role is to provide a continuous harmonic drone, not melody.

Panchavadyam: A Kerala orchestra with five instruments: kombu, edakka, thimila, ilathalam, and maddalam.

Performed at temple festivals like pooram and vela.

Sarangi: A short-necked, three-stringed instrument.

Used in Punjabi folk music, Boro folk music, and Rajasthani folk music

94. Option (3) is correct answer.

The Vijaynagar empire was founded by Harihara and his brother Bukka Raya in peninsular and southern India. They were feudatories of Kakatiyas of Warrangal. The Vijaynagar empire was ruled by the Sangama Dynasty, Saluva Dynasty, and Tuluva dynasty.

95. Option (3) is correct.

Odissi Dance: Odissi is a traditional dance-drama genre of performance art that originated in the temples of Odisha. This dance form involves artists and musicians enacting and dancing to stories, spiritual messages, or devotional poems from Hindu texts. It utilizes precise body movements, mudras (hand gestures), abhinaya (expression), and symbolic costumes.

Kathakali: Kathakali is an Indian classical dance native to Kerala. It is essentially a "story-play" that features vibrant costumes and traditional makeup.

Kathak: Kathak is the classical dance of Uttar Pradesh and is one of the eight major forms of Indian classical dance.

Manipuri Dance: Manipuri Dance, also known as Manipuri Raas Leela, is another of the eight major forms of Indian classical dance. It is performed as a dance-drama, with its central themes revolving around the love stories of Krishna and Radha.

96. Option (1) is correct.

The Constituent Assembly was elected by the Provincial Assembly to frame the Constitution of India and this idea was first proposed by M. N. Roy in December 1934. The members of this assembly served as the nation's first Parliament as the 'Provisional Parliament of India'. The constituent assembly was formed on 9th December 1946 under the leadership of Rajendra Prasad with a total of 389 members. A total of 22 committees were created to deal with different tasks of constitution-making. There were 15 female members who were part of the Constituent Assembly that framed the Constitution of India. Some of the different members of the committee and their head are:

Order of Business Committee- KM Munshi
Union Powers Committee - Jawaharlal Nehru
Fundamental Rights Sub-Committee-J.B. Kripalan
Credential Committee of India- Alladi Krishnaswami Ayyar.

97. Option (3) is correct.

Amul is the official sponsor of the Indian contingent at Hangzhou Asian Games, which will be held in Hangzhou, China from 23rd September to 8th October 2023. The event is officially called the 19th Asian Games Hangzhou 2022. It was originally slated to be held last year but was postponed due to Covid-19. The Asian Games, also known as the Asiad, are a continental multi-sport event held every four years among athletes from all over Asia.

98. Option (1) is correct.

The 43rd ASEAN summit was held from 4th-7th September 2023 in Jakarta, Indonesia. ASEAN refers to the Association of Southeast Asian Nations and it is an economic and political union of ten member states in Southeast Asia. The members of ASEAN are-Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam.

99. Option (3) is correct.

Bhopal is the first city in India to measure its progress towards achieving the Sustainable Development Goals (SDGs). It has adopted a Voluntary Local Review (VLR) process, which is a tool that helps cities to assess their progress on the SDGs and identify areas where they need to improve.

The SDGs are a set of 17 goals that were adopted by all United Nations member states in 2015. These are a roadmap for a better future for all.

100. Option (1) is correct.

Rudolf Virchow published his now-famous aphorism 'omnis cellula e cellula,' which means 'every cell stems from another cell,' in 1855. Rudolf Virchow was a German physician, biologist, pathologist, anthropologist, and prehistorian known as the 'father of modern pathology.' He is renowned for his contributions to cell theory, cellular pathology, biogenesis, and Virchow's triad.

■■■

Time Allotted- 1 hour   **Max marks-** 200

Important Instructions:-
⇨ This paper contains 100 questions which are divided into 4 sections and each section contains 25 questions.
  ✓ English Language (Basic Knowledge)
  ✓ General Intelligence
  ✓ Quantitative Aptitude (Basic Arithmetic Skill)
  ✓ General Awareness
⇨ There will be 2 marks for each correct answer and also there will be negative marking of 0.50 marks for each wrong answer.
⇨ Each question is compulsory to attempt and there will be no negative marking for unattempted questions.

English Language

1. Select the most appropriate meaning of the given idiom.
Throw cold water on
1. To show indifference   **2.** To rinse thoroughly
3. To encourage   **4.** To talk nicely

2. Select the option that can be used as a one-word substitute for the given group of words.
Unpleasantly rough or sharp, especially to the senses, cruel
1. Haslet   **2.** Hart   **3.** Harsh   **4.** Hasp

3. Select the ANTONYM of the word inadvertent to fill in the blank.
Everyone likes to speak in a clear and _____ manner.
1. unintentional **2.** peevish   **3.** deliberate **4.** impious

4. Select the most appropriate option that can substitute the underlined segment in the given sentence.
Syamala is more taller than her sister.
1. tall   **2.** taller   **3.** most taller **4.** tallest

5. The following sentence has been divided into parts. One of them may contain an error.
Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer.
Hurray! Here is the toy / what I was looking for / as my birthday gift.
1. Hurray! Here is the toy   **2.** No error
3. what I was looking for   **4.** as my birthday gift.

6. Parts of the following sentence have been given as options. Select the option that contains an error.
The politician was accused of accepting bribes and lied about it to the public.
1. of accepting bribes   **2.** The politician was accused
3. and lied about it   **4.** to the public

7. Select the most appropriate synonym of the given word.
Paragon
1. Transient   **2.** Epitome   **3.** Associate **4.** Grumpy

8. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.
A. Through these experiences, Sarah gained a newfound appreciation for the beauty and complexity of the world, and returned home with a renewed sense of purpose and passion.
B. Sarah had always dreamed of travelling the world, but she never had the opportunity to do so until she graduated from college.
C. Along the way, she encountered a diverse array of individuals, each with their own unique stories and perspectives.
D. With her degree in hand, she set off on a backpacking adventure across Europe, eager to explore new cultures and meet new people.
1. BACD   **2.** CBAD   **3.** DBCA   **4.** BDCA

9. Select the most appropriate synonym of the bracketed word in the following sentence to fill in the blank.
The playwright borrowed the _____ (crux) of plot from Shakespeare.
1. peel   **2.** subsistence
3. essence   **4.** blueprint

10. Select the option that can be used as a one-word substitute for the given group of words.
An imperfection; a blemish, a crack
1. Flaunt   **2.** Fleck   **3.** Flaw   **4.** Flea

11. Select the most appropriate synonym of the underlined word in the given sentence.
He lost the golden opportunity due to his habit of procrastination.
1. indecisiveness   **2.** impulsiveness
3. inquisitiveness   **4.** submissiveness

12. Select the most appropriate synonym of the underlined word.
Syam does not intervene in others' affairs.
1. Meddle   **2.** Speak   **3.** Trouble **4.** Help

13. Select the most appropriate synonym of the bracketed word in the following sentence to fill in the blank.
The text _____ (implies) to several themes that need closer examination.
1. alludes   **2.** deceives
3. embellishes   **4.** apprehends

14. The following sentence has been split into four segments. Identify the segment that contains a spelling error.
According to a report / every day / thousands of animals / are slautered.
1. thousands of animals   **2.** are slautered
3. every day   **4.** According to a report

15. Select the most appropriate idiom for the underlined words in the given sentence.
Piyush is inexperienced in leather industry.
1. in great hands   **2.** a sore thumb
3. hang fire   **4.** a greenhorn

16. Parts of a sentence are given below in jumbled order. Arrange the parts in the correct order to form a meaningful sentence.
A. to simplify filling taxes   **B.** to a single flat rate
C. the current five rates   **D.** by narrowing
E. Forbes wanted
1. EBDCA   **2.** ECDAB   **3.** EDACB   **4.** EADCB

17. Select the option that expresses the given sentence in passive voice.
She killed the cockroach.
1. The cockroach was being killed by her.
2. The cockroach is killed by her.
3. The cockroach was killed by her.
4. The cockroach has been killed by her.

18. Select the most appropriate option that expresses the given sentence in passive voice.
The student asked the teacher a question during class.
1. A question was asked by the student to the teacher during class.
2. A question is being asked by the student to the teacher during class.
3. A question asked by the student to the teacher during class.
4. A question will be asked by the student to the teacher during class.

19. Select the most appropriate option to fill in the blank.
People were _____ to safe places by the rescue team after the earthquake.
1. ebacuated   **2.** evacuated **3.** evkuated   **4.** evakuated

20. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.
A. Electronic waste is a huge challenge to the world today.
B. But the unrequired purchase by consumers cannot be halted.
C. However, an awareness on reduce and reuse can be of great help.
D. Recycling industries are working hard to reduce the burden of waste.
1. DBAC   **2.** ABCD   **3.** DABC   **4.** ADBC

Comprehension:
In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.
All the housewives who went to the Kalpatharu Supermarket in Bengaluru had one great ambition: to be the lucky customer who did not have to pay for her (1)_____ . For this was what that notice just inside the entrance promised. It said: 'Remember, once a week, one of our customers gets free goods. This may be your (2)_____ day!' For several weeks Mrs. Batliwala hoped, like many of her friends, to be the lucky (3)_____. Unlike her friends she never gave up hope. Her kitchen was full of things which she did not need. She dreamed of the day when the manager of the supermarket would approach her and say "Madam, this is your lucky day. (4)_____ in your basket is free." On Saturday morning, Mrs. Batliwala went to the supermarket and bought only tea. She went to the cash desk when the manager of the supermarket come up to her and said. "You are our lucky customer and everything in your basket is (5)_____ !"

21. Select the most appropriate option to fill in blank number 1.
1. cloths   **2.** shopping **3.** sugar   **4.** jewellery

22. Select the most appropriate option to fill in blank number 2.
1. easy   **2.** lucky   **3.** smart   **4.** happy

23. Select the most appropriate option to fill in blank number 3.
1. seller   **2.** day   **3.** women   **4.** customer

24. Select the most appropriate option to fill in blank number 4.
1. products   **2.** sample   **3.** everything **4.** packets

25. Select the most appropriate option to fill in blank number 5.
1. yours   **2.** expensive **3.** cheap   **4.** free

General Intelligence

26. ADEC is related to GJKI in a certain way based on the English alphabetical order. In the same way, HKLJ is related to NQRP. To which of the following is MPQO related to, following the same logic?
1. TVWU   **2.** SWXV   **3.** TWXU   **4.** SVWU

27. The second number in the given number pairs is obtained by performing certain mathematical operation(s) on the first number. The same operation(s) are followed in all the number pairs except one. Find that odd number pair.
(NOTE: Operations should be performed on whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting /multiplying, etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)
1. 31 : 215   **2.** 29 : 201   **3.** 21 : 145   **4.** 25 : 177

28. Identify the figure given in the options which when put in place of ? will logically complete the series.
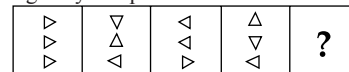
29. Based on the alphabetical order, three of the following four are alike in a certain way and thus form a group. Which is the one that does NOT belong to that group?
1. QMS   **2.** HDC   **3.** VRX   **4.** DZF

30. In a certain code language,
A + B means 'A is the brother of B',
A – B means 'A is the father of B',
A × B means 'A is the mother of B',
A ÷ B means 'A is the wife of B'.
Based on the above, if 'P × Q – R ÷ S + T', which of the following is true?
1. T is the brother of R.   **2.** P is the mother of R.
3. T is the sister of S.   **4.** Q is the son of P.

31. FAP is related to PAF in a certain way based on the English alphabetical order. In the same way, JFM is related to MFJ. To which of the following is NKT related following the same logic?
1. TKN   **2.** OLU   **3.** KTN   **4.** LIR

32. Each of the letters in the word NETWORK are arranged in alphabetical order. How many letters are there in the English alphabetical series between the letter which is fourth from the left and the one which is second from the right?
1. 3   **2.** 6   **3.** 5   **4.** 4

33. 31 is related to 94 in a certain way. Following the same logic, 37 is related to 112. To which of the following is 63 related, following the same logic?
1. 192   **2.** 189   **3.** 190   **4.** 194

34. Select the number from among the given options that can replace the question mark (?) in the following series.
141, 152, 143, 155, 145, 158, ?
1. 147   **2.** 162   **3.** 148   **4.** 161

35. Find out the correct alternative that when filled in the blanks in the same sequence will make the series logically complete.
CN_F   F_ZE   ILC_   _KFC   OJI_
1. VNDLA   **2.** XNDKB   **3.** XMCLA   **4.** WMDLB

36. L is the daughter of H. H is married to K. K is the mother of I. I is the father of J. J is married to M. M is the sister of N. How is J related to H?
1. Brother's son
2. Daughter's son
3. Son's son
4. Son

37. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.
**Statements:**
Some buses are motorbikes.
All motorbikes are vans.
All buses are cars.
Conclusions:
(I) Some cars are vans.
(II) Some vans are buses.
(III) Some vans are motorbikes.
1. Only conclusion II follows
2. All conclusions I, II and III follow
3. Only conclusion I follows
4. Both conclusions I and II follow

38. Select the correct mirror image of the given figure when the mirror is placed at MN as shown.
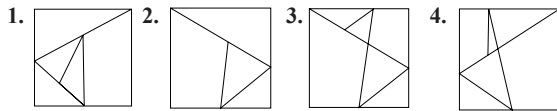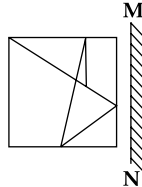
39. What should come in place of X in the given series?
16 19 25 34 46 X
1. 60
2. 58
3. 59
4. 61

40. What will come in the place of '?' in the following equation, if '+' and '−' are interchanged and '×' and '÷' are interchanged?
$53 \div 4 - 21 \times 7 + 14 = ?$
1. 203
2. 201
3. 202
4. 200

41. In a certain code language, 'DOG' is coded as '26' and 'BIN' is coded as '25'. What will be the code for 'JAM' in the given code language?
1. 25
2. 23
3. 24
4. 27

42. Four number-pairs have been given, out of which three are alike in some manner and one is different. Select the one that is different.
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding/ subtracting/ multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)
216 : 40   72 : 22
112 : 32   312 : 82
1. 216 :40
2. 112 : 32
3. 312 : 82
4. 72 : 22

43. If 'V' stands for '÷', 'Z' stands for '×', 'M' stands for '+' and 'P' stands for '−', then what will be come in place of the question mark (?) in the following equation?
81 M 46 P 72 V 12 Z 12 = ?
1. 10
2. 35
3. 15
4. 55

44. Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.

M
kHf3D7e|
N

1. ∂⅂DƐ↥Hʞ
2. ʞHIӘ⅂3DJHʞ
3. ∂⅂D3↥Hʞ
4. kHf3D⅂ǝ

45. Select the set in which the numbers are related in the same way as are the numbers of the given sets.
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g., 13 – Operations on 13 such as adding/ deleting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)
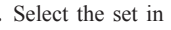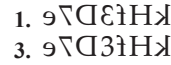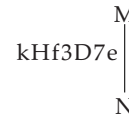12 : 92 : 8
16 : 92 : 6
1. 9 : 122 : 14
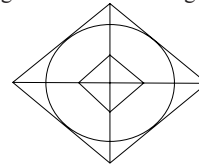**2.** 13 : 60 : 5
3. 15 : 184 : 12
4. 8 :109 : 14

46. If 12th April 2004 is Monday, then what will be the day of the week on 24th May 2012?
1. Sunday
2. Friday
3. Thursday
4. Monday

47. In a certain code language, 'HALF' is coded as '8041' and 'FLAG' coded as '4980'. What is the code for 'G' in the given code language?
1. 4
2. 9
3. 0
4. 8

48. How many triangles are there in the given figure?

1. 16
2. 18
3. 15
4. 17

49. Find the correct alternative that when filled in the blanks in the same sequence will make the series logically complete.
R _ R _ D _ _ D R _ R _ D _
1. DRDDDRRD
2. RDRRDRDD
3. DRRRRDRR
4. RDDRDDRD

50. Select the pair of letter-clusters which follows the same pattern as that followed by the two sets of pair of letter-clusters given below. Both pairs of letter-clusters follow the same pattern.
BFG : LPQ
HKM : RUW
1. MPO : WZY
2. GKN : TPM
3. ABC : FGH
4. JRS : IQR

Quantitative Aptitude

51. In Δ XYZ, L and M are the middle points of the sides XY and XZ, respectively. N is a point on the segment LM such that LN : NM = 1 : 2. If LN = 5 cm, then YZ is equal to:
1. 30 cm
2. 24 cm
3. 28 cm
4. 26 cm

52. If θ be an acute angle and tan θ + cot θ = 2, then the value of $2 \tan^2 \theta + \cot^2 \theta + \tan^4 \theta \cot^4 \theta$ is:
1. 4
2. 2
3. 3
4. 6

53. If cosec A + cot A = 7, then cosec A is equal to:
1. $\dfrac{11}{7}$
2. $\dfrac{16}{7}$
3. $\dfrac{25}{7}$
4. $\dfrac{19}{7}$

54. In right angled triangle ABC, if ∠A = 30°, find the value of 3 sin A – 4 $\sin^3$ A.
1. 2
2. −1
3. −2
4. 1

55. A money leader lent ₹30,000 in two parts, one at the rate of 8% and the other at 9%. If the total annual simple interest on the amount is ₹2,650, then what is the amount of money lent at the rate of 8%?
1. ₹6,000   2. ₹5,000   3. ₹4,500   4. ₹5,500

56. The number of patients in four different categories in three hospitals A, B and C are given below.
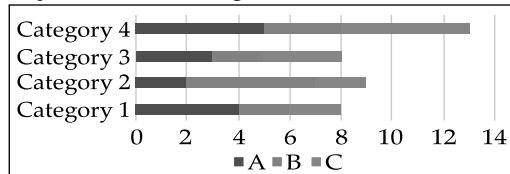
The total number of patients in three hospitals A, B and C, respectively, are:
1. 12, 14, 12   2. 12, 12, 14
3. 14, 12, 12   4. 14, 13, 12

57. A can complete a piece of work in 9 days. B and C can complete the same work in 12 days and 18 days respectively. If A, B, C work together, then in how many days will they complete the work?
1. 10   2. 8   3. 4   4. 15

58. Arun brought 50 kg of rice at a discount of 15% on the marked price. For purchasing bulk quantity, he was given 5 kg of wheat (the marked price of which was 60% the marked price of rice) free of cost. Had the retailer sold both items at their marked price to his other customers, then approximately what would be the profit percentage that the shopkeeper could earn?
1. 24.7%   2. 25.2%   3. 22.8%   4. 23.5%

59. Roma spends 25% of her income on food, 15% on children's books and 75% of the remaining income on uniforms. What is the percentage of income she is left with?
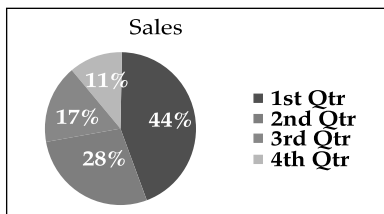1. 35%   2. 20%   3. 15%   4. 19%

60. The marked price of a book is ₹250 and it was sold at a discount of 12%. The selling price of the book is:
1. ₹230   2. ₹234   3. ₹220   4. ₹225

61. In a show room, the ratio of TVs and rice cookers is 2 : 3. Find the percentage of rice cookers in the show room
1. 40%   2. 30%   3. 60%   4. 50%

62. The sales of an item of a company in 4-quarters are given below.

If the difference in sales of item in 3rd quarter and 4th quarter is 36. then the total sale of the 1st quarter is _____.
1. 250   2. 256   3. 264   4. 260

63. If $x + 3y = 6$, what is the value of $x^3 + 27y^3 + 54xy$?
1. 264   2. 258   3. 216   4. 220

64. Simplify the given expression.
$$\frac{(381+119)^2 + (381-119)^2}{(381)^2 + (119)^2}$$
1. −1   2. −2   3. 1   4. 2

65. Raju and Sohan started a car race from the same point, in the same direction and at the same circular track of length 1725 m with speeds of 72 km/h. and 90 km/h, respectively. After how much time (in seconds) will they meet again for the first time?
1. 345 seconds   2. 335 seconds
3. 340 seconds   4. 350 seconds

66. What sum will become ₹9,826 in 18 months if the rate of interest is 2½% per annum and the interest is compound half-yearly?
1. 9,392.00   2. 9,444.00   3. 9,512.45   4. 9,466.55

67. If the slant height and radius of a right circular cone are 28 cm and 21 cm, respectively, then the total surface area of the right circular cone (in cm²) is:
Take $\pi = \dfrac{22}{7}$
1. 3234   2. 3342   3. 3243   4. 3324

68. The sides of a triangle are of length 8 cm, 15 cm and 17 cm. Find the area of the triangle.
1. 65 cm²   2. 75 cm²   3. 60 cm²   4. 70 cm²

69. The average weight of 45 students of a school is 55 kg. If the weight of the teacher be included, the average weight rises by 500 grams. Find the weight (in kg) of the teacher.
1. 78   2. 77   3. 79   4. 80

70. Study the table given below and answer the question that follows.
The table below shows the total number of students studying different subjects in a college and the percentage of boys and girls.

Subject	Number of Students	Percentage of Girls	Percentage of Boys
Hindi	110	60	40
English	70	50	50
Physics	50	30	70
Chemistry	40	80	20
Mathematics	80	20	80
Computers	90	40	60

What is the total number of students in all the subjects?
1. 240   2. 200   3. 420   4. 440

71. Solve $(0.125 \times 0.01) \div (0.5 \times 0.005)$.
1. 0.6   2. 0.5   3. 0.8   4. 0.7

72. Two equal circles of radius 6 cm intersect each other such that each pass through the centre of the other. The length (in cm) of the common chord is:
1. $5\sqrt{3}$ 2. $6\sqrt{3}$ 3. $4\sqrt{3}$ 4. $3\sqrt{3}$

73. The perimeter of two similar triangles GST and FAX are 48 cm and 36 cm, respectively. If FA= 12 cm, then GS is:
1. 18 cm   2. 16 cm   3. 24 cm   4. 12 cm

74. The cost of 4 rings and 2 bangles of gold is ₹40,000. What is the cost of 10 rings and 5 bangles?
1. ₹1,00,000   2. ₹80,000   3. ₹1,20,000   4. ₹90,000

75. A shopkeeper has announced a 25% rebate on the prices of stationery items. If anyone needs to have a rebate of ₹40, then how many stationery items costing ₹32 should be purchased?
1. 5 items   2. 6 items   3. 4 items   4. 3 items

General Awareness

76. Which of these MFIs are NOT regulated by the RBI?
1. Small Finance Bank led MFIS   2. Bank led MFIS
3. NBFC MFIS   4. Non-profit MFIS

77. Pandit Birju Maharaj is associated with which form of dance?
1. Kathak   2. Chhau
3. Kuchipudi   4. Kathakali

78. Which cell organelles are known as cell's post office?
1. Nucleus   2. Golgi apparatus
3. Ribosome   4. Plastid

79. Which element of group 13 has the atomic number 113 and its electronic configuration is [Rn] $5f^{14}$ $6d^{10}$ $7s^2$ $7p^1$?
1. Gallium   2. Indium   3. Nihonium   4. Thallium

80. Which of the following countries hosted the 2023 Asia Cup?
1. Sri Lanka   2. India
3. Pakistan   4. Both (1) and (3)

81. Who among the following is the head of the High-Level Committee formed to explore simultaneous elections in India?
　1. Narendra Modi　　　　2. Ram Nath Kovind
　3. Droupadi Murmu　　　4. Jagdeep Dhankhar

82. Where did the President Droupadi Murmu unveil the 12 feet high statue of Mahatma Gandhi and inaugurat 'Gandhi Vatika'?
　1. Chandigarh　　　　　2. Indore
　3. New Delhi　　　　　4. Ahmedabad

83. Structural composition of the economy refers to:
　1. contribution of various sectors to the GDP
　2. male-female distribution of the population
　3. private and public sectors classification
　4. rural and urban distribution of the population

84. The rulers of which of the following Rajput dynasties patronised Jainism and one of them is reported to have accepted Jainism under the influence of a Jain scholar Hemachandra?
　1. Pratihara　　2. Parmara　　3. Chalukya　4. Chahman

85. Padma Shri awardee of 2022, Nalini-Kamalini Asthana belongs to which of the following art genres?
　1. Painting　　　　　　2. Sculpture
　3. Kathak dance　　　　4. Architecture

86. Since 2004, which of the following states in India is the permanent venue of International Film Festival of India?
　1. Gujarat　　　　　　2. New Delhi
　3. Goa　　　　　　　　4. Maharashtra

87. Who was awarded the Nobel Peace Prize for founding the Grameen Bank and pioneering the concepts of microcredit and microfinance?
　1. Muhammad Yusuf　　　2. Muhammad Yunus
　3. Muhammad Wasim　　　4. Muhammad Asif

88. Exports of mangoes by India is a part of _____ method of measurement of its national income.
　1. circular income　　　2. value added
　3. expenditure　　　　　4. income

89. NCERT has been granted deemed to be university status. When was NCERT established?
　1. 1921　　　2. 1961　　　3. 1982　　　4. 1978

90. Which is the biggest tributary of the upper Brahmaputra that originates in the Tibetan Himalayas and winds its way into India through Arunachal Pradesh?
　1. Subansiri　　2. Yerla　　3. Musi　　4. Aner

91. Which colour of light from VIBGYOR has minimum energy?
　1. Green　　　2. Violet　　3. Yellow　　4. Red

92. Tulip Festival is famous in which city?
　1. Agra　　　　　　　　2. Allahabad
　3. Ludhiana　　　　　　4. Srinagar

93. When was the first International Yoga Day observed?
　1. 2012　　　2. 2011　　　3. 2015　　　4. 2020

94. In which of the following economic accounts are transfer payments included?
　1. Government account　　2. Household account
　3. Appropriation account　4. Production account

95. The National Rural Employment Guarantee Act, now known as Mahatma Gandhi National Rural Employment Guarantee Act, was first enacted in the year _____.
　1. 2000　　　2. 2005　　　3. 2009　　　4. 2014

96. The celebration of Christmas, Eid and Holi in school is an example of making children learn fundamental duties as well. Which of the following fundamental duties advocates about this type of ideal?
　1. To defend the country and render national service
　2. To develop the scientific temper
　3. To safeguard public property and to abjure violence
　4. To promote harmony and spirit of common brotherhood

97. Which of the following states is NOT a part of the Peninsular Plateau in India?
　1. Maharashtra　　　　　2. Madhya Pradesh
　3. Punjab　　　　　　　4. Tamil Nadu

98. Poshan Abhiyaan is a programme to achieve nutritional status of children from 0 to 6 years.
　Which of the following Articles of the Indian Constitution provides for raising the nutrition level?
　1. Article 47　　2. Article 44　3. Article 46　4. Article 45

99. As of August 2023, who among the following has been appointed as the NGT chairperson?
　1. G. Kannabiran　　　　2. R. Madhavan
　3. Prakash Shrivastava　　4. R. Doraiswamy

100. Ustad Asad Ali Khan played which of the following instruments?
　1. Rudra Veena　　　　　2. Algoza
　3. Sitar　　　　　　　　4. Ravanahatha

Answer Key

1.	(1)	2.	(3)	3.	(3)	4.	(2)	5.	(3)	6.	(3)	7.	(2)	8.	(4)	9.	(3)	10.	(3)
11.	(1)	12.	(1)	13.	(1)	14.	(2)	15.	(4)	16.	(4)	17.	(3)	18.	(1)	19.	(2)	20.	(4)
21.	(2)	22.	(2)	23.	(4)	24.	(3)	25.	(4)	26.	(4)	27.	(4)	28.	(3)	29.	(2)	30.	(4)
31.	(1)	32.	(4)	33.	(3)	34.	(1)	35.	(4)	36.	(3)	37.	(2)	38.	(4)	39.	(4)	40.	(2)
41.	(3)	42.	(1)	43.	(4)	44.	(1)	45.	(1)	46.	(3)	47.	(2)	48.	(1)	49.	(3)	50.	(1)
51.	(1)	52.	(1)	53.	(3)	54.	(4)	55.	(2)	56.	(3)	57.	(3)	58.	(1)	59.	(3)	60.	(3)
61.	(3)	62.	(3)	63.	(3)	64.	(4)	65.	(1)	66.	(4)	67.	(1)	68.	(3)	69.	(1)	70.	(4)
71.	(2)	72.	(2)	73.	(2)	74.	(1)	75.	(1)	76.	(4)	77.	(1)	78.	(2)	79.	(3)	80.	(4)
81.	(2)	82.	(3)	83.	(1)	84.	(3)	85.	(3)	86.	(3)	87.	(2)	88.	(3)	89.	(2)	90.	(1)
91.	(4)	92.	(4)	93.	(3)	94.	(1)	95.	(2)	96.	(4)	97.	(3)	98.	(1)	99.	(3)	100.	(1)

Answers with Explanations

1. Option (1) is correct.
　'Throw cold water on' is an idiom meaning to be unenthusiastic about or discourage. Example: The moment the father heard of his daughter's plans of night out with friends, he threw cold water on the proposition. The correct answer is 'to show indifference'.

2. Option (3) is correct.
　Haslet is a loaf of cooked minced pig's offal; *hart* is the male of the red deer especially when over five years old; while harsh is unpleasantly rough or sharp, especially to the senses, cruel. Hasp is a clasp for a door, lid, etc.

3. Option (3) is correct.
　Everyone likes to speak in a clear and deliberate manner. 'Inadvertent' means unintentional; so the antonym is 'deliberate'. (1) is synonym. Peevish means 'bad-tempered person'; 'impious' implies 'not pious or religious; lacking reverence for God'.

4. **Option (2) is correct.**

Syamala is taller than her sister. The use of double comparatives (more taller) is to be avoided. So 'taller' will replace 'more taller'.

5. **Option (3) is correct.**

Hurray! Here is the toy that I was looking for as my birthday gift. The part 'that I was looking for' will replace 'what I was looking for'. The correct usage of "that" is when referring to a specific object or thing, while "what" is used when asking for information or clarification.

6. **Option (3) is correct.**

The politician was accused of accepting bribes and lying about it to the public. The part 'and lied about it' will be replaced by 'and lying about it'. The sentence has an error of parallel structure. The verbs will be in gerund form, 'accepting' and 'lying'. Hence, option (3) is correct.

7. **Option (2) is correct.**

Paragon refers to a person or thing that is perfect or has an extremely large amount of a particular good. Transient means temporary. Epitome means a person or thing that is a perfect example of a particular quality or type. Grumpy means bad-tempered.

8. **Option (4) is correct.**

The correct sequence of the sentences is: BDCA. B introduces the subject of the paragraph- Sarah and her dream (traveling the world). The pronoun 'she' refers back to Sarah, in D she is seen to go out to fulfil her dream. Next trails C, as she is already on her way, where she encountered a diverse array of individuals. 'These experiences' in A refers to the ones she had had in C. Therefore, the coherent paragraph is :Sarah had always dreamed of travelling the world, but she never had the opportunity to do so until she graduated from college. With her degree in hand, she set off on a backpacking adventure across Europe, eager to explore new cultures and meet new people. Along the way, she encountered a diverse array of individuals, each with their own unique stories and perspectives. Through these experiences, Sarah gained a new found appreciation for the beauty and complexity of the world, and returned home with a renewed sense of purpose and passion.

9. **Option (3) is correct.**

The playwright borrowed the essence of plot from Shakespeare. The word 'crux' connotes 'the most important or serious part of a matter'. This implies 'essence'.

10. **Option (3) is correct.**

'Flaunt' means to display proudly or show off; 'fleck' means spot/mark; while 'flaw' is an imperfection; a blemish, a crack.

11. **Option (1) is correct.**

He lost the golden opportunity due to his habit of indecisiveness. Procrastination is the act of delaying or putting off tasks until the last minute, or past their deadline. 'Impulsiveness' is acting or done suddenly without any planning or consideration of the results. 'Inquisitiveness' means a desire to find out about what other people are doing, 'submissiveness' is ' allowing yourself to be controlled by other people or animals'. So 'indecisiveness' is appropriate as a synonym.

12. **Option (1) is correct.**

In the sentence 'Syam does not intervene in others' affairs', it is clear that Syam does not interfere/meddle in others' matters.

13. **Option (1) is correct.**

Implies means 'suggests', 'alludes' (refers to); 'deceives' means betrays; 'embellishes' implies elaborates; 'apprehends' means captures. Thus, the correct synonym is 'alludes'.

14. **Option (2) is correct.**

According to a report every day thousands of animals are slaughtered. Here, 'slautered' will be replaced by 'slaughtered', which means thrashed/killed.

15. **Option (4) is correct.**

The idiom 'in great hands' implies 'managed or cared for with great attention'; 'a sore thumb' is to be very noticeable in usually a bad way. 'Hang fire' implies 'making a decision about something.' 'A greenhorn' means 'a person who is new to or inexperienced at a particular activity.'

16. **Option (4) is correct.**

The correct sequence of the sentences is :EADCB. E initiates the subject of the sentence 'Forbes', followed by the verb 'wanted', then an object in A (simplify filling taxes). The verb 'narrowing' refers to 'the current five rates'. Thus, the logical sentence is: Forbes wanted to simplify filling taxes by narrowing the current five rates to a single flat rate.

17. **Option (3) is correct.**

The sentence 'She killed the cockroach' is in active voice. In voice change, the object of the active verb becomes the subject of the passive verb. Sentences in the present perfect tense have the following structure: *Active:* Subject + V2 + object…*Passive:* Object + was/were/+ verb (III form) + by+ subject. Thus, the correct sentence is: The cockroach was killed by her.

18. **Option (1) is correct.**

The sentence 'The student asked the teacher a question during class' is in active voice. In voice change, the object of the active verb becomes the subject of the passive verb. Sentences in the present perfect tense have the following structure: *Active:* Subject + V2 + object…*Passive:* Object + was/were/+ verb (III form) + by+ subject. Thus, the correct sentence is: A question was asked by the student to the teacher during class.

19. **Option (2) is correct.**

People were evacuated to safe places by the rescue team after the earthquake. Evacuated implies 'to remove the contents of : empty'.

20. **Option (4) is correct.**

The correct sequence of the sentences is : ADBC. A introduces the subject of the paragraph- Electronic waste and how it poses as a challenge; D continues the thought by elucidating this challenge- Recycling industries are working hard to reduce the burden of waste. But the unrequired purchase by consumers cannot be halted. Therefore, the coherent paragraph is: Electronic waste is a huge challenge to the world today. Recycling industries are working hard to reduce the burden of waste. But the unrequired purchase by consumers cannot be halted. However, an awareness on reduce and reuse can be of great help.

21. **Option (2) is correct.**

All the housewives who went to the Kalpatharu Supermarket in Bengaluru had one great ambition: to be the lucky customer who did not have to pay for her shopping. Since the statement refers to a Supermarket in Bengaluru, and a lucky customer, so they have to do with shopping.

22. **Option (2) is correct.**

Remember, once a week, one of our customers gets free goods. This may be your lucky day!' Since the statement refers to a Supermarket in Bengaluru, and a lucky customer who did not have to pay for her shopping, so it may be her lucky day.

23. Option (4) is correct.

For several weeks Mrs. Batliwala hoped, like many of her friends, to be the lucky customer. The context talks of the prospect of a lucky customer who did not have to pay for her shopping.

24. Option (3) is correct.

"Madam, this is your lucky day. Everything in your basket is free." Since Mrs. Batliwala hoped, like many of her friends, to be the lucky customer, she never lost hope. She wished that everything in her basket was free.

25. Option (4) is correct.

"You are our lucky customer and everything in your basket is free!" On Saturday morning she bought only tea and in not her best luck became the lucky customer.

26. Option (4) is correct.

As per the pattern followed here,

Given that:

```
    A    D    E    C
  +6 | +6 | +6 | +6 |
    G    J    K    I
```

And,

```
    H    K    L    J
  +6 | +6 | +6 | +6 |
    N    Q    R    P
```

Similarly,

```
    M    P    Q    O
  +6 | +6 | +6 | +6 |
    S    V    W    U
```

27. Option (4) is correct.

The pattern followed here is:
$(1^{st} \text{ term} \times 7) - 2 = 2^{nd} \text{ term}$.

Let's check the options

(1) 31 : 215
$(31 \times 7) - 2 = 215$

(2) 29 : 201
$(29 \times 7) - 2 = 201$

(3) 21 : 145
$(21 \times 7) - 2 = 145$
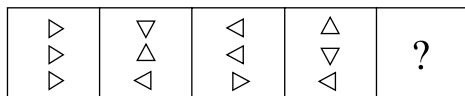
(4) 25 : 177
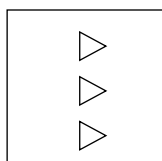$(25 \times 7) - 2 = 173$ [which is not equals to 177]

Hence, option (4) is the odd one out.

28. Option (3) is correct.

Given figure:

According to the pattern followed and the symmetry, the required figure is:

29. Option (2) is correct.

The pattern followed here is:

(1)   Q $\xrightarrow{-4}$ M $\xrightarrow{+6}$ S

(2)   H $\xrightarrow{-4}$ D $\xrightarrow{+1}$ C
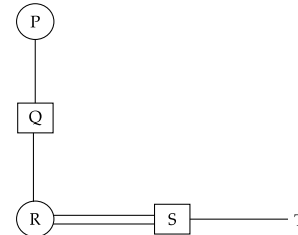
(3)   V $\xrightarrow{-4}$ R $\xrightarrow{+6}$ X

(4)   D $\xrightarrow{-4}$ Z $\xrightarrow{+6}$ F

Hence, option (2) is the odd one out.

30. Option (4) is correct.

Given that: $P \times Q - R \div S + T$

After decoding the statement, possible family tree will be:
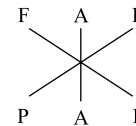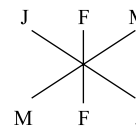

Hence, only option (4) is true.

31. Option (1) is correct.

As per the pattern followed here,

Given that,

And,

Similarly,
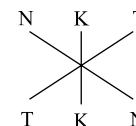
So, TKN will be the correct term.

32. Option (4) is correct.

Given word: NETWORK

If we arrange these alphabets in the english alphabetical order, we get EKNORTW.

Now, according to the question, fourth letter from the left will be O

And second letter from the right will be T

So, as per the english alphabetical series, there are 4 letters in between 0 and T which are P,Q,R,S.

Hence, 4 is the correct answer.

33. Option (3) is correct.

The pattern followed here is:
$(1^{st} \text{ term} \times 3) + 1 = 2^{nd} \text{ term}$.

So, $(63 \times 3) + 1 = 190$.

Hence, 63 is related to 190.

34. Option (1) is correct.

Given series: 141, 152, 143, 155, 145, 158, ?

The pattern followed here is as follows:

Hence, 147 is the missing term.

35. Option (4) is correct.

Given that: CN_F F_ZE ILC__KFC OJI_

Upon inserting alphabets from option (4) sequentially, we get

CNWF FMZE ILCD LKFC OJIB

In this series, 1st and 3rd letters of each is increasing by 3,

And, 2nd letter and 4th of each set is decreasing by 1.

Hence, it forms a logical series.

36. Option (3) is correct.

As per the statements given in the question, possible family tree will be:

Hence, J is the son's son of H.

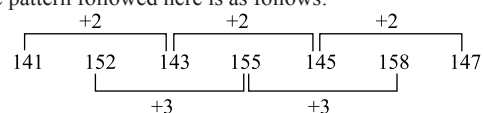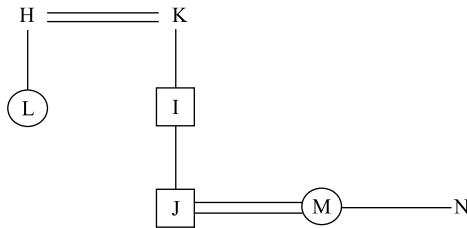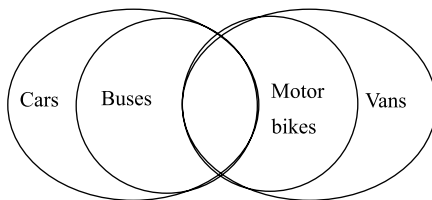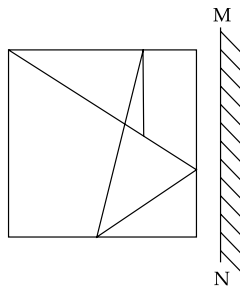**37. Option (2) is correct.**

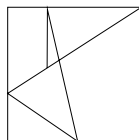As per the statements given, following venn diagram can be made:

Hence, all conclusions I, II and III follows.

38. Option (4) is correct.

Given figure:

In a mirror image, left becomes right, and right becomes left. Hence, the required image is:

39. Option (4) is correct.

Given series: 16 19 25 34 46 X

The pattern followed here is:

Here, each term is increasing by a multiple of 3.

$$16 + 3 = 19$$
$$19 + 6 = 25$$
$$25 + 9 = 34$$
$$34 + 12 = 46$$
$$46 + 15 = 61$$

Hence, 61 is the missing number.

40. Option (2) is correct.

Given that: $53 \div 4 - 21 \times 7 + 14 = ?$

After interchanging the signs, we get

$53 \times 4 + 21 \div 7 - 14$

Now, according to the BODMAS rule, $= 53 \times 4 + 3 - 14$

$= 212 + 3 - 14 = 215 - 14 = 201$

41. Option (3) is correct.

Given that:

DOG $\longrightarrow$ 26

BIN $\longrightarrow$ 25

Here, the positional values of the alphabets are added.

Hence, JAM will be coded as $10 + 1 + 13 = 24$.

42. Option (1) is correct.

The pattern followed here is:

(1st term $\div$ 4) + 4 = 2nd term

Let's check the options as per the pattern:

(1)   216 : 40

       $(216 \div 4) + 4 = 54 + 4 = 58$ [which is not equal to 40]

(2)   112 : 32

       $(112 \div 4) + 4 = 28 + 4 = 32$

(3)   312 : 82

       $(312 \div 4) + 4 = 78 + 4 = 82$

(4)   72 : 22

       $(72 \div 4) + 4 = 18 + 4 = 22$

Hence, option (1) is the odd one out.

43. Option (4) is correct.

Given series: 81 M 46 P 72 V 12 Z 12 = ?

After putting the signs, we get

$81 + 46 - 72 \div 12 \times 12$

Now, according to the BODMAS rule,

$= 81 + 46 - 6 \times 12 = 81 + 46 - 72 = 55$

44. Option (1) is correct.

Given figure:

In the mirror image, left becomes right and right becomes left. Hence, the required image is:

45. Option (1) is correct.

Given sets:

12 : 92 : 8

16 : 92 : 6

The pattern followed here is:

(1st term $\times$ 3rd term) – 4 = 2nd term

On checking option (1), 9 : 122 : 14 = $(9 \times 14) - 4 = 122$

46. Option (3) is correct.

Given that: It was a Monday on 12th April, 2004

Let's count the number of odd days for each year which needs to be added in Monday

2004 = + 2 (Leap year)

2005 = +1

2006 = +1

2007 = +1

2008 = +2 (Leap year)

2009 = +1

2010 = +1

2011 = +1

Total no. of odd days = 10 days

So, 10 days ahead of Monday will be a Thursday (On 12th April 2012)

And, the number of days between 12th April 2022 and 24th May 2022 are 42 = 6 weeks

Hence, it will be a Thursday on 24th May 2022.

47. Option (2) is correct.

Given that:

HALF → 8041
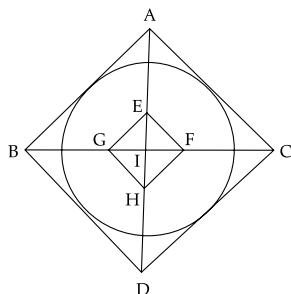
FLAG → 4980

If we compare both of the words we get,

The codes for the alphabets H, A, L, F are 8, 0, 4, 1 (In random order), indicating that the only different letter remaining is 'G.'

Therefore, there is only 1 digit left for 'G' which is 9.

48. Option (1) is correct.

Triangles which can be formed are ABC, ABD, ADC, ABI, AIC, BID, DIC, BCD, EGI, EIF, EGF, GHF, GIH, IHF, EGH, EHF. Hence, there are total 16 triangles in the given figure.

49. Option (3) is correct.

Given series: R_R_D__DR_R_D_

Upon inserting alphabets from option (3), we get

RDRRDRRDRRDRRDR

Hence, it forms a logical series.

50. Option (1) is correct.

Given that:

And,

Similarly, upon checking option (1),

Hence, MPO : WZY follows the same pattern.

51. Option (1) is correct.

As per the given the figure will be:
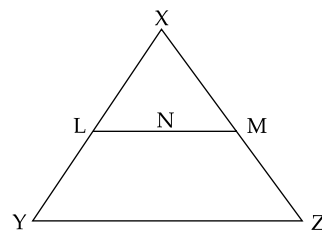
$\because$ LN = 5 cm and $\dfrac{LN}{NM} = \dfrac{1}{2}$

$\Rightarrow \dfrac{5}{NM} = \dfrac{1}{2}$

$\Rightarrow$ NM = 10 cm

$\therefore$ LM = LN + NM = 5 + 10 = 15 cm

$\because$ L & M are mid-point of XY and XZ respectively. By mid point theorem,

   YZ = 2LM = 2 × 15 = 30 cm

52. Option (1) is correct.

$\because$ $\tan\theta . \cot\theta = 1$

Now $2\tan^2\theta + \cot^2\theta + \tan^4\theta . \cot^4\theta$

$$= 2\tan^2 45° + \cot^2 45° + 1$$

$$\left[\begin{array}{c} \because \tan\theta + \cot\theta = 2 \\ \Rightarrow \tan 45° + \cot 45° = 1 + 1 = 2 \end{array}\right]$$

$$= 2 \times 1^2 + 1^2 + 1 = 4$$

53. Option (3) is correct.

         cosec A + cot A = 7

$\Rightarrow$ cot A = 7 – cosec A

Squaring both sides,

$\Rightarrow$ $\cot^2 A = (7 - \text{cosec A})^2$

$\Rightarrow$ $\cot^2 A = 49 + \text{cosec}^2 A - 14 \text{ cosec A}$

$\Rightarrow$ $\cot^2 A = 49 + 1 + \cot^2 A - 14 \text{ cosec A}$

$\Rightarrow$ 14 cosec A = 50

$\Rightarrow$ cosec A = $\dfrac{50}{14} = \dfrac{25}{7}$

54. Option (4) is correct.

   $3 \sin A - 4 \sin^3 A = 3 \sin 30° - 4 \sin^3 30°$ $[\because \angle A = 30°]$

$$= 3 \times \dfrac{1}{2} - 4 \times \left(\dfrac{1}{2}\right)^3$$

$$= \dfrac{3}{2} - \dfrac{1}{2} = 1$$

55. Option (2) is correct.

Simple interest = $\dfrac{P \times R \times T}{100}$

Where, P : Principal, R : Rate of interest, T : Time

Let money lender lent Rs x at 8%.

$\therefore$ He lent $(30000 - x)$ at 9%,

According to question,

$$\dfrac{x \times 8 \times 1}{100} + \dfrac{(30000 - x) \times 9 \times 1}{100} = 2650$$

$$8x + 270000 - 9x = 265000$$

$\Rightarrow$ $x = 270000 - 265000$

         $= 5000$

He lent ₹5000 at 8% rate of simple interest.

56. Option (3) is correct.

Total number of patients in the hospital A

        $= 5 + 3 + 2 + 4 = 14$

Total number of patients in the hospital B

        $= 3 + 2 + 5 + 2 = 12$

Total number of patients in the hospital C

        $= 5+3+2+2 = 12$

57. Option (3) is correct.

A can complete work in 9 days.

B can complete work in 12 days.

C can complete work in 18 days.

Together they can complete work in

$\dfrac{1}{\dfrac{1}{9}+\dfrac{1}{12}+\dfrac{1}{18}}$ days $= \dfrac{1}{\dfrac{4+3+2}{36}} = \dfrac{36}{9} = 4$

58. Option (1) is correct.

Let market price of 1 kg rice = ₹100

∴ Market price of 1 kg wheat = ₹60

Total selling price of 50 kg rice and 5 kg wheat

        $= 50 \times 85 + 0 = $ ₹4250

If he does not provide discount and free the wheat then the total selling price of 50kg rice and 5kg wheat

        $= 50 \times 100 + 5 \times 60 = $ ₹5300

∴   Profit percentage $= \dfrac{5300 - 4250}{4250} \times 100$

        $= 24.7\%$

59. Option (3) is correct.

Let her income = ₹100

Expenditure on food = ₹25

Expenditure on children's book = ₹15

Expenditure on uniform $= \dfrac{75}{100}$ [100 – 40] = ₹45

∴ Remaining amount = ₹15

$\Rightarrow$ Remaining percentage of income = 15%

60. Option (3) is correct.

Marked rice = ₹250

Discount percentage = 12%

∴ Selling price $= \dfrac{100 - 12}{100} \times 250 = $ ₹220

61. Option (3) is correct.

Ratio of TVs and rice cookers = 2: 3

Percentage of rice cookers $= \dfrac{3}{2+3} \times 100 = 60\%$

62. Option (3) is correct.

Let total sales of item = x

Difference in sales of 3rd quarter and 4th quarter = 36

According to the question,

$\Rightarrow$ $\dfrac{17 - 11}{100} \times x = 36$

$\Rightarrow$ $x = 600$

∴ Total sale of the 1st quarter $= \dfrac{44}{100} \times 600$

        $= 264$

63. Option (3) is correct.

        $x + 3y = 6$ …(i)

Cube both sides

$\Rightarrow$ $\left(x + 3y\right)^3 = 6^3$

$\Rightarrow$ $x^3 + 27y^3 + 3 \times x \times 3y\,(x + 3y) = 216$

$\Rightarrow$ $x^3 + 27y^3 + 9xy \times 6 = 216$

                  Using Equation (i)

$\Rightarrow$ $x^3 + 27y^3 + 54xy = 216$

64. Option (4) is correct.

$\dfrac{\left(381 + 119\right)^2 + \left(381 - 119\right)^2}{\left(381\right)^2 + \left(119\right)^2}$

$= \dfrac{\begin{array}{c}\left(381\right)^2 + \left(119\right)^2 + 2 \times 381 \times 119 + \left(381\right)^2 \\ + \left(119\right)^2 - 2 \times 381 \times 119\end{array}}{\left(381\right)^2 + \left(119\right)^2}$

$= \dfrac{2\left[\left(381\right)^2 + \left(119\right)^2\right]}{\left(381\right)^2 + \left(119\right)^2} = 2$

65. Option (1) is correct.

Relative speed of Raju and Sohan

        $= (90 - 72)$ km/h

        $= 18$ km/h $= 18 \times \dfrac{5}{18}$ m/s

        $= 5$ m/s

They will meet again for the first time $= \dfrac{1725}{5}$ sec

        $= 345$ sec

66. Option (4) is correct.

    Principal amount, P $= x$ (Assume)

      Amount, A $=$ ₹9826

        Time, t $= 18$ months $= 3$ (half years)

Rate of interest, $r = \dfrac{2\frac{1}{2}}{2}$ %

     half yearly $= \dfrac{5}{4}$ % half yearly

$\Rightarrow$ A $= $ P $\left[1 + \dfrac{r}{100}\right]^t$

$\Rightarrow$ $9826 = $ P $\left[1 + \dfrac{5}{4 \times 100}\right]^3$

             $= $ P $\left[\dfrac{405}{400}\right]^3$

$\Rightarrow$ P $= \dfrac{9826 \times 400 \times 400 \times 400}{405 \times 405 \times 405}$

        $= $ ₹9466.55

67. Option (1) is correct.

Slant height of cone, $l = 28$ cm

Radius of cone, $r = 21$ cm

Total surface area of cone $= \pi r(r + l) = \dfrac{22}{7} \times 21(21 + 28)$

$$= 22 \times 3 \times 49 = 3234 \text{ cm}^2$$

68. Option (3) is correct.

Sides of triangle are 8 cm, 15 cm and 17 cm

$\because 8^2 + 15^2 = 64 + 225 = 289 = 17^2$

$\Rightarrow$ Triangle is right triangle.

Area of triangle $= \dfrac{1}{2} \times 8 \times 15 = 60$ cm^2

69. Option (1) is correct.

Sum of weight of 45 students

$\quad$ =Average weight × Number of students

$\quad$ =55 × 45 = 2475 kg

Sum of weight of 45 students and teachers

$\qquad\qquad$ =55.5 × 46 = 2553 kg

$\therefore$ Weight of teacher = 2553 – 2475 = 78 kg

70. Option (4) is correct.
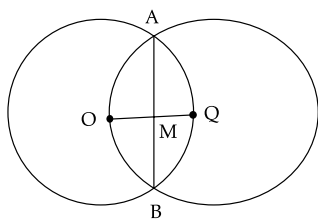
From the table, total number of students

= 110 + 70 + 50 + 40 + 80 + 90 = 440

71. Option (2) is correct.

$$\dfrac{0.125 \times 0.01}{0.5 \times 0.005} = 0.5$$

72. Option (2) is correct.

As per the given the figure will be

Here, $\qquad$ OA = OB = QA = QB = 6 cm

Also, $\qquad$ OQ = 6 cm

$\qquad$ AB $= 2 \times$ AM $= 2 \times \sqrt{\text{OA}^2 - \text{OM}^2}$

$\qquad\qquad = 2 \times \sqrt{6^2 - 3^2} = 2\sqrt{27}$

$\qquad\qquad = 6\sqrt{3}$ cm

73. Option (2) is correct.

$\because \Delta \text{GST} \sim \Delta \text{FAX}$

$\Rightarrow \dfrac{\text{Perimeter of } \Delta\text{GST}}{\text{Perimeter of } \Delta\text{FAX}} = \dfrac{\text{GS}}{\text{FA}}$ $\qquad$ [C.P. S.T]

$\Rightarrow \quad \dfrac{48}{36} = \dfrac{\text{GS}}{12}$

$\Rightarrow \quad \text{GS} = \dfrac{48 \times 12}{36}$

$\quad$ GS = 16 cm

74. Option (1) is correct.

Cost of 4 rings + cost of 2 bangles = 40000

Multiply equation by 2.5,

Cost of 4 × 2.5 rings + cost of 2 × 2.5 bangles

$\qquad\qquad$ =40000 × 2.5

Cost of 10 rings + cost of 5 bangles = 100000

75. Option (1) is correct.

Let stationary item required = x

$\therefore$ Total marked price of x items = 32x

$\qquad$ Rebate on x items $= \dfrac{25}{100} \times 32x$

$\Rightarrow \qquad\qquad 40 = \dfrac{25}{100} \times 32x$

$\Rightarrow \qquad\qquad \dfrac{40 \times 100}{25 \times 32} = x$

$\Rightarrow \qquad\qquad\qquad x = 5$

We required 5 stationary items for rebate of ₹40.

76. Option (4) is correct.

MFI, which stands for Micro Finance Institutions, plays a crucial role in providing financial services to underserved communities. Meanwhile, RBI, short for the Reserve Bank of India, serves as the country's central bank and holds the responsibility of regulating the banking sector under the Banking Regulation Act, 1949. RBI's purview extends to overseeing various financial entities, including commercial banks, Local Area Banks (LABs), Regional Rural Banks, District and State Co-operative Banks, and Urban Co-operative Banks. However, it's important to note that not-for-profit MFIs operate outside the regulatory jurisdiction of the RBI.

77. Option (1) is correct.

Pandit Birju Maharaj, a celebrated artist, composer, and vocalist, dedicated his life to Kathak, a prominent Indian classical dance. He was renowned for his association with the Lucknow 'Kalka-Bindadin' Gharana and his mastery of Hindustani classical music, earning him the prestigious Padma Vibhushan award. Pandit Birju Maharaj's legacy lives on despite his passing at the age of 83.

Kathak, the classical dance form synonymous with Uttar Pradesh, holds a significant place among the eight major forms of Indian classical dance.

Kathakali, originating from Kerala, is a captivating classical dance characterized by elaborate storytelling, vibrant costumes, and intricate traditional makeup.

Kuchipudi, hailing from Andhra Pradesh, represents another enchanting classical dance style with its unique expressions and movements.

Chhau, a semi-classical Indian dance, blends martial and folk traditions, captivating audiences in the states of Odisha, Jharkhand, and West Bengal.

78. Option (2) is correct.

The Golgi apparatus, often referred to as the cell's post office, plays a vital role in packaging, modifying, and transporting proteins to their designated destinations within the cell. Initially, linear proteins are synthesized in the Endoplasmic Reticulum (ER), and then they are enclosed within vesicles for transport to the Golgi apparatus. Inside this organelle, the proteins undergo intricate folding, and additional chemical groups are added to make them fully functional. Subsequently, these modified proteins are dispatched to their specific sites where they are needed to carry out various cellular functions.

79. Option (3) is correct.

Nihonium, represented by the chemical symbol 'Nh' and atomic number 113, is a synthetic element located in group 13 of the periodic table within the 'p' block. This element is artificially created in a laboratory setting.

Gallium, denoted by the symbol 'Ga' and possessing atomic number 31, is another member of group 13. It was first discovered by the French chemist Paul-Émile Lecoq de Boisbaudran. Gallium is widely utilized in semiconductor technology and for producing alloys with low melting points.

Indium, symbolized by 'In' and having an atomic number of 49, is also a group 13 element. It is a silvery metal and was initially identified by Ferdinand Reich and Hieronymous Theodor Richter in 1863. Indium finds extensive applications in semiconductors, the creation of low-melting-point alloys, soft-metal high-vacuum seals, and the production of transparent conductive coatings like indium tin oxide (ITO) for glass.

Thallium, with the chemical symbol 'Tl' and an atomic number of 81, falls under group 13 and period 6 of the periodic table. It is characterized by its silvery-white appearance.

80. Option (4) is correct.

The 2023 Asia Cup was hosted by Pakistan and Sri Lanka. It was the 16th edition of Asia cup and One Day Internationals (ODIs) were played between 30th August to 17th September 2023. Six teams participated in the Asia cup and these were- Pakistan, Sri Lanka, India, Afghanistan, Bangladesh, and Nepal.

81. Option (2) is the correct answer

Ram Nath Kovind, the 14th President of India, currently chairs the High-Level Committee responsible for investigating the possibility of conducting simultaneous elections in the country. His tenure as President spanned from 2017 to 2022. The primary objective of this committee is to assess the practicality of holding concurrent elections for various tiers of government, including the Lok Sabha, state legislative assemblies, municipalities, and panchayats, throughout India. Additionally, the committee is mandated to delve into the legal and logistical intricacies of such an ambitious endeavor, which may necessitate constitutional amendments.

82. Option (3) is correct.

In a noteworthy event, the President of India, Droupadi Murmu, unveiled a towering 12-feet-high statue of Mahatma Gandhi and officially inaugurated 'Gandhi Vatika' at the Gandhi Darshan Museum in New Delhi.

The Gandhi Darshan Museum is a significant institution dedicated to preserving the life, teachings, and legacy of Mahatma Gandhi, the Father of the Nation in India.

'Gandhi Vatika' likely refers to a garden or park area within the museum complex, created in honor of Mahatma Gandhi.

Such initiatives play a crucial role in promoting Gandhian principles of non-violence, peace, and social harmony.

83. Option (1) is correct.

The structural composition of an economy pertains to the distribution of economic activities among various sectors, offering insights into each sector's contribution to the GDP and its relative significance in driving economic output.

The sectors typically considered in the structural composition of an economy include agriculture, industry, and services.

Analyzing this composition is crucial for policymakers, as it helps in understanding the economic development stage of a country and can inform strategies for growth and diversification.

For example, a shift from an agrarian-based economy to an industrial or service-based economy signifies economic development and transformation.

Many countries aim to reduce their dependence on agriculture and promote the growth of the industrial and service sectors to achieve economic stability and prosperity.

84. Option (3) is correct.

Kumarapala, a ruler of the Chalukya dynasty, reigned over the territories encompassing present-day Gujarat and its environs, with his capital at Anahilapataka. His ascension followed the reign of Chaulukya king Bhima I, and during his rule, Kumarapala embraced Jainism under the guidance and influence of the renowned Jain scholar Hemachandra.

Kumarapala's acceptance of Jainism is considered a significant event in the history of the region, as it contributed to the spread and influence of Jain philosophy in Gujarat.

Hemachandra, also known as Acharya Hemachandra, was a prominent Jain scholar, philosopher, and writer who made substantial contributions to Jain literature and philosophy.

The Chalukya dynasty had a significant impact on the history and culture of Gujarat and played a crucial role in shaping the region's political landscape during its rule.

85. Option (3) is correct.

Nalini- Kamalini Asthana are sisters from Agra Uttar Pradesh known for their contribution in the field of Benaras Gharana style of Kathak. They are awarded by the Padma Shri award, the third highest award in the Padma series.

86. Option (3) is correct.

The International Film Festival of India, commonly known as IFFI, takes place in the picturesque state of Goa. This renowned festival is a collaborative effort between the National Film Development Corporation of India, operating under the Ministry of Information and Broadcasting, and the Government of Goa. IFFI serves as a prestigious platform for showcasing a diverse array of international and Indian films.

87. Option (2) is correct.

In 2006, Muhammad Yunus and the Grameen Bank were honored with the Nobel Peace Prize for their amazing work in helping poor people and communities. They believed in starting development and progress from the very bottom, helping those who needed it the most. The Grameen Bank was set up to give small loans to people who didn't have much and made it easy for them to borrow money.

Muhammad Yunus is a famous economist from Bangladesh, and he's the one who had the brilliant idea to create the Grameen Bank. He's like a leader in this kind of work, and his ideas have really helped to reduce poverty and make life better for many people. The Nobel Peace Prize is a very special award given each year, and it's one of five different Nobel Prizes. These prizes are a way to say thank you to people and groups who have done amazing things to make the world a better place, whether it's in science, literature, medicine, or bringing peace and happiness to the world.

88. Option (3) is correct.

National income is the sum total of the value of all the final goods and services produced within a country during a specific financial year. This calculation factors in depreciation, which accounts for the wear and tear of machinery and infrastructure used in production. However, national income does not consider taxes, raw materials (known as non-factor inputs), and depreciation costs.

To measure national income, there are three primary methods:

• Income Method: This approach calculates national income by considering the earnings generated from the fundamental factors of production, including land, capital, labor, and organization. It encompasses income derived from various sources such as wages, rent from land and buildings, interest on capital, and business profits during a given accounting year.

- Product (Value-Added) Method: This method involves determining the monetary value of all final goods and services produced across different sectors. It focuses on including only the value added at each stage of production, making it a somewhat subjective and less reliable method.

- Expenditure Method: The most commonly used method for measuring national income, the expenditure method accounts for total domestic spending, which includes consumption and investment expenditures. It also considers net exports (exports minus imports) and government expenditures as essential components in its calculation. This method provides a comprehensive overview of how income is used within a country's economy.

89. Option (2) is correct.

NCERT, which stands for the National Council of Educational Research and Training, was founded in 1961 under the Society Registration Act. This esteemed organization serves as the premier authority for providing guidance to both central and state governments on matters pertaining to school education. With its headquarters located in New Delhi, NCERT plays a pivotal role in shaping the educational landscape of India.

As of September 2023, Dr. Dinesh Prasad Saklani holds the esteemed position of Director at NCERT, contributing to the institution's ongoing mission of enhancing the quality and effectiveness of school education across the nation.

90. Option (1) is correct.

Subansiri is the largest tributary of the upper Brahmaputra, originating in the Tibetan Himalayas and contributing 7.92% of the Brahmaputra's total flow. It is also known as the 'Gold River' and spans a length of 442 kilometers with a drainage basin covering 32,640 square kilometers.

The Yerla River is a tributary of the River Krishna, originating in the Mhaskoba hills of Satara district. It plays a significant role in irrigation for the eastern part of Satara district and Sangli district in Maharashtra.

The Musi River is a major tributary of the River Krishna, flowing through Telangana, and the city of Hyderabad is situated on its banks.

The Aner River flows into the Tapti River, originating from the Satpura hills, and it is located near the Hisala hills.

91. Option (4) is correct.

VIBGYOR is an acronym representing the colors of the visible spectrum: Violet, Indigo, Blue, Green, Yellow, Orange, and Red. These colors make up the rainbow we often see in nature. Each color in the spectrum corresponds to a specific range of frequencies, which determines its position in the sequence:

Red: 4.3-4.8 THz

Orange: 4.8-5.4 THz

Yellow: 5.4-5.9 THz

Green: 5.9-6.7 THz

Blue: 6.7-7.5 THz

Indigo: 7.5-8.2 THz

Violet: 8.2-8.7 THz

It's important to note that the higher the frequency, the shorter the wavelength, and the greater the energy of the electromagnetic radiation. As a result, red light has the lowest energy among these visible colors, while violet has the highest energy. This understanding of the visible spectrum is essential in various fields, including optics, astronomy, and photography.

92. Option (4) is correct.

The Tulip Festival is a beautiful yearly flower celebration in Srinagar, Jammu and Kashmir. It happens from March to May when spring arrives. It lasts for fifteen days and has more than 46 types of tulips, with over 15 lakh tulip flowers. Every year, they add new types of tulips, making the garden even more colorful.

The Tulip Garden started in 2007, opened by Gulam Nabi Azad, a former leader. It's surrounded by Dal Lake, Nishat Bagh, and Chashma Shahi Garden, making it a stunning place to visit. People from all around come to see the pretty tulips against the backdrop of the Himalayan mountains.

93. Option (3) is correct.

The International Day of Yoga started in 2015 when the United Nations decided it should be a special day. It's celebrated every year on June 21st. This year, in 2023, it was the 9th time people all around the world got together to do yoga. The theme for this year was "Yoga for 'The World is One Family.'" This day is all about spreading the word about yoga and how it can make us feel more connected to each other. It's a great chance for people who love yoga to join in, do yoga together, and talk about how it helps our bodies and minds.

94. Option (1) is correct.

Transfer payments refer to money exchanges where no goods or services are involved. These payments often take the form of subsidies or benefits. They serve the purpose of redistributing money to those who need it. These funds are typically funneled into government accounts to support various social initiatives, such as healthcare, welfare programs, and subsidies. However, it's important to note that transfer payments are not considered a part of the national income, as they involve one-sided transactions.

95. Option (2) is correct.

The National Rural Employment Guarantee Act, which is now known as the Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA), was initially enacted in 2005. This transformative social welfare initiative ensures the 'right to work' for rural communities. Its primary objective is to offer legal assurance for 100 days of wage employment each year, focusing on unskilled manual labor. This not only uplifts the livelihoods of rural households but also contributes to the development of sustainable rural infrastructure.

Funding for the program is a joint effort between the central and state governments, reflecting their commitment to improving the well-being of rural populations. MNREGA is efficiently administered at the grassroots level through gram panchayats, which are village councils responsible for its implementation and management.

96. Option (4) is correct.

The Fundamental Duties are enumerated in Article 51-A of the Indian Constitution, constituting the sole Article in Part-IV-A. Originally, there were ten duties, with the eleventh being added through the 86th Constitutional Amendment Act of 2002. These represent moral obligations for citizens and lack legal enforceability in courts. The fundamental duties encompass:

Abiding by the Constitution and respecting its ideals, institutions, the National Flag, and the National Anthem.

Cherishing and following the noble ideals that inspired the national struggle for freedom.

Upholding and protecting India's sovereignty, unity, and integrity.

Defending the country and providing national service when required.

Promoting harmony and the spirit of common brotherhood among all citizens, transcending religious, linguistic, and regional diversities, and renouncing practices derogatory to women's dignity.

Valuing and preserving the rich heritage of India's composite culture.

Protecting and improving the natural environment, including forests, lakes, rivers, and wildlife, and showing compassion for living creatures.

Developing scientific temper, humanism, and the spirit of inquiry and reform.

Safeguarding public property and renouncing violence.

Striving for excellence in all spheres of individual and collective activities, leading the nation to higher levels of endeavor and achievement.

Providing opportunities for the education of one's child or ward between the ages of six and fourteen years (added by the 86th Constitutional Amendment Act, 2002).

97. Option (3) is correct.

The Peninsular Plateau, also known as the Deccan Plateau, sprawls across southern India, extending from the Narmada River in the north to the southern tip of the subcontinent. Encompassing states from Gujarat in the west to Odisha in the east, it covers central and southern India. This plateau boasts elevated terrain, with an average height ranging from approximately 600 to 900 meters (2,000 to 3,000 feet) above sea level. Within its expanse, you'll find numerous hill ranges and elevated plateaus. The Peninsular Plateau's drainage is facilitated by several significant rivers, including the Godavari, Krishna, Tungabhadra, and Cauvery in the south, along with the Narmada and Tapi in the north. These rivers have sculpted deep valleys and gorges across the plateau's landscape. Much of this plateau is bedecked with basaltic rock formations, a testament to ancient volcanic activity. Among its geological features, the Deccan Traps, an immense volcanic plateau, stand out prominently.

98. Option (1) is correct.

Article 47 of the Indian constitution outlines the State's responsibility to elevate nutrition standards, improve living conditions, and enhance public health. It also emphasizes efforts to prohibit the use of intoxicating substances harmful to health. This article falls under the Directive Principles of State Policy.

Article 44 of the Indian constitution underscores the State's commitment to establish a Uniform Civil Code applicable to all citizens across India.

Article 46 of the Indian constitution mandates the State to give special attention to the educational and economic welfare of marginalized groups, particularly the Scheduled Castes and Scheduled Tribes, while safeguarding them from social injustice and exploitation.

Article 45 aims to provide free and compulsory education for all children up to the age of fourteen within ten years of the Constitution's commencement.

99. Option (3) is correct.

Name	Designation
Ganesan Kannabiran	Director of National Assessment and Accreditation Council (NAAC)
R Madhavan	President of the Film and Television Institute of India (FTII), Pune
Prakash Shrivastava	Chairperson of National Green Tribunal (NGT)
R Doraiswamy	Director of Life Insurance Corporation of India (LIC)

100. Option (1) is correct.

Ustad Asad Ali Khan, a renowned Indian musician, was a master of the rudra veena and performed in the dhrupad style, a genre of Hindustani classical music. In recognition of his contributions, he received the Padma Bhushan award in 2008.

The rudra veena, a significant instrument in Indian classical music, is characterized by its large size and plucked strings.

■■■

Time Allotted- 1 hour   **Max marks-** 200

Important Instructions:-
⇨ This paper contains 100 questions which are divided into 4 sections and each section contains 25 questions.
  ✓ English Language (Basic Knowledge)
  ✓ General Intelligence
  ✓ Quantitative Aptitude (Basic Arithmetic Skill)
  ✓ General Awareness
⇨ There will be 2 marks for each correct answer and also there will be negative marking of 0.50 marks for each wrong answer.
⇨ Each question is compulsory to attempt and there will be no negative marking for unattempted questions.

English Language

1. Select the most appropriate option to fill in the blank.
My cousin owns a shop of food _____.
  1. additives   **2.** addetivis   **3.** aditives   **4.** addetives

2. Select the most appropriate option to substitute the underlined segment in the following sentence.
The newly admitted students has been given a pair of uniforms by the management.
  1. are been given a pair   **2.** has given a pair
  3. have been given a pair   **4.** have being given a pair

3. Select the most appropriate option that can substitute the underlined words in the given sentence.
Are you sure you have go to drop her at the airport?
  1. you will go to   **2.** you should have to go to
  3. you had to go to   **4.** you might go to

4. Select the most appropriate synonym of the given word.
Survey
  1. Disregard   **2.** Slothful   **3.** Scrutinise   **4.** Apathy

5. Select the most appropriate idiom for the underlined segment in the following sentence.
Rohit is very mischievous and always annoys his teachers.
  1. Gets in his teacher's hair
  2. Puts his shoulders to the wheel
  3. A storm in a tea cup
  4. Leads up the garden path

6. Select the most appropriate option that can substitute the underlined segment in the given sentence.
Pooja could feel the anger building off inside her.
  1. building upon inside her   **2.** building of inside her
  3. building on inside her   **4.** building up inside her

7. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.
Can you please / pass me a sweater? / It's going to be / the cold day today.
  1. Can you please   **2.** the cold day today
  3. It's going to be   **4.** pass me a sweater?

8. Select the most appropriate option that can substitute the underlined words in the following sentence.
The health-care system is in transition at those moment.
  1. at that moments   **2.** at the moment
  3. at a moments   **4.** at these moment

9. Parts of a sentence are given below in jumbled order. Arrange the parts in the correct order to form a meaningful sentence.
  A. groups such as migrants and
  B. collecting data on vulnerable population

C. persons with disabilities is crucial
D. understanding who are being left behind
E. in identifying the challenges they face and
  1. EADCB   **2.** CABED   **3.** BACED   **4.** DACBE

10. Select the most appropriate meaning of the homonym in the context of the following sentence to fill in the blank.
They do not say anything but stalk furiously out of the room.
'Stalk' here means _____.
  1. the stem or main axis of a plant
  2. to walk in an angry or proud way
  3. to go through an area in search of prey
  4. recur constantly and spontaneously

11. Select the most appropriate ANTONYM of the underlined word.
The Tokyo Games accelerated energy policies in Japan, demonstrating how they could make steps towards a low-carbon economy by powering the athletes' village with hydrogen from clean, green sources.
  1. inspiring   **2.** exploring   **3.** collating   **4.** hiding

12. Select the option that expresses the given sentence in active voice.
The guilty are punished by the judge.
  1. The judge is punishing the guilty.
  2. The judge punishes the guilty.
  3. The judge has been punishing the guilty.
  4. The judge has punished the guilty.

13. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.
Can you please / open a door? / I can hear / somebody knocking.
  1. Can you please   **2.** somebody knocking
  3. I can hear   **4.** open a door?

14. Select the most appropriate option to fill in the blank.
She suffered an emotional _____ after the death of her husband in a road accident.
  1. turbulense   **2.** terbulense
  3. toorbulence   **4.** turbulence

15. Parts of a sentence are given below in jumbled order. Select the option that arranges the parts in the correct order to form a meaningful sentence.
  A. although many scholars believe that
  B. no records of such a commission from Francesco exist,
  C. the painting depicts Lisa Gherardini, wife of the Florentine merchant Francesco del Giocondo,
  D. and the sitter has never been conclusively identified

  1. D, C, B, A   **2.** C, A, B, D
  3. B, D, A, C   **4.** A, C, B, D

16. Select the most appropriate ANTONYM of the given word.
Hysterical
  1. Controlled   **2.** Resolute   **3.** Manful   **4.** Shy

17. Select the most appropriate idiom for the underlined segment in the following sentence.
The child played the video game <u>as much as he wanted to</u>.
  1. To his heart's content   **2.** To gild the pill
  3. To kick the bucket   **4.** To assume airs

18. Select the option that expresses the given sentence in passive voice.
We hope that we shall win the match against Australia.
  1. It is hoped that the match against Australia shall be won by us.
  2. It is expected that the match against Australia should be won by us.
  3. It is hoped that the match against Australia was won by us.
  4. It is sure that the match against Australia was won by us.

19. Select the appropriate ANTONYM of the underlined word to fill in the blank.
The flow of the river is very <u>rapid</u> now. Let's go in when it's a little _____.
  1. fast   **2.** quick   **3.** delayed   **4.** slow

20. Select the most appropriate synonym of the word 'Flung' from the given sentence.
The entrepreneur's innovative strategies propelled his startup to success.
  1. Strategies   **2.** Innovative **3.** Success   **4.** Propelled

Comprehension:
In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

Primitive cultures are those that exist in societies that have not yet developed advanced technology or complex social (1)_____. These cultures are often characterised by their close relationship with the natural world. Despite being considered 'primitive', these cultures have a rich history and a unique way of life that is (2)_____ studying and preserving. These cultures often have a deep understanding of the environment and its cycles, and they have developed intricate systems of knowledge and belief that are closely tied to nature. For example, indigenous cultures in the Amazon rainforest have an (3)_____ knowledge of the medicinal properties of plants and the cycles of the seasons, which they use to sustain themselves and their communities. Another important aspect is that these cultures often have complex systems of kinship and social hierarchy. Despite the many challenges that primitive cultures face, including the (4)_____ of modern societies and environmental degradation, these cultures have an important role to play in our understanding of the human experience. They offer a different (5)_____ on the world and its complexities, and their traditions and knowledge have the potential to inform and enrich our modern lives.

21. Select the most appropriate option to fill in blank 1.
  1. borders   **2.** outlines
  3. structures   **4.** configurations

22. Select the most appropriate option to fill in blank 2.
  1. important   **2.** insignificant
  3. worth   **4.** trivial

23. Select the most appropriate option to fill in blank 3.
  1. acquired   **2.** intimate
  3. estimated   **4.** gained

24. Select the most appropriate option to fill in blank 4.
  1. migration   **2.** possession
  3. encroachment   **4.** estimation

25. Select the most appropriate option to fill in blank 5.
  1. conclusion   **2.** perspective
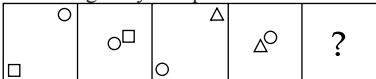 **3.** blame   **4.** biasness

General Intelligence

26. In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. Select the option in which the numbers are related in the same way as are the numbers of the following pairs.
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 - Operations on 13 such as adding/subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)
12, 57
16, 77
  1. 11, 49   **2.** 4, 14   **3.** 8, 37   **4.** 21, 106

27. If it was Friday three days ago, then what was the day of the week 150 days ago from today?
  1. Friday   **2.** Wednesday
  3. Sunday   **4.** Thursday

28. Based on the alphabetical order, three of the following four are alike in a certain way and thus form a group. Which is the one that does NOT belong to that group?
  1. CYF   **2.** OJL   **3.** LGI   **4.** UPR

29. What will come in place of the question mark (?) in the following equation if '+'and '÷' are interchanged and '–' and '×' are interchanged?
$25 \times 6 - 4 \div 18 + 9 = ?$
  1. 7   **2.** 10   **3.** 3   **4.** 5

30. Select the term from the given options that can replace the question mark (?) in the given series to make it logically complete.
BP 74, ?, FT 64, HV 59, JX 54
  1. CS 70   **2.** DR 69   **3.** ET 68   **4.** ES 70

31. Identify the number of rectangles in the given figure.
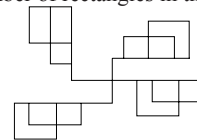
  1. 16   **2.** 24   **3.** 17   **4.** 28

32. What should come in place of the question mark (?) in the given series based on the English alphabetical order?
FGO, HIR, JKU, LMX, ?
  1. NZP   **2.** NOA   **3.** NOP   **4.** NPZ

33. Four number-pairs have been given, out of which three are alike in some manner and one is different. Select the one that is different.
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)
37 : 152
61 : 248
39 : 160
53 : 208
  1. 61 : 248   **2.** 39 : 160   **3.** 37 : 152   **4.** 53 : 208

34. Select the correct mirror image of the given figure when the mirror is placed at MN as shown below.

  1. ɡϛɘƐdꟻ   **2.** ɡƐɘƐbꟻ
  3. ɡϛɘϱƐꟻ   **4.** ɡƐɘϱϚꟻ
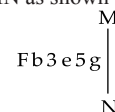
35. Select the word-pair that best represents a similar relationship to the one expressed in the pair of words given below.
(The words must be considered meaningful English words and must not be related to each other based on the number of letters/consonants/vowels in the word.)
Latent Dormant
1. Nice : Demanding   **2.** Picky : Fussy
3. Lathe : Latex   **4.** Pious : Dainty

36. What should come in place of X in the given series?
9 13 21 33 49 X
1. 67   **2.** 71   **3.** 65   **4.** 69

37. What should come in place of the question mark (?) in the given series?
417, 429, 443, ?, 469
1. 452   **2.** 460   **3.** 455   **4.** 447

38. Which of the following interchanges in two mathematical operators will balance the equation given below?
63 – 23 × 132 ÷ 12 + 7 = 117
1. ÷ and ×   **2.** + and –   **3.** – and ÷   **4.** + and ×

39. In a certain code language,
E + M means 'E is the father of M',
E – M means 'E is the husband of M',
E @ M means 'E is the daughter of M',
E $ M means 'E is the mother of M'.
If R $ A – F $ H, then how is R related to F?
1. Mother   **2.** Husband's mother
3. Sister   **4.** Father's sister

40. Select the option in which the letter-clusters share the same relationship as that shared by the given pair of letter-clusters.
ZPJ : FNF
SNT : YLP
1. HIG : NFC   **2.** LOS : FQW
3. RJX : XHT   **4.** AND : GQZ

41. Select the triad in which the numbers are related in the same way as are the numbers of the following triads.
4 – 24 – 6
2 – 6 – 3
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)
1. 9 – 17 – 3   **2.** 6 – 30 – 7 **3.** 1 – 9 – 8 **4.** 5 – 35 – 7

42. In a certain code language, 'EARNT' is coded as '25371' and 'TUNER' is coded as '57142'. What is the code for 'U' in the given code language?
1. 2   **2.** 5   **3.** 4   **4.** 7

43. In a certain code language, 'FROM' is coded as '8167' and 'ROMP' is coded as '6218' What is the code for 'F' in the given code language?
1. 7   **2.** 6   **3.** 8   **4.** 1

44. Identify the figure given in the options which when put in place of ? will logically complete the series.

45. Select the number from among the given options that can replace the question mark (?) in the following series.
426, 423, 414, 387, 306, ?
**1.** 62   **2.** 64   **3.** 65   **4.** 63

46. Read the given statements and conclusions carefully. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. You have to decide which conclusion(s) logically and definitely follow(s) from the given statements.
Statements: Some Hats are Caps. Some Hats are Turbans. All Caps are Monkeys.
Conclusions: (1) Some Turbans are Caps.
(II) All Hats are Monkeys.
1. Both conclusions (I) and (II) do not follow.
2. Only conclusion (1) follows.
3. Only conclusion (II) follows.
4. Both conclusions (I) and (II) follow.

47. Select the combination of letters which when sequentially placed in the blanks of the given series will complete the series.
JK_MJJ_LMJJKK_MJJKKLL_
1. MMJJ   **2.** LKLM   **3.** LMLJ   **4.** JKLJ

48. In a certain code language,
P + Q means P is the mother of Q,
P – Q means P is the brother of Q,
P × Q means P is the wife of Q,
P/Q means P is the father of Q.
Based on the above, how is B related to D in A × B/C – D?
1. Brother   **2.** Father's brother
3. Father   **4.** Mother

49. What should come in place of ? in the given series based on the English alphabetical order?
QED TKM WQV ZWE ?
1. BDO   **2.** DDN   **3.** CCN   **4.** DCM

50. Select the correct mirror image of the given figure when the mirror is placed at MN as shown.
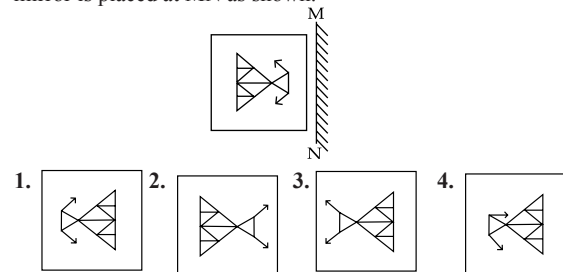
Quantitative Aptitude

51. A shopkeeper earns a profit of 20% after offering a discount of 10% on the marked price of an electric mixer. What is the cost price (in ₹) of the electric mixer having marked price ₹6,500?
1. 4,900   **2.** 4,825   **3.** 4,850   **4.** 4,875

52. Study the following table carefully and answer the question that follows.

State/Year	1994	1995	1996	1997	1998
Maharashtra	723	840	900	920	925
Kerala	1035	940	1200	1400	1500
Karnataka	750	600	830	575	900
West Bengal	500	550	450	600	525
Delhi	1500	1625	1700	1475	1800
Andhra Pradesh	800	840	875	925	785
Total	**5308**	**5395**	**5955**	**5895**	**6435**

In the case of which state/UT was there a continuous increase in the number of students over the given years?
1. Andhra Pradesh   **2.** Maharashtra
3. Karnataka   **4.** West Bengal

53. X, Y and Z can complete a piece of work in 20, 12 and 28 days, respectively. If all work together, the approximate number of days to complete the work will be:
1. 6   **2.** 7   **3.** 4   **4.** 5

54. If each side of a cube is decreased by 12%, then the percentage decrease in its surface area is:
  1. 25.66%   **2.** 28.23%   **3.** 22.56%   **4.** 26.54%

55. A trader allows a discount of 5% for cash payment. What percentage above the cost price must he mark his goods to make a profit of 14%?
  1. 30%   **2.** 40%   **3.** 50%   **4.** 20%

56. In a circle of radius 8 units, a chord of length 10 units is drawn. What is the perpendicular distance of the chord from the centre of the circle in units?
  1. $\sqrt{39}$ unit   **2.** $\sqrt{35}$ unit
  3. $\sqrt{30}$ unit   **4.** $\sqrt{33}$ unit

57. Lakshita purchased a sofa set at a discount of 25%. As per her calculations, she noticed that if she would have not been given this discount, she would have paid ₹ 22,400 more as the cost of this sofa set. How much did Lakshita pay for the sofa set?
  1. ₹ 22,400   **2.** ₹ 33,600   **3.** ₹ 67,200   **4.** ₹ 67,000

58. If $\left(y - \dfrac{1}{y} \right) = 8,$ find the value of $\left(y^2 + \dfrac{1}{y^2} \right).$
  1. 64   **2.** 62   **3.** 60   **4.** 66

59. If $1 + m + n = 0$, then what will be the value of
  $$\left(\frac{l^2}{mn} + \frac{m^2}{nl} + \frac{n^2}{lm} \right)^2 ?$$
  1. 9   **2.** 16   **3.** 4   **4.** 1

60. A man bought 13 chairs at ₹ 150 each and 15 chairs at ₹ 130 each. The average price of a chair (to the nearest rupee) is:
  1. ₹ 130   **2.** ₹ 145   **3.** ₹ 142   **4.** ₹ 139

61. If tan $(5\theta - 10°) =$ cot $(5\phi + 20°)$, then the value of $\theta + \phi$ is:
  1. 16°   **2.** 18°   **3.** 15°   **4.** 20°

62. A chord of length 24 cm is at a distance of 5 cm from the centre of the circle. The radius of the circle is:
  1. 13 cm   **2.** 12 cm   **3.** 16 cm   **4.** 15 cm

63. Deepak starts a business with a capital of ₹1,60,000. He incurs a loss of 10% during the first year. But he makes a profit of 5% during the second year on his remaining investment. Finally, he makes a profit of 25% on his new capital during the third year. Find his total profit at the end of three years.
  1. ₹29,500   **2.** ₹29,000   **3.** ₹28,000   **4.** ₹28,500

64. At a certain annual rate (rounded off to the nearest integer) of simple interest, a sum of money becomes nine times its original value in 21 years. By how much does the rate of interest change if the same sum of money has to become 12 times its original value in 25 years?
  1. Decreases by 6%   **2.** Increases by 6%
  3. Increases by 8%   **4.** Decreases by 8%

65. In a circle, an arc subtends an angle of 84° at the centre. If the length of the arc is 22 cm, then the radius of the circle (in cm) is equal to:
  Take $\pi = \dfrac{22}{7}$
  1. 19   **2.** 15   **3.** 17   **4.** 13

66. If θ is an acute angle and $\sin \theta \cos \theta = 2 \cos^3 \theta - \dfrac{1}{4} \cos \theta,$ then the value of sin θ is:
  1. $\dfrac{\sqrt{15} - 1}{8}$ **2.** $\dfrac{\sqrt{15} - 1}{4}$
  3. $\dfrac{\sqrt{15} + 1}{4}$ **4.** $\dfrac{\sqrt{15} - 1}{2}$

67. The value of (sin 45° + cos 45°) is _____.
  1. $\dfrac{4}{\sqrt{2}}$ **2.** $\dfrac{1}{\sqrt{2}}$ **3.** 1   **4.** $\sqrt{2}$

68. In a mixture, the ratio of a chemical X and water is 15 : 9. When 48 litres of this mixture is replaced with water, the ratio becomes 11 : 13. Find the quantity of water after replacement.
  1. 97.5 litres   **2.** 99 litres
  3. 92 litres   **4.** 102.5 litres

69. Three partners P, Q and R invest ₹1,000, ₹1,200 and ₹1,500, respectively, in a business. What should be the share of Q if the total profit is ₹666?
  1. ₹216   **2.** ₹275   **3.** ₹252   **4.** ₹284

70. $(a + b + c) = 20, a^2 + b^2 + c^2 = 262, ab + bc + ca$
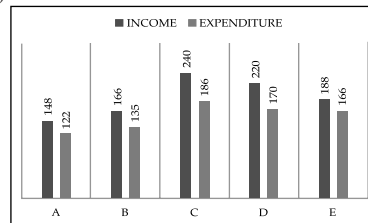 **1.** 69   **2.** 72   **3.** 84   **4.** 48

71. Find the value of the given expression.
  $$\frac{\left(4\frac{1}{3} + 3\frac{1}{3} \times 1\frac{4}{5} \div 3\frac{3}{4} \times \left(1\frac{1}{2} + 1\frac{1}{3} \right) \right)}{\left(\frac{2}{3} \div \frac{5}{6} \times \frac{2}{3} \right)}$$
  1. $11\dfrac{3}{8}$ **2.** $10\dfrac{1}{8}$ **3.** $14\dfrac{3}{8}$ **4.** $16\dfrac{5}{8}$

72. The following bar graph gives the details of income and expenditure of five companies A, B, C, D, E (in crores of rupees)

  The profit percentage $\left(\dfrac{\text{Income} - \text{Expenditure}}{\text{Expenditure}} \times 100 \right)$ is highest for the company:
 **1.** D   **2.** E   **3.** A   **4.** C

73. In triangle STU, V is a point on the side ST and W is a point on the side SU such that VWUT is a trapezium. Given that VW : TU = 2 : 7, what is the ratio of area of trapezium VWUT to the area of the triangle STU?
  1. 4 : 49   **2.** 4 : 45   **3.** 45 : 49   **4.** 49 : 81

74. Sanjana can row a boat at 9 km/h in the still water. It takes her twice as long to row up a certain distance as to row down the same distance in the river. What is the rate of the stream (in km/h)?
  1. 4   **2.** 1   **3.** 3   **4.** 2

75. The annual agricultural production (in tonnes) of an Indian state is given in the pie chart. The total production is 12960 tonnes.
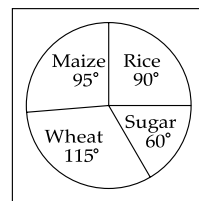
  What is the annual production of Maize?
  1. 3240 tonnes   **2.** 4140 tonnes
  3. 3420 tonnes   **4.** 2160 tonnes

General Awareness

76. In India the principle of 'procedure established by law' is taken from which constitution?
　1. Canada　　　　　　　2. Irish
　3. Japan　　　　　　　 4. South Africa

77. Supply of Money is the quantity of money _____.
　1. during the calendar year　2. as on any point of time
　3. during the fiscal year
　4. during any specified period of time

78. Gugga Naumi festival is celebrated in which of the following states?
　1. Gujarat　　　　　　　2. Uttarakhand
　3. Himachal Pradesh　　 4. Haryana

79. The term 'Dressage' is associate with:
　1. equestrian　　　　　　2. polo
　3. rugby　　　　　　　　4. water polo

80. Shovana Narayan, a famous Kathak dancer, received the _____ in 1992.
　1. Padma Bhushan　　　　2. Kalidas Samman
　3. Kabir Puraskar　　　　4. Padma Shri

81. Which of the following topped the Swachh Vayu Survekshan (SVS) 2023 in the first category of million plus population?
　1. Indore　　2. Agra　　3. Thane　　4. Pune

82. Who among the following is the author of 'G20 @ 2023: The Roadmap to Indian Presidency'?
　1. Sonal Raghuvanshi　　　2. Prateek Kukreja
　3. V. Srinivas　　　　　　4. Patrick Bond

83. The committee to 'Operationalise the Suggestions to Teach Fundamental Duties to the Citizens of the Country' is popularly known as the _____.
　1. LP Singh committee　　　2. Abhijit Sen committee
　3. Paul Appleby committee　4. JS Verma Committee

84. Which of the following airports is India's first to be completely powered by solar energy?
　1. Kempe Gowda International Airport (KIA), Bangalore
　2. Indira Gandhi International Airport (IGIA), Delhi
　3. Cochin International Airport Limited (CIAL), Kerala
　4. Chhatrapati Shivaji Maharaj International Airport (CSMIA), Mumbai

85. Which of the following was added to the G-20 group to make it G-21 at the 2023 New Delhi G-20 summit?
　1. Ukraine　　　　　　　2. African Union
　3. Pakistan　　　　　　　4. Vietnam

86. In which year was the Vernacular Press Act passed?
　1. 1867　　2. 1882　　3. 1878　　4. 1876

87. Asgari Bai is primarily remembered for her contribution to which of the following genres of music?
　1. Folk　　2. Carnatic　　3. Dhrupad　　4. Ghazal

88. GNP at MP less _____ gives us GDP at MP.
　1. depreciation　　　　　2. indirect taxes
　3. net factor income from abroad　4. subsidies

89. Which of the following is the INCORRECT sequence of national income from broader to narrower concepts?
　1. GNP at market prices – NNP at factor cost – NNP at market prices – GNP at factor cost

　2. GNP at market prices – NNP at market prices – NNP at factor cost – Personal income
　3. NNP at factor cost – Personal income – Personal disposable income
　4. GNP at factor cost – NNP at factor cost – Personal income – Personal disposable income

90. If the uncertainty in position and momentum are equal, the uncertainty in velocity will be:
　1. $\sqrt{h/\pi}$　　　　　　2. $1/2m\sqrt{h/\pi}$
　3. $\sqrt{h/2\pi}$　　　　　 4. $\sqrt{h/2\pi}m$

91. The book "Rajatarangini' is about the history of which state written in 12th century CE?
　1. Bengal　　2. Kashmir　　3. Sindh　　4. Assam

92. Chhau is a popular folk dance of which state-pair from the following?
　1. Assam and Bihar　　　　2. Odisha and Bihar
　3. Bihar and West Bengal　4. Odisha and West Bengal

93. Which of the following rivers originates from the Milam Glacier in Uttarakhand?
　1. Sutlej　　2. Ganges　　3. Gori Ganga　4. Yamuna

94. Which of the following is an advantage of foreign competition?
　1. No requirement to develop new products
　2. Incentive to produce efficiently
　3. Expansion of foreign market
　4. Saving of foreign exchange reserves

95. Which of the following cell organelles can make copies of themselves?
　1. Golgi apparatus　　　　2. Vacuole
　3. Cytoplasm　　　　　　4. Mitochondria

96. Match List I with List II and choose your answer from the code below:

List I	List II
i. Service tax	a. Capital receipt
ii. Interest receipts	b. Revenue expenditure
iii. Sale of shares of PSUs	c. Non-tax revenue
iv. Salaries and pension	d. Tax revenue

　1. i-d, ii-c, iii-b, iv-a　　2. i-c, ii-b, iii-a, iv-d
　3. i-d, ii-c, iii-a, iv-b　　4. i-d, ii-a, iii-c, iv-b

97. Which of the following is a valid bond in Alkenes that connects carbon atoms?
　1. Single bond　　　　　　2. Double bond
　3. Triple bond　　　　　　4. Not connected

98. Vaibhav Taneja has been appointed as the Chief Financial Officer (CFO) of which of the following?
　1. Tesla　　2. Meta　　3. Microsoft　　4. Alphabet

99. Who among the following wrote in calligraphic style the Hindi version of the original Indian Constitution?
　1. SN Mukherjee　　　　　2. Prem Behari Narain Raizada
　3. Vasant Krishan Vaidya　4. Nand Lal Bose

100. In the context of mapping climate data, what term refers to a line drawn through all points on a map that contain the same amount of cloud?
　1. Isohels　　2. Isocheim　　3. Isonephs　　4. Isochalaz

Answer Key

1.	(1)	2.	(3)	3.	(1)	4.	(3)	5.	(1)	6.	(4)	7.	(2)	8.	(2)	9.	(3)	10.	(2)
11.	(4)	12.	(2)	13.	(4)	14.	(4)	15.	(4)	16.	(1)	17.	(1)	18.	(1)	19.	(4)	20.	(4)
21.	(3)	22.	(3)	23.	(2)	24.	(3)	25.	(2)	26.	(3)	27.	(1)	28.	(1)	29.	(3)	30.	(2)
31.	(3)	32.	(2)	33.	(4)	34.	(4)	35.	(2)	36.	(4)	37.	(3)	38.	(4)	39.	(2)	40.	(3)
41.	(4)	42.	(3)	43.	(1)	44.	(3)	45.	(4)	46.	(1)	47.	(2)	48.	(3)	49.	(3)	50.	(1)
51.	(4)	52.	(2)	53.	(1)	54.	(3)	55.	(4)	56.	(1)	57.	(3)	58.	(4)	59.	(1)	60.	(4)
61.	(1)	62.	(1)	63.	(2)	64.	(2)	65.	(2)	66.	(2)	67.	(4)	68.	(1)	69.	(1)	70.	(1)
71.	(4)	72.	(1)	73.	(3)	74.	(3)	75.	(3)	76.	(3)	77.	(4)	78.	(4)	79.	(1)	80.	(4)
81.	(1)	82.	(3)	83.	(4)	84.	(3)	85.	(2)	86.	(3)	87.	(3)	88.	(3)	89.	(1)	90.	(2)
91.	(2)	92.	(4)	93.	(3)	94.	(2)	95.	(4)	96.	(3)	97.	(2)	98.	(1)	99.	(3)	100.	(3)