30

YEAR-WISE

SSC CGL

COMBINED GRADUATE LEVEL **TIER I**

PW

PREVIOUS YEAR
SOLVED PAPERS
(2024 - 2018)

		Held on: (9 Sep 2024 S - 1)	Held on: (12 Sep 2024 S - 3)	Held on: (18 Sep 2024 S - 2)	Held on: (25 Jul 2023 S - 3)	Held on: (27 Jul 2023 S - 3)	Held on: (1 Dec 2022 S - 1)	Held on: (11 Apr 2022 S - 1)	Held on: (13 Aug 2021 S - 3)	Held on: (3 Mar 2020 S - 3)	Held on: (4 June 2019 S - 2)
SSC CGL Tier 1 TREND ANALYSIS										

SSC CGL Tier 1 TREND ANALYSIS

SECTION (A): GENERAL AWARENESS

		Held on: (9 Sep 2024 S - 1)	Held on: (12 Sep 2024 S - 3)	Held on: (18 Sep 2024 S - 2)	Held on: (25 Jul 2023 S - 3)	Held on: (27 Jul 2023 S - 3)	Held on: (1 Dec 2022 S - 1)	Held on: (11 Apr 2022 S - 1)	Held on: (13 Aug 2021 S - 3)	Held on: (3 Mar 2020 S - 3)	Held on: (4 June 2019 S - 2)
1	History	5	4	4	4	5	4	5	3	4	4
2	Geography	2	3	4	4	3	2	2	3	1	2
3	Polity	2	1	2	2	2	2	1	2	-	2
4	Economics	2	3	2	1	2	1	2	3	1	-
5	Sports	1	2	2	3	1	1	2	1	2	1
6	Static GK	5	5	3	7	5	6	6	6	8	6
7	Physics	-	1	-	1	1	2	-	-	1	-
8	Chemistry	2	1	2	1	2	2	-	1	1	3
9	Biology	2	1	2	1	1	1	3	1	2	1
10	Current affairs	4	4	4	1	3	4	4	5	5	6
	Total	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**

SECTION (B): GENERAL INTELLIGENCE AND REASONING

		Held on: (9 Sep 2024 S - 1)	Held on: (12 Sep 2024 S - 3)	Held on: (18 Sep 2024 S - 2)	Held on: (25 Jul 2023 S - 3)	Held on: (27 Jul 2023 S - 3)	Held on: (1 Dec 2022 S - 1)	Held on: (11 Apr 2022 S - 1)	Held on: (13 Aug 2021 S - 3)	Held on: (3 Mar 2020 S - 3)	Held on: (4 June 2019 S - 2)
1	Analogies	4	5	5	6	7	5	2	2	5	6
2	Classification	2	2	3	1	2	2	1	1	3	3
3	Directions							1			
4	Number & Alphabetical Series	5	4	4	3	2	3	3	4	2	2
5	Coding and Decoding	2	2	3	3	1	2	4	3	2	2
6	Logical Sequence				1		1	1	1	1	1
7	Arithematic Reasoning							1	1	1	1
8	Mathematical Operations	2	2	2	2	3	3	2	2	1	1
9	Seating Arrangement								1		
10	Blood Relationships	1	1	1	2	1	2	1	1	1	1
11	Calender				1						
12	Syllogism	2	1			3	2	1	1	1	1
13	Counting of Figure	1	1	1						1	1
14	Venn Diagram		1					1	1	1	1
15	Order and Ranking							1			
16	Puzzle										
17	Cube & Dice	2	2		1		1	1	1	1	1
18	Missing Number							1	1	1	
19	Paper Cutting and Folding		1	2				1	1	1	1
20	Completion of Figure										
21	Mirror and Water Image	2	1	1	2	3	1	1	1	1	1
22	Embedded Figure			1	1	1	1	1	1	1	1
23	Non-Verbal Series	2	2	2	2	2	2	1	2	1	1
	Total	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**

SECTION (C): QUANTITATIVE APTITUDE

		Held on: (9 Sep 2024 S - 1)	Held on: (12 Sep 2024 S - 3)	Held on: (18 Sep 2024 S - 2)	Held on: (25 Jul 2023 S - 3)	Held on: (27 Jul 2023 S - 3)	Held on: (1 Dec 2022 S - 1)	Held on: (11 Apr 2022 S - 1)	Held on: (13 Aug 2021 S - 3)	Held on: (3 Mar 2020 S - 3)	Held on: (4 June 2019 S - 2)
1	Number system	1	2	1		2	1	1	1	1	1
2	BODMAS, Decimals, Fractions			1	1	1		1	2	2	1
3	LCM & HCF						1	1			
5	Average & Ages	1		2		1	1	1	1	1	1
6	Ratio and Proportion & Partnership	1	1	1	1	2	1	1	1	1	1

#	Topic										
7	Percentages	1	1	1	2		1	1	1	1	1
8	Mixture & Alligation		1		1				1		
9	Mensuration	1	3	2	2	2	3	1	1	1	1
10	Geometry	4	2	3	1	2	2	4	4	4	4
11	Time and Work & Pipes & Cistern	2	1	1	3	4	1	1	2	1	1
12	Speed, Time and Distance and Boat & Stream	1	1	1	2	2	1	1	2	1	1
13	Simple and Compound Interest	1	1	1	1	1	1	1	1	1	1
14	Profit and Loss	2	2	3	1	1	2	2	2	2	2
15	Algebra	3	2	2	4	2	3	2	3	2	3
16	Trigonometry and Height & Distance	3	3	3	4	3	3	3	3	3	3
17	Graphs of Linear Equations		1								
18	Data Interpretation	4	4	3	2	2	4	4		4	4
	Total	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**
	SECTION (D): ENGLISH COMPREHENSION										
	Error Spotting	2	2	2	2	1	1	4	2	2	2
	Sentence Improvement	2	2	3	2	2	4	2	2	2	2
	Fill in the Blanks	1	2		2	3	2	1	2	2	2
	Narration						1	1	1	1	
	Voice	2	2	2	2	2	2	2	1	1	2
	Synonym	5	2	4	1	2	1	3	2	2	2
	Antonym	1	3	2	4	2	3	2	2	2	2
	Idioms	1	1	2	1	2	2	2	2	2	2
	One Word Substitution	4	2	1	3	1		2	2	2	2
	Spelling Error	2	2	2	2	2	2	1	2	2	2
	Cloze Test	5	5	5	5	5	5	5	5	5	5
	Para Jumbles		2	2	1	3	1		2	2	2
	Miscellaneous						1				
	Total	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**	**25**

SSC CGL Tier I Difficulty Level 2024 (9 Sep 2024 Shift -1)

Subject	Good Attempts	Difficulty Level
General Intelligence	20-22	Easy to Moderate
General Awareness	21-23	Easy to Moderate
Quantitative Aptitude	18-21	Moderate
English Language	20-22	Moderate
Overall	79-88	Easy to Moderate

SSC CGL Tier I Difficulty Level 2024 (12 Sep 2024 Shift - 3)

Subject	Good Attempts	Difficulty Level
General Intelligence	22-23	Easy to Moderate
General Awareness	17-19	Moderate
Quantitative Aptitude	21-23	Easy to Moderate
English Language	22-24	Easy to Moderate
Overall	82-89	Easy to Moderate

SSC CGL Tier I Difficulty Level 2024 (18 Sep 2024 Shift - 2)

Subject	Good Attempts	Difficulty Level
General Intelligence	22-23	Easy to Moderate
General Awareness	21-23	Easy to Moderate
Quantitative Aptitude	19-21	Moderate
English Language	21-23	Easy to Moderate
Overall	83-90	Easy to Moderate

Contents

5 ONLINE COMPUTER BASED TESTS

SCAN ME

MONTHLY CURRENT AFFAIRS MAGAZINE

SCAN ME

SSC CGL TIER-I 2024

(Held On: 9 Sep 2024 Shift - 1)
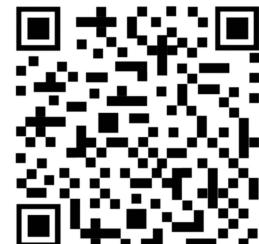
INSTRUCTIONS

Number of Questions: 100 **Time:** 60 Minutes

Read the following instructions carefully:

1. The test contains 4 sections with 100 questions.
2. Each question has 4 options, out of which only one is correct.
3. You must finish the test in 60 minutes.
4. You will be awarded 2 marks for each correct answer, and 0.5 marks will be deducted for each wrong answer.
5. There is no negative marking for unanswered questions.

GENERAL INTELLIGENCE AND REASONING

1. What will come in place of the question mark (?) in the following equation, if '+' and '−' are interchanged and '×' and '÷' are interchanged?

    $4515 × 5 − 431 ÷ 3 + 821 = ?$
    (a) 1335   (b) 1775
    (c) 1575   (d) 1375

2. 31 is related to 152 by certain logic. Following the same logic, 47 is related to 168. To which of the following is 66 related, following the same logic? (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 /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.)
    (a) 180   (b) 187
    (c) 185   (d) 190

3. Six letters Q, Z, V, T, L and A are written on different faces of a dice. Two positions of this dice are shown in the figures below. Find the letter on the face opposite to Q.
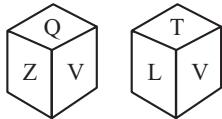
    (a) Z   (b) T
    (c) V   (d) A

4. In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. In three of the four pairs, the same pattern is applied and hence they form a group. Select the number-pair that DOES NOT belong to this group.
    (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/subtracting/multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)
    (a) 335 – 119   (b) 358 – 152
    (c) 317 – 101   (d) 308 – 92

5. In a certain code language, 'NAME' is written as 'FNBO' and 'NANO' is written as 'POBO'. How will 'NAIL' be written in that language?
    (a) MOBJ   (b) MJOB
    (c) MOJB   (d) MJBO

6. The question contains pairs of words that are related to each other in a certain way. Three of the following four word pairs are alike as these have the same relationship and thus form a group. Which word pair is the one that DOES NOT belong to that group?

    (The words must be considered as meaningful English words and must not be related to each other based on the number of letters/number of consonants/vowels in the word.)
    (a) Pentagon-5 sides (b) Hexagon-8 sides
    (c) Triangle-3 sides (d) Square-4 sides

7. The position of how many letters will remain unchanged if each of the letters in the word 'NIGHTMARES' is re-arranged in the English alphabetical order from left to right?

    (a) One   (b) Four
    (c) Two   (d) Three

8. What will come in the place of '?' in the following equation, if '+' and '−' are interchanged and '×' and '÷' are interchanged?

    $5 − 4 ÷ 9 + 80 × 10 = ?$
    (a) 31   (b) 33
   (c) 35   (d) 30

9. Select the option in which the numbers share the same relationship as that shared by the given pair of numbers.

    (149, 213), (168, 232)

    (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/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.)
    (a) (162, 222)   (b) (153, 217)
    (c) (137, 211)   (d) (144, 198)

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

    (a) ɹ Ɛ ℓ ɹ Ⅎ ⅃ ʎ   (b) ɹ Ɛ ℓ ɹ ↑ T ʎ
    (c) n 9 3 ɹ ↑ T ʎ   (d) n Ɛ ℓ r ↑ T y
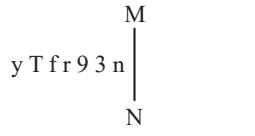
11. Select the option that is related to the fifth letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster and the fourth letter-cluster is related to the third letter-cluster.

MEK: NVP :: GYT: TBG :: JWH:?
(a) QDS   (b) PCR
(c) QDT   (d) PCS

12. Three statements are given followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

Statements:

No card is a parcel.

All cards are envelopes.

Some envelopes are bags.

Conclusions:
I. All envelopes can never be parcels.
II. No card is a bag.
III. At least some bags are postcards.
(a) Only I follows
(b) Only II follows
(c) Only I and III follow
(d) Only II and III follow

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

M
b c F g I |
N
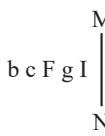
(a) I g ꟻ c b   (b) I g ꟻ c b
(c) I g ꟻ c d   (d) I g F ɔ b

14. Identify the option figure that when put in place of the question mark (?) will logically complete the series.

(a)   (b)
(c)   (d)
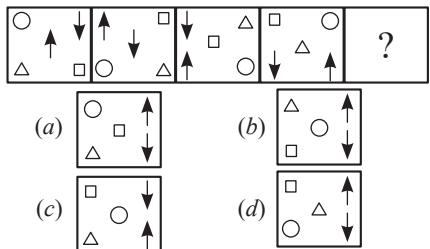
15. Which of the four options will replace the question mark (?) in the following series?
UE 88, VG 84, WI 80, XK76, ?
(a) ZM72   (b) ZN71
(c) YN73   (d) YM72

16. Select the option that represents the letters that when placed from left to right in the blanks below will complete the letter series.
L_P_QS_K_P_S_KP_Q_L__PQS
(a) KPLPLQLSPK (b) PKLPQPLSKP
(c) KPLPQQLPSK (d) KPLPQLPSKP

17. Identify the figure from the given options, which when put in place of the question mark (?), will logically complete the series.
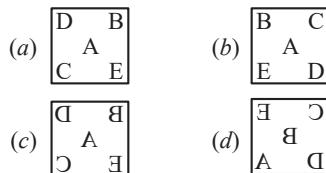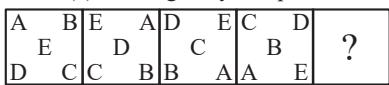

18. Six numbers 21, 22, 23, 24, 25 and 26 are written on different faces of a dice. Three positions of this dice are shown in the figure. Find the number on the face opposite to 24.
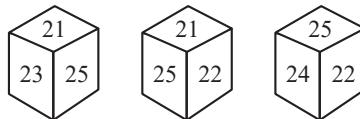
(a) 26   (b) 25
(c) 22   (d) 21

19. How many triangles are there in the given figure?
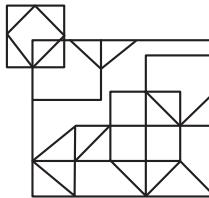
(a) 21   (b) 20
(c) 18   (d) 19

20. In a certain code language, 'what where how' is written as 'aa dd ff'; 'where there that' is written as 'dd zz pp' and 'which what here' is written as 'ff kk ll'. How is 'how' written in that language?
(a) aa   (b) kk
(c) zz   (d) ff

21. Three statements are given followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

Statements:

Some tears are drops.

Some drops are streams.

All streams are rivers.

Conclusions:
I. All tears can never be rivers.
II. Some drops are rivers.
III. All tears being streams is a possibility.
(a) Only conclusion I follows
(b) Both II and III conclusion follow
(c) Only conclusion III follows
(d) Both I and II conclusion follow

22. Which of the following terms will replace the question mark (?) in the given series?
YZUW, ?, QTQU, MQOT, INMS
(a) UWSV   (b) UWVS
(c) USWV   (d) WUSV

23. In a certain code language,
'A + B' means 'A is the mother of B',

'A – B' means 'A is the father of B',

'A $ B' means 'A is the son of B',

'A % B' means 'A is the sister of B',

'A / B' means 'A is the wife of B' and

'A = B' means 'A is the brother of B'.

Which of the following means A is the daughter of K?
i. A + K / J – P = D
ii. J % P = K + A = D
iii. K + A / P – D % J
iv. D + K = A / P – J
(a) i   (b) iii
(c) ii   (d) iv

24. 19 is related to 209 following a certain logic. Following the same logic, 27 is related to 297. To which of the following is 61 related, following the same logic?
(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 /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)
(a) 653   (b) 600
(c) 571   (d) 671

25. Which of the following numbers will replace the question mark (?) in the given series? 1, 3, 10, 41, ?, 1237
(a) 202   (b) 210
(c) 200   (d) 206

GENERAL AWARENESS

26. In which year was Project Tiger launched in India?
(a) 1973   (b) 1970
(c) 1972   (d) 1985

27. Lathmar Holi is primarily celebrated in the state of:
(a) Karnataka
(b) Himachal Pradesh
(c) Arunachal Pradesh
(d) Uttar Pradesh

28. Which of the following awards was won by Lata Mangeshkar in the year 2001?
(a) Dadasaheb Phalke Award
(b) Padma Vibhushan
(c) Bharat Ratna
(d) Filmfare Lifetime Achievement Award

29. Details about Sudarshana lake is given in a rock inscription at Girnar (Junagarh), which was composed to record the achievements of the Shaka ruler _____.
(a) Chashtana   (b) Rudradaman I
(c) Rudrasimha III   (d) Maues

30. _____ is an industry association and self-regulatory organisation (SRO) whose primary objective is to work towards the robust development of the microfinance sector.

(a) NABARD
(b) Self-help Group Association
(c) Microfinance and Investments Regulatory Authority
(d) Microfinance Institutions Network

31. Which article has a similar provision to that of Article 32 and deals with writ jurisdiction?
(a) Article 228　　(b) Article 227
(c) Article 226　　(d) Article 225

32. Which of the following is NOT a condition for the President's office in India?
(a) He shall not hold any office of profit.
(b) The allowances shall not be diminished during his term of office.
(c) He shall not be entitled, without payment of rent, to use his official residence.
(d) He shall not be a member of either House of the Parliament.

33. Which of the following statements best defines the monoecious?
(a) A flower with gynoecium only
(b) A flower with androecium only
(c) A flower with both androecium and gynoecium
(d) A flower with dithecous

34. Mohan Veena player, Pandit Vishwa Mohan Bhatt won the _____ Award in the year 1994.
(a) Grammy
(b) Sangita Kalanidhi
(c) Oscar
(d) Sangeet Natak Akademi

35. Who is Union Minister of State (Independent Charge) for Science and Technology as of July 2023?
(a) Dharmendra Pradhan
(b) Jitendra Singh
(c) Ashwini Vaishnaw
(d) Ramesh Pokhriyal

36. Which of the following decomposition reactions is NOT a redox reaction?
(a) Decomposition of sodium hydride
(b) Decomposition of calcium carbonate
(c) Decomposition of potassium chlorate
(d) Decomposition of dihydrogen monoxide

37. Who among the following has authored the play 'Nil Darpan'?
(a) Chittaranjan Das
(b) Motilal Nehru
(c) Dinabandhu Mitra
(d) Sarojini Naidu

38. Who among the following formed the Bihar Provincial Kisan Sabha in 1929?
(a) Jayprakash Narayan
(b) JM Sengupta
(c) Kunwar Singh
(d) Swami Sahajanand Saraswati

39. Which plateaus are very fertile because they are rich in black soil that is very good for farming?

(a) Deccan lava plateau
(b) African plateau
(c) Ethiopian plateau
(d) Katanga plateau

40. Which of the following is a correct order of basicity?
(a) LiOH > NaOH > KOH > CsOH
(b) KOH > CsOH > NaOH > LiOH
(c) LiOH > KOH > CsOH > NaOH
(d) CsOH > KOH > NaOH > LiOH

41. Which of the following pairs is INCORRECT regarding the grade of organisation and its example?
(a) Cell-tissue grade organisation-Jellyfish
(b) Cellular grade organisation-Sycon
(c) Protoplasmic grade organisation-Paramecium
(d) Tissue-organ grade organisation-Euplectella

42. The head office of Board of Control for Cricket in India (BCCI) is located in _____.
(a) Kolkata　　(b) Chennai
(c) Mumbai　　(d) New Delhi

43. When the analysis of population density is done by calculating it through net cultivated area, then the measure is termed as:
(a) Net density
(b) Gross density
(c) Agricultural density
(d) Physiological density

44. Mahendravarman I was the ruler of which of the following dynasties?
(a) Pallava　　(b) Pandya
(c) Chalukya　　(d) Chola

45. What challenge does foreign investment often face in India?
(a) Excessive foreign competition
(b) Lack of skilled labour
(c) Lack of consumer base
(d) Inconsistent regulatory environment

46. Which of the following states is the biggest producer of Pulses?
(a) Bihar
(b) Madhya Pradesh
(c) Punjab
(d) Haryana

47. Who founded the Prarthana Samaj in Mumbai in 1867?
(a) Gopal Krishna Gokhale
(b) Shri Ram Bajpai
(c) Atmaram Pandurang
(d) Ram Mohan Roy

48. Who is the Chief Minister of Tamil Nadu as of July 2023?
(a) KN Nehru　　(b) Pinarayi Vijayan
(c) M Yedurappa　　(d) MK Stalin

49. In which city was the first golf club of India situated?
(a) Kolkata　　(b) Mysore
(c) Shimla　　(d) Gulmarg

50. Which Indian among the following has his name in Time Magazine's list of '100 most influential people of 2021'?
(a) Amit Shah
(b) Narendra Modi
(c) Neeraj Chopra
(d) Virat Kohli

QUANTITATIVE APTITUDE

51. A grocer professes to sell rice at the cost price, but uses a fake weight of 870 g for 1 kg. Find his profit percentage (correct to two decimal places).
(a) 11.11%　　(b) 14.94%
(c) 15.11%　　(d) 18.21%

52. The value of $\cos^2 29° + \cos^2 61°$ is:
(a) $\dfrac{\sqrt{3}}{2}$　　(b) 2
(c) 0　　(d) 1

53. In a circular race of 840 m, A and B start running in the same direction at the same time from the same point at the speeds of 6 m/s and 12 m/s, respectively. After how much time will they meet next?
(a) 140 s　　(b) 40 s
(c) 70 s　　(d) 20 s

54. Let O be the centre of the circle and AB and CD are two parallel chords on the same side of the radius. OP is perpendicular to AB and OQ is perpendicular to CD. If AB = 10 cm, CD = 24 cm and PQ = 7 cm, then the diameter (in cm) of the circle is equal to:
(a) 24　　(b) 13
(c) 12　　(d) 26

55. Which of the following statements is sufficient to conclude that two triangles are congruent?
(a) One side and one angle of both triangles are equal.
(b) These have two equal sides and the same perimeter.
(c) These have the same area and the same base.
(d) These have the same base and the same height.

56. The given table shows the percentage of marks obtained by three students in three different subjects in a institute (maximum marks are given in brackets)

Subject Student	History (175)	Geography (200)	Botany (125)
Ram	54	87	71
Mohan	51	79	78
Shyam	75	49	76

If in order to pass the exam, a minimum of 105 marks are needed in History, how many students pass in the exam?
(a) 2　　(b) 3
(c) 1　　(d) 0

57. Fill pipe P is 21 times faster than fill pipe Q. If Q can fill a cistern in 110 minutes, find the time it takes to fill the cistern when both fill pipes are opened together.
(a) 3 minutes   (b) 5 minutes
(c) 4 minutes   (d) 6 minutes

58. The following table shows the marks(out of 100) obtained by five students in five different subjects.

Student /Subject	Tarun	Rohit	Mohit	Shobhit	Sumit
Maths	65	69	73	76	90
Physics	80	76	84	85	88
Chemistry	75	84	77	76	78
English	85	88	90	86	82
Physical Education	90	94	95	78	68

Who obtained 72% marks in all the subjects taken together
(a) Rohit   (b) Tarun
(c) Mohit   (d) Sumit

59. R pays ₹100 to P with ₹5, ₹2 and ₹1 coins. The total number of coins used for paying are 40. What is the number of coins of denomination ₹5 in the payment?
(a) 13   (b) 17
(c) 16   (d) 18

60. The radii of the two cones are in the ratio of 2 : 5 and their volumes are in the ratio of 3 : 5. What is the ratio of their heights?
(a) 13 : 11   (b) 4 : 11
(c) 11 : 15   (d) 15 : 4

61. Which of the following can be the value of 'k' so that the number 217924k is divisible by 6?
(a) 2   (b) 6
(c) 0   (d) 4

62. In an election between two candidates, y% of the voters did not vote. 10% of the votes cast were declared invalid, while all the valid votes were cast in favour of either of the two candidates. The candidate who got 59.375% of the valid votes cast was declared elected by 2484 votes. If the number of people eligible to vote in that election was 16, 000, what is the value of y?
(a) 8   (b) 8.4   (c) 7.5   (d) 7.2

63. An article is marked at ₹550. If it is sold at a discount of 40%, then the selling price becomes 10% more than its cost price. What is the cost price (in ₹)?
(a) 330   (b) 220
(c) 300   (d) 200

64. If the sum of two sides of an equilateral triangle is 16 cm, then find the third side.
(a) Cannot be found (b) 16 cm
(c) 4 cm   (d) 8 cm

65. Simplify $\dfrac{(x^2-9)}{x+3}$
(a) $x - 9$ (b) $x + 9$
(c) $x - 3$ (d) $\sqrt{x^2-9}$

66. The following table shows the total candidates appeared and number of candidates present, in different exam centres – P, Q and R.
Study the table and answer the question that follows.

Year	P Total	P Present	Q Total	Q Present	R Total	R Present
2016	45	42	56	45	55	50
2017	50	45	75	55	45	40
2018	64	60	65	45	65	55
2019	80	69	84	72	70	62
2020	55	44	80	66	90	85

'Total' denotes total candidates applied for the centre, 'Present' denotes the candidates appeared.
In which year was the number of absentees the second highest in total of all centres?
(a) 2018   (b) 2019
(c) 2020   (d) 2017

67. The distance between the centres of two circles of radii 22 cm and 10 cm is 37 cm. If the points of contact of a direct common tangent to these circles are M and Q, then find the length of the line segment MQ.
(a) 39 cm   (b) 29 cm
(c) 35 cm   (d) 25 cm

68. The value of sin²30 – sin² 40 + sin²45 – sin²55 – sin²35 + sin²45 – sin²50 + sin²60 is:
(a) 4   (b) 0   (c) 1   (d) 2

69. The average marks (out of 100) of boys and girls in an examination are 75 and 80, respectively. If the average marks of all the students in that examination are 78. Find the ratio of the number of boys to the number of girls.
(a) 1 : 3   (b) 2 : 3   (c) 1 : 2   (d) 3 : 4

70. Rajesh in his printing press, got an order to print some books, out of which he completed $\dfrac{17}{27}$ of the order in 34 days, In how many days did he complete the entire order of printing?
(a) 54   (b) 60
(c) 56   (d) 20

71. $\dfrac{x^3+15x^2+75x+125}{x^2-25}(x-5)$.
(a) $x^2 + 5x + 25$ (b) $x^2 - 25$
(c) $x^2 + 10x + 25$ (d) $x^2 + 25$

72. If cosec θ = $\dfrac{5}{3}$, then evaluate (sec²θ –1) × cot²θ × (1 + cot²θ).
(a) $\dfrac{9}{16}$ (b) $\dfrac{25}{9}$ (c) $\dfrac{25}{16}$ (d) $\dfrac{4}{5}$

73. Which of the following can be the value of k, if = $\dfrac{(88 \div 8 \times k - 3 \times 3)}{(6^2 - 7 \times 5 \times k^2)} = 1$?
(a) 2, 7   (b) 4, 7   (c) 3, 10   (d) 1, 10

74. Read the given informating and answer the question that follows.
The following table given the percentage of marks obtained by seven students in six different subjects in and exminations.
The number in the brackets given the maximum marks in each subject.

| Student	Maths (150)	Che. (130)	Phy. (120)	Geo. (100)	Hist. (60)	Comp. Science (40)
Ayush	90	50	90	60	70	80
Aman	100	80	80	40	80	70
Sajal	90	60	70	70	90	70
Rohit	80	65	80	80	60	60
Muskan	80	65	85	95	50	90
Tanvi	70	75	65	85	40	60
Tarun	65	35	50	77	80	80

(a) $90\dfrac{5}{6}\%$ (b) $91\dfrac{1}{6}\%$
(c) 95.16%   (d) 95%

75. Mohan borrows a sum of ₹4, 22, 092 at the rate of 20% per annum simple interest. At the end of the first year, he repays ₹21, 679 towards return of principal amount borrowed. If Mohan clears all pending dues at the end of the second year, including interest payment that accrued during the first year, how much does he pay (in ₹) at the end of the second year?
(a) 561347   (b) 564914
(c) 558380   (d) 556367

ENGLISH COMPREHENSION

76. Select the most appropriate synonym of the given word.
Fatal
(a) Additional   (b) Easy
(c) Deadly   (d) Jovial

77. Select the option that expresses the given sentence in active voice.
Lovely tunes are composed by Domnica.
(a) Domnica composes tunes lovely.
(b) Domnica will compose lovely tunes.
(c) Domnica composes lovely tunes.
(d) Domnica composed lovely tunes.

78. Select the option that expresses the opposite meaning of the underlined word.
The explosive used is of my own formulation, and I can vouch for its efficiency.
(a) Invalidate   (b) Maintain
(c) Witness   (d) Certify

79. The following sentence has been divided into four segments. Identify the segment that contains an error.
Mr. Abhilash and his family / have received / no informations / about the incident.

1. (*d*) After interchanging the sign
   $4515 \div 5 + 431 \times 3 - 821$
   $= 903 + 1293 - 821 = 2196 - 821 = 1375$

2. (*b*) Logic: If a related to b then, $a + 11^2 = b$
   As, 31 related to 152
   $31 + 11^2 = 31 + 121 = 152$
   And,
   47 related to 168
   $47 + 11^2 = 31 + 121 = 168$
   Similarly,
   66 related to?
   $66 + 11^2 = 66 + 121 = 187$

3. (*b*)

Q	V	Z
T	V	L

   So, T is the opposite of Q

4. (*b*) Logic: $a - b$, $a - b = 216$
   (a) $335 - 119 = 216$
   (c) $317 - 101 = 216$
   (d) $308 - 92$
   But, $358 - 152 = 206$

5. (*d*) As, 14 1 13 5
       N   A   M   E
       ✕   + 1
       F   N   B   O
       6   14   2   15
   And,
     14 1 14 15
     N   A   N   O
       ✕
     P   O   B   O
     16 15 2   15
   Similarly,
     14 1 9 12
     N   A   I   L
       ✕   + 1
     M   J   B   O
     13 10 2   15
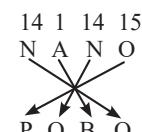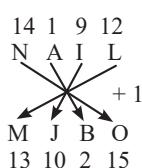
6. (*c*) Hexagon → 6 sides, 3 → 6 sides ≠ 8 sides

7. (*b*) N I G H T M A R E S
      A E G H I M N R S T
   G, H, M and R → 4 letters remain unchange.

8. (*b*) After Interchanging the sign
   $5 + 4 \times 9 - 80 \div 10$
   $= 5 + 36 - 8 = 41 - 8 = 33.$

9. (*b*) Logic: If (a, b), then, $a + 64 = b$
   As, $(149, 213) \Rightarrow 149 + 64 = 213$
   And, $(168, 232) \Rightarrow 168 + 64 = 232.$
   Similarly, $(153, 217) \Rightarrow 153 + 64 = 217$

10. (*b*)

    M
    y T f r 93 n | π Ɛ Ρ ɿ ĩ T ɣ
    N
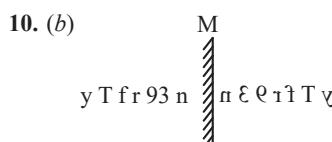
11. (*a*) 13   5   11
        M   E   K
        ↓   ↓   ↓
        N   V   P   Opposite letter
        14   22   16
    And,
      G   Y   T
      ↓   ↓   ↓
      T   B   G
    Similarly,
      10   23   8
      J   W   H
      ↓   ↓   ↓
      Q   D   S   Opposite letter
      17   4   19

12. (*a*)

    Card, Bag, envelopes, Parcel

    So, only I follows.

13. (*a*)

    M
    b e F g I | I g Ⅎ ɔ d
    N

14. (*b*)

15. (*d*)   U   E   88
        ↓+1   ↓+2   ↓−4
        V   G   84
        ↓+1   ↓+2   ↓−4
        W   I   80
        ↓+1   ↓+2   ↓−4
        X   K   76
        ↓+1   ↓+2   ↓−4
        Y   M   72
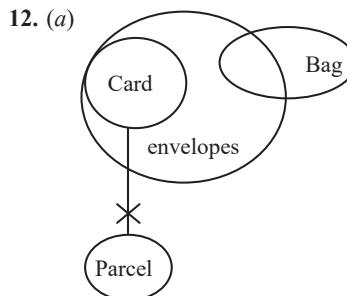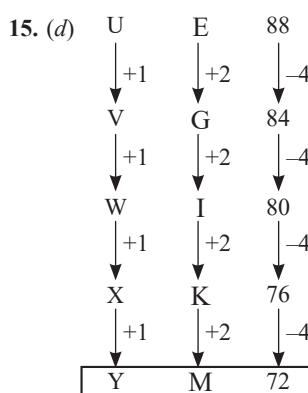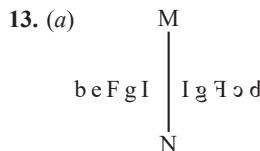
16. (*d*) L K P P Q S | L K P P Q S | L K P P Q S
    | L K P P Q S
    ∴ K P L P Q L S K P

17. (*b*)

18. (*d*)
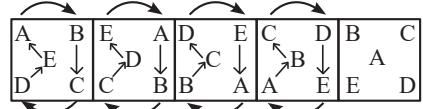
    ∴ 24 → 21
    Opposite faces are

22	25	21
22	25	24

    Thus, 24 opposite to 21

19. (*a*)
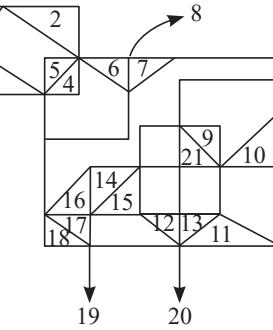
    ∴ Total triangle → 21

20. (*a*) what where how → aa dd ff
    where there that → dd zz pp.
    which what here → ff kk 11
    ∴ how → aa.

21. (*b*)

    tears, drops, streams, river
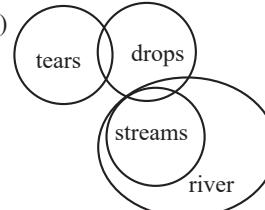
    ∴ Both II and III conclusion follow.

22. (*a*) Y   Z   U   W
        ↓−4   ↓−3   ↓−2   ↓−1
        U   W   S   V
        ↓−4   ↓−3   ↓−2   ↓−1
        Q   T   Q   V
        ↓−4   ↓−3   ↓−2   ↓−1
        M   Q   O   T
        ↓−4   ↓−3   ↓−2   ↓−1
        I   N   M   S

59. (*a*) Let, ratio of ₹ 5, ₹ 2 and ₹ 1 coins are x, y and z.

According to questions,

$5x + 2y + z = 100$ ...(i)

and $x + y + z = 40$ ...(ii)

From (1) and (2)

$5x + 2y + (40 - x - y) = 100$

$\Rightarrow 4x + y = 60$ ...(iii)

From option checking, we can see that $x = 13$ is the only options which satisfied the equation (iii)

60. (*d*) Volume of cone $= \dfrac{1}{3}\pi r^2 h$

According to questions,

$\dfrac{\dfrac{1}{3}\pi r_1^2 h_1}{\dfrac{1}{3}\pi r_2^2 h_2} = \dfrac{3}{5} \Rightarrow \dfrac{4h_1}{25h_2} = \dfrac{3}{5} \Rightarrow \dfrac{h_1}{h_2} = \dfrac{15}{4}$

So, the required ratio 15 : 4.

61. (*a*) Divisibility rule of 3:- sum of digit of number is divisible by 3 then number is also divisible by 3.

Divisiblity rule of 2: last digit of number is 0, 2, 4, 6, 8 then number is also divisible by 2.

According to questions,

$2 + 1 + 7 + 9 + 2 + 4 + k = k + 25$

If $k = 2$,

Then sum will be $25 + 2 = 27$ is completely divided by 3

$\therefore$ It is also divisible by 6.

62. (*a*) According to questions,

$\left(16000 - 16000 \times \dfrac{y}{100}\right) \times \dfrac{90}{100}$

$\times \dfrac{(59.375 - 40.625)}{100} = 2484$

$\Rightarrow (16000 - 160y) \times \dfrac{9}{10} \times \dfrac{18.75}{100} = 2484$

$\Rightarrow (16000 - 160y) \times \dfrac{9}{10} \times \dfrac{3}{16} = 2484$

$\Rightarrow (16000 - 160y) = 92 \times 160$

$\Rightarrow (100 - y) = 92 \Rightarrow y = 8$

63. (*c*) Marked price = ₹ 550.

$SP = 550 \times \dfrac{60}{100} = ₹ 330$

Cost price $= \dfrac{330}{110} \times 100 = ₹ 550$

64. (*d*) According to questions,

Side of triangle $= \dfrac{16}{2} = 8$cm.

= third side of triangle.

65. (*c*) $\dfrac{x^2 - 9}{x + 3} = \dfrac{(x + 3)(x - 3)}{x + 3} = x - 3$

66. (*b*) Option check,

Number of absentees in 2018
= 4 + 20 + 10 = 34.

Number of absentees in 2019
= 11 + 12 + 8 = 31.

Number of absentees in 2020
= 11 + 14 + 5 = 30.

Number of absentees in 2017
= 5 + 20 + 5 = 30.

So, second highest absenters are in 2019.

67. (*c*) The length of direct common tangent

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

Where, d = distance between the centre of the two circles r_1 and r_2 are the radio of the circle $(r_1 > r_2)$

$r_1 = 22$ cm

$r_2 = 10$ cm

$d = 37$ cm.

$L = \sqrt{37^2 - (22 - 10)^2}$

$= \sqrt{1369 - 144} = \sqrt{1225}$

$\Rightarrow L = 35$ cm.

68. (*b*) $\sin^2 30 - \sin^2 40 + \sin^2 45 - \sin^2 55$
$- \sin^2 35 + \sin^2 45 - \sin^2 50 + \sin^2 60$

$= \sin^2 30 - \sin^2 40 + \sin^2 45 - \cos^2 35$
$- \sin^2 35 + \sin^2 45 - \cos^2 40 + \cos^2 30$

$= (\sin^2 30 + \cos^2 30) - (\sin^2 40 + \cos^2 40)$
$+ \sin^2 45 + \sin^2 45 - (\cos^2 35 + \sin^2 35)$

$= 1 - 1 + \dfrac{1}{2} + \dfrac{1}{2} - 1 = 0$

69. (*b*) Let number of boy and girls are x and y. respectively

According to questions,

$75x + 80y = 78 (x + y)$

$\Rightarrow 3x = 2y \Rightarrow \dfrac{x}{y} = \dfrac{2}{3}$

70. (*a*) He completed $\dfrac{17}{27}$ of the order in 34 day

So, he completed the entire order

$= 34 \times \dfrac{27}{17} = 54$

71. (*c*) $\dfrac{x^3 + 15x^2 + 75x + 125}{x^2 - 25} (x - 5)$

$= \dfrac{x^3 + 15x^2 + 75x + 125}{x + 5}$

$= \dfrac{(x + 5)(x^2 + 10x + 25)}{x + 5} = x^2 + 10x + 25.$

72. (*b*) $\csc\theta = \dfrac{5}{3}$
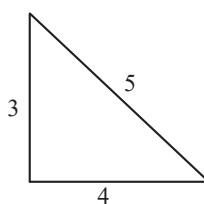
$(\sec^2 \theta - 1) \times \cot^2 \theta \times (1 + \cot^2 \theta)$

$= \left(\dfrac{5^2}{4^2} - 1\right) \times \dfrac{4^2}{3^2} \times \left(1 + \dfrac{4^2}{3^2}\right)$

$= \dfrac{3^2}{4^2} \times \dfrac{4^2}{3^2} \times \dfrac{5^2}{3^2} = \dfrac{25}{9}$

73. (*d*) $\dfrac{(88 \div 8 \times k - 3 \times 3)}{(6^2 - 7 \times 5 + k^2)} = 1$

$\Rightarrow \dfrac{(11k - 9)}{(36 - 35 + k^2)} = 1$

$\Rightarrow 11k - 9 = k^2 + 1$

$\Rightarrow k^2 - 11k + 10 = 0$

$\Rightarrow (k - 10)(k - 1) = 0 \Rightarrow k = 1, 10.$

74. (*b*) If some one get highest marks in all subject
= 150 + 104 + 108 + 95 + 54 + 36 = 547

Required percentage $= \dfrac{547}{600} \times 100 = 91\dfrac{1}{6}\%$

75. (*b*) Simple interest for the first year

$= \dfrac{4,22092 \times 20 \times 1}{100} = \dfrac{8441840}{100} = 84418.4$

As Mohan repays ₹ 21, 679

The remaining pricipal
= 4, 22092 − 21, 679 = 4, 00, 413.

Simple interest for the 2nd year.

$= \dfrac{4,00,413 \times 20 \times 1}{100} = \dfrac{80,08260}{100} = 80,082.6$

Total payment = 4, 00, 413 + 84418.4
+ 80082.6 = 564914

76. (*c*) Fatal (घातक) means causing death or severe harm, and "Deadly"(जानलेवा) is its synonym.

Additional (अतिरिक्त): Not related.

Easy (आसान): Unrelated to "Fatal."

Jovial (हंसमुख): Opposite in nature.

77. (*c*) Active voice places the subject (Domnica) first, followed by the correct verb tense (composes).

78. (*a*) Vouch (प्रमाणित करना) means to confirm or assert, and the opposite is "Invalidate," (अवैध करना) which means to nullify or disprove

1. Maintain (बनाए रखना) To keep something in good condition or to continue something.

2. Witness (गवाह) A "witness" is a person who sees an event take place.

3. Certify (प्रमाणित करना) To officially confirm or prove that something is true or correct.

SSC CGL TIER-I 2018

(Held On: 4 June 2019 Shift - 2)

GENERAL INTELLIGENCE AND REASONING

1. 10 years ago, the age of a father was 7/2 times of the age of his son and after 10 years from now, the age of the father will be 9/4 times of the age of his son. Now, how much is the total sum of the age of father and son?
   (a) 120 years   (b) 115 years
   (c) 110 years   (d) 100 years

2. Two different situations of the same dice are shown. If the number 6 is on the lower board, then what will be the number on the upper board?
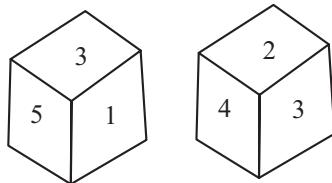
   (a) 4   (b) 1
   (c) 2   (d) 3

3. Select the set in which the numbers are related in the same way as the numbers are related in the set below.

   (10, 18, 38)
   (a) (4, 12, 22)   (b) (14, 12, 8)
   (c) (12, 22, 46)   (d) (18, 6, 14)

4. Three from the following four numbers are somehow identical and one number is uneven. Select that uneven number.
   (a) 12   (b) 14
   (c) 30   (d) 56

5. The way, in which the verb 'deed' is related to 'reaction', _____ is related to 'inciting'.
   (a) Foresight   (b) Feedback
   (c) Response   (d) Welcome

6. Select the option that is related to the third letter group in the same way as the second letter group is related to the first letter group.

   BECD : YVXW : : DGEF : ?
   (a) WUTV   (b) WTVU
   (c) VRTS   (d) XUWV

7. From the given options, select the word pair whose two words are related to each other in the same way as the words of the word pair below are related.

   Heat: Sun
   (a) House: Terrace
   (b) Vitamin: Fruit
   (c) Environment: Humidity
   (d) Ride: car

8. If BACK is coded as 11312 and CAKE as 51113. So how will MADE be coded?
   (a) 13145   (b) 54113
   (c) 51413   (d) 31145

9. To correct the equation given below, which two symbols, should be mutated?

   $18 + 6 - 6 \div 3 \times 3 = 6$
   (a) + and ÷   (b) + and ×
   (c) – and ÷   (d) + and –

10. Three words out of the following four words are somehow similar and one word is uneven. Choose the odd word.
    (a) Tendency   (b) Endurance
    (c) Stability   (d) Persistence

11. Select the next figure in the following figure sequence.
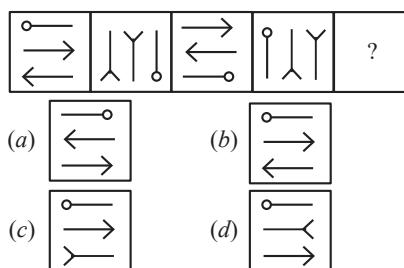
12. In the series given below, what number will replace the question mark (?)?

   2, 5, 11, 23, 44, ?
    (a) 77   (b) 63
    (c) 51   (d) 66

13. A paper is folded and cut as shown below. What will it look like when open it?
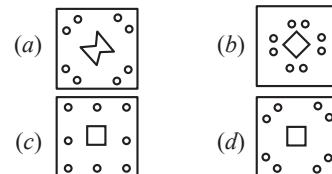
14. Select the option in which the given figure is hidden.
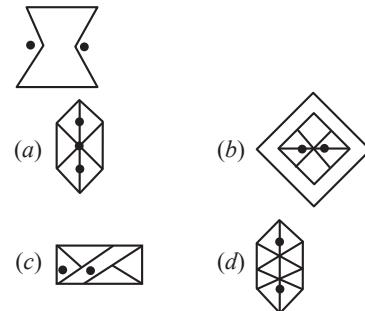
15. Arrange the following words in a logical and meaningful sequence.
    1. Medicine
    2. Disease identification
    3. Consultation
    4. Disease
    5. Health Benefits
    6. Doctor
    (a) 4, 6, 3, 2, 1, 5   (b) 2, 6, 4, 1, 3, 5
    (c) 4, 6, 2, 3, 1, 5   (d) 4, 6, 1, 3, 2, 5

16. Select the letter combination that is placed sequentially on the blank spaces of the letter series given below to complete the given series.

    ac_d_b_cbdd_a_bddb
    (a) bdbca   (b) bdcab
    (c) cbdbc   (d) bdabc

17. Four letter-clusters have been given, out of which three are like in some manner and one is different. Select the odd letter-cluster.
    (a) TWUV   (b) HNLJ
    (c) MSOQ   (d) DGEF

18. Two statements are given below and then conclusions I, II and III are given. Assuming the statement to be true, even if it seems to be at variance from commonly known facts, you have to decide which of the given conclusions logically follows the given statements.

Statement:

Some cars are vehicles.

No vehicle is four wheeler.

Conclusion:

I. There are no cars that are four wheeler.

II. All four wheelers are cars.

III. Some vehicles are cars.

(a) Only conclusion I follows.

(b) Both conclusions I and II follow.

(c) Only conclusion II follows.

(d) Only conclusion III follows.

19. Identify the diagram that best represents the relationship among the given classes.

Parents, rich people, farmers

(a) (b)
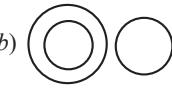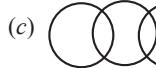
(c) (d)

20. P is father of Q and grandfather of R. R is brother of S.T is the mother of S and is married to V. T is sister of Q. How is V related to P?

(a) Son   (b) Nephew

(c) Brother-in-law   (d) Son-in-law

21. In a code language, TEMPLE is written as DKOLDS. In the same code language, how will be WORSHIP written as?

(a) OHGRQNV   (b) OGHQRVN

(c) QJITSPX   (d) VNQGHOR

22. Select the set in which the numbers are interlinked in the same way as the numbers are related in the set given below.

(7, 13, 21)

(a) (12, 18, 25)   (b) (17, 22, 30)

(c) (9, 16, 25)   (d) (2, 8, 16)

23. If the mirror is placed on the right side of the diagram given below, then select the right mirror image to be made.
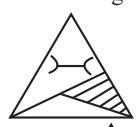

(a) (b)
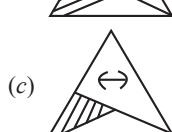
(c) (d)

24. Select the number pair in which the two numbers are related in the same way as the two numbers are related in the number pair given below.

4 : 32

(a) 10 : 160   (b) 8 : 248

(c) 6 : 108   (d) 5 : 62

25. How many triangles are there in the given figure?
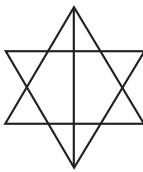
(a) 18   (b) 16

(c) 14   (d) 20

GENERAL AWARENESS

26. How many great powers (Mahajanapada) existed in the seventh and sixth centuries BCE during the life of Lord Gautama Buddha?

(a) 11   (b) 13   (c) 17   (d) 16

27. Which of the following Articles of the Constitution of India is related to the Uniform Civil Code?

(a) Article 44   (b) Article 46

(c) Article 45   (d) Article 43

28. Name the first female Prime Minister of the world.

(a) Indira Gandhi

(b) Sirimavo Bandaranaike

(c) Golda Meir

(d) Elizabeth Domitien

29. Which panel set up by the Government of India has suggested the removal of complete control over Chinese industry?

(a) Mr. Krishna Panel

(b) Rangarajan Panel

(c) Ramsevak Panel

(d) Radheshyam Panel

30. Where was the inauguration of Special Olympics World Games 2019?

(a) Abu Dhabi   (b) Sweden

(c) Germany   (d) Austria

31. Which is the traditional musical instrument of Limbu community of Sikkim?

(a) Chutke   (b) Naumati

(c) Chya Brung   (d) Gyurum Sili

32. In March 2019, Social Media Platforms and Internet and Mobile Association of India (IAMI) introduced _____ to the Election Commission of India for the general elections 2019.

(a) Voluntary Code of Conduct

(b) Precautionary Code

(c) List of jobs to be done

(d) Polling List Center

33. Name the pass in Uttarakhand which is used by pilgrims to Kailash-Mansarovar Yatra.

(a) Pensy La   (b) Kurdung

(c) Banihal Pass (d) Lipu Lekh

34. Buckminster Fullerence is an allotrope of which of the following?

(a) Phosphorus   (b) Iron

(c) Carbon   (d) Boron

35. Which of the following is aldehyde?

(a) Propine   (b) Propanone

(c) Propenal   (d) Propanol

36. Name the gland that controls the function of other endocrine glands.

(a) Pancreas   (b) Adrenal gland

(c) Renal gland (d) Pituitary gland

37. Which of the following is NOT one of the monarchical states that existed in India in the seventh and early sixth centuries BC?

(a) Magadha   (b) Vaishali

(c) Avanti   (d) Kosala

38. Who was the first ever female secretary general of SAARC (South Asian Association for Regional Cooperation)?

(a) Antino Guteres

(b) Jeremiah Nymanne Kingsley

(c) Madeleine Albright

(d) Fatimath Dhiyana Saeed

39. Which of the following was the Precursor of the Internet?

(a) APNET   (b) ANET

(c) ARPANET   (d) PANET

40. Which team won the Ranji Trophy final 2017?

(a) Vidarbha   (b) Punjab

(c) Mumbai   (d) Delhi

41. Which of the following biosphere reserves was first established by the Government of India?

(a) Sunderbans Biosphere Reserve

(b) Gulf of Mannar Biosphere Reserve

(c) Nanda Devi Biosphere Reserve

(d) Nilgiri Biosphere Reserve

42. Name the state Chandragupta-I got in dowry from the Lichhavis.

(a) Pataliputra (b) Prayaga

(c) Saketa   (d) Ujjain

43. Who was the founder of the Chalukya dynasty?

(a) Pulakesin I

(b) Kirtivarman I

(c) Narasimhavarman

(d) Mahendravarman

44. Which of the following public sector undertaking was given Maharatna status in February 2013?

(a) ONGC   (b) BHEL

(c) CIL   (d) OIL

45. In which year Project Tiger was launched in India?

(a) 1982   (b) 1992

(c) 1979   (d) 1973

46. _____ is a group folk dance of Sikkim performed in honour of Mount Khangchendzonga, the guardian deity of the Sikkimese people.

(a) Zo-Mal-Lok

(b) Tendong Lo Rum Faat

(c) Chu-Faat

(d) Kinchum-Chu-Bomsa

47. Which of the following has a very strong aroma of the fruit?
(*a*) Methanol (*b*) Ethyl Acetate
(*c*) Methyl chloride (*d*) Methanoic acid

48. "What is the name of the first Indian budget carrier to join the International Air Transport Association (IATA)?
(*a*) Indigo (*b*) SpiceJet
(*c*) Go Air (*d*) Jet Airways

49. The idea of residual powers in the Indian Constitution is derived from the _____ Constitution.
(*a*) South Africa (*b*) America
(*c*) Canada (*d*) Japan

50. "Which of the following states passed the Maintenance of Household Registers Bill in March 2019?
(*a*) Odisha (*b*) Assam
(*c*) Mizoram (*d*) West Bengal

QUANTITATIVE APTITUDE

51. $\left(\dfrac{\sin\theta-2\sin^2\theta}{2\cos^3\theta-\cos\theta}\right)^3 +1, \theta\neq 45°$ is equal to:

(*a*) sec2 θ (*b*) 2 tan2 θ
(*c*) cosec2 θ (*d*) cot2 θ

52. Raju's income is 20% more than his expenditure. If his income increases by 60% and his expenditure increase by 70%, then what percentage of the savings will increase / decrease?
(*a*) will decrease 2%
(*b*) will decrease 10%
(*c*) will increase 10%
(*d*) will increase 2%

53. The ratio of competencies A, B and C is 4: 5: 3. On working together, all three of them complete work in 25 days. In how many days will both A and C together complete 35% of the work?
(*a*) 18 days (*b*) 15 days
(*c*) 12 days (*d*) 10 days

54. Renu bought an item for Rs.1,240 and sold it at a loss of 25%. With that amount, she bought another item and sold it for 40% profit. What percentage of profit did Renu get?

(*a*) 12% (*b*) 5% (*c*) $6\dfrac{2}{3}$% (*d*) 15%

Directions (55-56): The table shows the production (in thousands) of different types of cars.

Years/ Cars	2013	2014	2015	2016	2017
A	35	40	48	50	36
B	39	45	54	60	72
C	52	25	32	54	45
D	50	42	45	46	47
E	36	46	48	48	55

55. The total production of A type cars in year 2015 and C type cars in 2013 is approximately what percent of the total production of D type cars in five years?
(*a*) 42.4 (*b*) 42.8
(*c*) 43.5 (*d*) 40.2

56. What is the ratio of total production of C and E type cars in the year 2013 to D in 2014 and 2016 and total production of E type cars in 2017?
(*a*) 8 : 13 (*b*) 8 : 11
(*c*) 13 : 32 (*d*) 5 : 8

57. Circles of radius 10 cm and 8 cm cut each other at points P and Q. PQ = 12 cm and the distance between the centers of the circle is x cm, then the value of x (*correct to 1 decimal place*):
(*a*) 14.8 (*b*) 12.8
(*c*) 13.9 (*d*) 13.3

58. The nominal value of an article is Rs. 315. It is sold for Rs. 288. If this leads to a loss of 4%, then what percentage of the item was marked more than the cost?

(*a*) $6\dfrac{1}{2}$% (*b*) 5%

(*c*) $5\dfrac{1}{2}$% (*d*) 8%

59. A takes 30 minutes longer than B to cover a distance of 15 km at a certain speed. However, if A doubles his speed, he covers the same distance in an hour less time than B. What is the speed of B (in km / h)?
(*a*) 5 (*b*) 6

(*c*) $6\dfrac{1}{2}$ (*d*) $5\dfrac{1}{2}$

60. The average weight of some students in a class is 68.5 kg. If four new students of 72.2 kg, 70.8 kg, 70.3 kg, 66.7 kg are enrolled in the class, the average weight of students increases to 300 g. Initially, how many students were there in the class?
(*a*) 11 (*b*) 26
(*c*) 21 (*d*) 16

61. If $16x^2 + 9y^2 + 4z^2 = 24(x-y+z) - 61$, then the value of $(xy + 2z)$ will be:
(*a*) 1 (*b*) 2
(*c*) 5 (*d*) 3

62. If x is subtracted from each of 23, 39, 32 and 56, then the numbers obtained in this sequence are in proportion. What will be the mean proportional between (x + 4) and (3x + 1)?
(*a*) 10 (*b*) 15
(*c*) 14 (*d*) 12

63. If $[8(x + y)^3 – 27(x – y)^3] \div (5y – x) = Ax^2 + Bxy + Cy^2$, then, value of $(A + B + C)$ will be:
(*a*) 26 (*b*) 19
(*c*) 13 (*d*) 16

64. A circle with center 'O' is drawn inside a triangle ABC. On increasing AO, it meets the circle on K and AD ⊥ BC. If ∠B = 80° and ∠C = 64º, then the measure of ∠DAK is:
(*a*) 10° (*b*) 12° (*c*) 20° (*d*) 8°

65. In ΔABC, AD ⊥ BC and BE ⊥ AC. AD and BE cut each other at F. If BF = AC, what will be the measure of ∠ABC?
(*a*) 60° (*b*) 45° (*c*) 50° (*d*) 70°

66. ΔABC is similar to ΔDEF. The area of ΔABC is 100 cm² and the area of ΔDEF is 49 cm². If ΔABC's altitude is 5 cm, then ΔDEF will have corresponding altitude:
(*a*) 4.5 cm (*b*) 6 cm
(*c*) 7 cm (*d*) 3.5 cm

67. The table shows the production (in thousands) of different types of cars.

Years/ Cars	2013	2014	2015	2016	2017
A	35	40	48	50	36
B	39	45	54	60	72
C	52	25	32	54	45
D	50	42	45	46	47
E	36	46	48	48	55

In the year 2013, 2014, 2015 and 2017, the total production of B type cars is how much percent less than the total production of all types of cars in the year 2017? (Correct to 1 decimal place)
(*a*) 15.8 (*b*) 17.6 (*c*) 18.2 (*d*) 18.4

68. The table shows the production (in thousands) of different types of cars.

Years/ Cars	2013	2014	2015	2016	2017
A	35	40	48	50	36
B	39	45	54	60	72
C	52	25	32	54	45
D	50	42	45	46	47
E	36	46	48	48	55

If the figures related to the production of B type cars are represented by a circle diagram (pie chart), then the central angle of the sector showing the production of cars in 2016 will be:
(*a*) 72° (*b*) 60° (*c*) 96° (*d*) 80°

69. If $0° < \theta < 90°$ and $\cos^2\theta = 3(\cot^2\theta - \cos^2\theta)$, then the value of $\left(\dfrac{1}{2}\sec\theta + \sin\theta\right)^{-1}$ will be:

(*a*) $2\left(\sqrt{3}-1\right)$ (*b*) $\sqrt{3}+1$

(*c*) $\sqrt{3}+2$ (*d*) $2(2-\sqrt{3})$

70. If, $\cos\theta = \dfrac{2p}{1+p^2}$ then $\tan\theta$ is equal to:

(*a*) $\dfrac{p^2}{1+p^2}$ (*b*) $\dfrac{1-p^2}{1+p^2}$

(*c*) $\dfrac{2p}{1-p^2}$ (*d*) $\dfrac{1-p^2}{2p}$

71. The value of [5 ÷ 5 of 5 × 2 + 2 ÷ 2 of 2 × 5 – (5 – 2) ÷ 6 × 2] is:

(a) $\dfrac{9}{5}$ (b) 19

(c) $\dfrac{23}{2}$ (d) $\dfrac{19}{10}$

72. If the number of eight digits is 789x531y, the number is divisible by 72, then the value of (5x – 3y) will be:

(a) 0   (b) –1

(c) 1   (d) 2

73. At a compounded interest rate of 10% per annum, the interest is Rs.1,623 in $2\dfrac{1}{2}$ years, when interest is annually combined. What is the amount?

(a) Rs.5,000   (b) Rs.6,000

(c) Rs.7,200   (d) Rs.6,500

74. If $x + y + z = 19$, $xy + yz + zx = 114$, then the value of $\sqrt{x^3 + y^3 + z^3 - 3xyz}$ will be:

(a) 17   (b) 13

(c) 19   (d) 21

75. A cuboidal tank measuring 10 m × 8 m × 6 m with a circular hole of one-meter diameter on top, how much of iron sheets (m2) will be needed to make such a tank? (*Correct to 1 decimal place*)

(a) 370.4   (b) 371.6

(c) 375.2   (d) 370.8

ENGLISH COMPREHENSION

76. Choose the most appropriate option to change the voice (*active/passive*) form of the given sentence.

Do not park your car in front of my house.

(a) My house should not be parked in front of your car.

(b) Your car need not be parked in front of my house.

(c) Your car should not be parked in front of my house.

(d) Your car could not be parked in front of my house.

77. Select the word which means the same as the given definition.

A person, plant or animal belonging originally to a place.

(a) occupant   (b) alien

(c) native   (d) resident

78. Select the most appropriate antonym of the given word.

ESCALATE

(a) raise   (b) enlarge

(c) reduce   (d) heighten

79. Select the most appropriate antonym of the given word.

TENDER

(a) rough   (b) warm

(c) gentle   (d) soft

80. Select the most appropriate word to fill in the blank.

The State Government argued that it could not _____ the increase in the teachers' salaries as awarded by the court.

(a) spare   (b) get

(c) stand   (d) afford

81. Given below are four jumbled sentences. Select the option that gives their correct order.

(a) That sort of pollution, which is also widespread in other Southeast Asian nations, regularly kills wildlife like whales and turtles that ingest the waste.

(b) Environmental groups have tagged the Philippines as one of the world's biggest ocean polluters due to its reliance on single-use plastic.

(c) In Thailand also, a whale died last year after swallowing more than 80 plastic bags.

(d) In the latest case, a whale with 40 kilos of plastic trash in its stomach died on Saturday in the Southern Philippines, where it was stranded a day earlier.

(a) ABCD   (b) BADC

(c) DABC   (d) BCAD

82. Select the most appropriate word to fill in the blank.

Scientists at Cambridge University are _____ how plants can give us sustainable energy.

(a) scrutinized   (b) investigating

(c) inspecting   (d) looking

83. Select the word which is spelt incorrectly.

(a) comparison   (b) communication

(c) compitition   (d) comparable

84. Select the most appropriate option to substitute the underlined segment in the given sentence. If no substitution is required, select 'No improvement'.

I <u>look for a better job</u> for the last two months, but nothing is in sight.

(a) have looked for a better job

(b) looked for a better job

(c) have been looking for a better job

(d) No improvement

85. Choose the most appropriate option to change the voice (*active/passive*) form of the given sentence.

The main gate of the building was being guarded by gun-toting guards.

(a) The main gate of the building were guarding gun-totting guards.

(b) Gun-totting guards were guarding the main gate of the building.

(c) Gun-totting guards have been guarding the main gate of the building.

(d) Gun-totting guards guarded the main gate of the building.

86. In the sentence, identify the segment which contains the grammatical error.

Due to Cyclone Idai, vast areas of land have been flooded, roads destroyed, and communications disrupting in Zimbabwe and Mozambique.

(a) vast areas of land have been flooded

(b) roads destroyed

(c) Due to the Cyclone Idai

(d) and communications disrupting

87. Select the most appropriate meaning of the given idiom. Costs an arm and a leg

(a) rarely available   (b) easy to obtain

(c) nothing to lose   (d) very expensive

Directions (88-92): Read the following passage and fill in each blanak with words chosen from the options given.

An Italian mayor has been cleaning the streets along with his councillors after their town _____(1) with no manual workers, it's reported. In fact, _____(2) was sweeping the piazza in front of the _____(3) church in preparation for market day, _____(4) the deputy mayor's father and a town councillor armed with a high-pressure hose. The town Zerfaliu's last _____(5) retired six months ago, and nobody has been hired since then. "We can't do anything - we are blocked by bureaucracy," the mayor says.

88. Select the most appropriate option to fill in blank No.1

(a) leaves   (b) was left

(c) was leaving   (d) has left

89. Select the most appropriate option to fill in blank no.2

(a) they   (b) it   (c) she   (d) he

90. Select the most appropriate option to fill in blank no.3

(a) next   (b) near

(c) neighbour   (d) local

91. Select the most appropriate option to fill in blank no.4

(a) as well   (b) alongside

(c) also   (d) along

92. Select the most appropriate option to fill in blank no.5

(a) mayor   (b) councillor

(c) worker   (d) member

93. Given below are four jumbled sentences. Select the option that gives their correct order.

(A) The elephant tusks were tracked from the Democratic Republic of Congo for two months.

(B) Customs officials in Thailand say it's the biggest seizure in the country's history.

(C) Four tonnes of ivory, with a market value of $6 million - it was an impressive haul.

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