Practice Set-3

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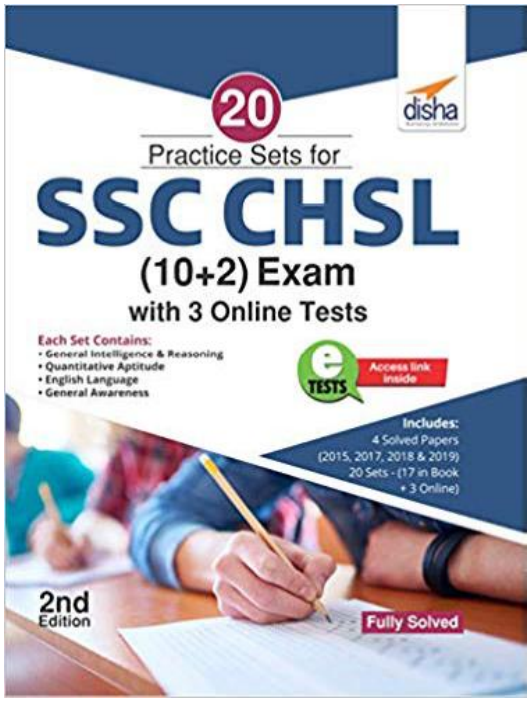

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PRACTICE SET- 3

GENERAL INTELLIGENCE & REASONING

DIRECTIONS (Qs. 1-3): *In questions, select the related word/letters/number from given alternatives.*

1. ACE : FHJ : : OQS : ?
(a) TVX (b) UWY
(c) PRT (d) RTU

2. Saint : Meditation : : Scientist : ?
(a) Research (b) Knowledge
(c) Spiritual (d) Rational

3. 18 : 5 :: 12 : ?
(a) 4 (b) 10
(c) 3 (d) 6

DIRECTIONS (Qs. 4 - 5): *In questions, find the odd word/letters/number pair from the given alternatives.*

4. (a) Kolkata (b) Vishakhapatnam
(c) Bengaluru (d) Haldia

5. (a) HGFE (b) PONM
(c) DCBA (d) MSTU

DIRECTIONS (Qs. 6-7): *In questions below, a series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.*

6. FAG, GAF, HAI, IAH, _____
(a) JAK (b) HAK
(c) JAI (d) HAL

7. 3, 6, 9, 15, 24, 39, 63, ?
(a) 100 (b) 87
(c) 102 (d) 99

8. If A = 1, AGE = 13, then CAR = ?
(a) 19 (b) 20
(c) 21 (d) 22

9. Arrange the following words as per order in the dictionary :
1. Emplane 2. Empower
3. Embrace 4. Elocution
5. Equable
(a) 5, 1, 3, 2, 4 (b) 4, 2, 1, 3, 5
(c) 4, 3, 1, 2, 5 (d) 4, 5, 2, 3, 1

DIRECTION (Q. 10): *In question below, which one set of letters when sequentialy placed at the gaps in the given letter series shall complete it?*

10. LU_TUPLUBTU_LUBT_P_UBTUP
(a) LBPU (b) BPUL
(c) PBUL (d) BUPL

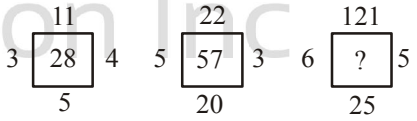
11. Govind is 48 years old. He is twice as old as his son Prem is now. How old was Prem seven years before?
(a) 16 (b) 17
(c) 13 (d) 18

12. Pointing to a man, a lady said "His mother is the only daughter of my mother". How is the lady related to the man?
(a) Mother (b) Daughter
(c) Sister (d) Aunt

13. After walking 10 m, Shankar turned left and covered a distance of 6 m, then turned right and covered a distance of 20 m. In the end, he was moving towards the south. From which direction did Shankar start his journey?
(a) West (b) North
(c) South (d) East

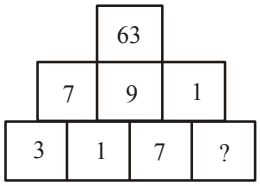
14. If '–' stands for '+', '+' stands for '×', '×' stands for '–' then which one of the following is not correct ?
(a) $22 + 7 - 3 \times 9 = 148$
(b) $33 \times 5 - 10 + 20 = 228$
(c) $7 + 28 - 3 \times 52 = 127$
(d) $44 - 9 + 6 \times 11 = 87$

15. Find the missing number.?



(a) 176 (b) 115
(c) 157 (d) 131

16. Find the missing number.?



(a) 3 (b) 9
(c) 5 (d) 2

17. Five policemen are standing in a row facing south. Shekhar is to the immediate right of Dhanush. Bala is between Basha and Dhanush. David is at the extreme right end of the row. Who is standing in the middle of the row?

(a) Bala (b) Basha
(c) Shekhar (d) Dhanush

DIRECTION (Q. 18): *In the following question, one statement is given followed by two conclusions I and II. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusions, if any follow from the given statements.*

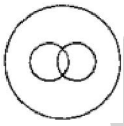
18. **Statement :** Songs always have singers to sing them.

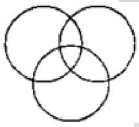
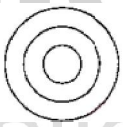
Conclusions:

I. Singers make a song.
II. There is no un-sung song.

(a) Only conclusion II follows
(b) Both conclusions I and II follow
(c) Neither conclusion I nor II follows
(d) Only conclusion I follows

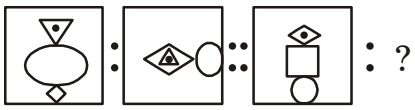
19. Which of the following states the relationship between Sociology, Psychology and Humanities ?

(a)  (b) 

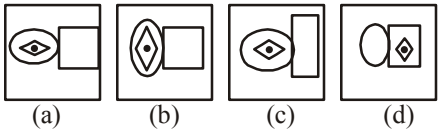
(c)  (d) 

20. Select the related figure from the given alternatives.

Question figures



Answer figures



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

21. From the given alternatives select the word which can be formed using the letters given in the word.

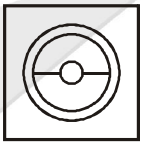
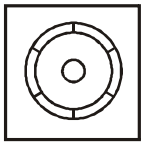
ULTRANATIONALISM

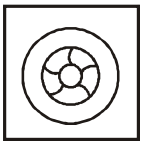
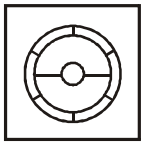
(a) ULTRAMONTANE
(b) ULTRAMODERN
(c) ULTRAIST
(d) ULULATE

22. In the following question, select the answer figure in which the question figure is hidden / embedded.

Question Figure:

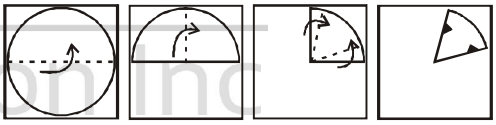
Answer Figures:

(a)  (b) 

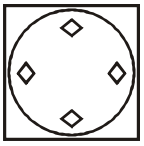
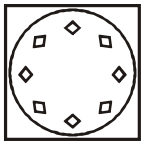
(c)  (d) 

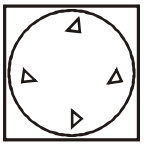
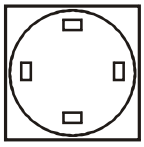
DIRECTIONS (Qs. 23-24): *In each of the following questions, a piece of paper is folded and cut as shown below in the question figures. From the given answer figures, indicate how It will appear when opened?*

23. **Question Figures:**

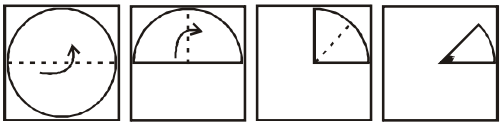


Answer Figures:

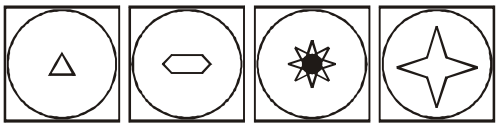
(a)  (b) 

(c)  (d) 

24. **Question Figures:**



Answer Figures:



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

25. A word is represented by only one set of numbers as given in anyone of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as in two matrices given below. The columns and rows of matrix I are numbered from 0 to 4 and that of matrix II numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column e.g .. 'B' can be represented by 01, 10, 22, etc. and 'F' can be represented by 55, 76,86, etc. Similarly, you have to identify the set for the given word - CAGE.

Matrix-I

	0	1	2	3	4
0	A	B	C	D	E
1	B	C	D	E	A
2	C	D	B	A	E
3	D	C	B	E	A
4	E	B	A	C	D

Matrix-II

	5	6	7	8	9
5	F	G	H	I	J
6	G	F	I	J	H
7	I	F	G	J	H
8	H	F	G	I	J
9	J	F	G	J	I

(a) 95, 82, 31, 14
(b) 20, 00, 65, 40
(c) 14, 20, 41, 86
(d) 00, 21, 41, 95

QUANTITATIVE APTITUDE

26. What is the value of $2+\sqrt{2}+\frac{1}{2+\sqrt{2}}-\frac{1}{2-\sqrt{2}}$?

(a) 2 (b) $2-\sqrt{2}$
(c) $4+\sqrt{2}$ (d) $2\sqrt{2}$

27. What is the value of $1.\overline{34}+4.1\overline{2}$?

(a) $\frac{133}{90}$ (b) $\frac{371}{90}$
(c) $5\frac{219}{990}$ (d) $5\frac{461}{990}$

28. A sum of money is divided among A, B, C and D in the ratio 3 : 5 : 8 : 9 respectively. If the share of D is ₹ 1,872 more than the share of A, then what is the total amount of money of B & C together?
(a) ₹ 4,156 (b) ₹ 4,165
(c) ₹ 4,056 (d) ₹ 4,068

29. What approximate compound interest can be obtained on an amount of ₹3,980 after 2 years at 8 p.c.p.a. ?
(a) 650 (b) 680
(c) 600 (d) 662

30. A man walks at the speed of 5 km/hr and runs at the speed of 10 km/hr. How much time will the man require to cover the distance of 28 km, if he covers half (first 14 km) of his journey walking and half of his journey running ?
(a) 8.4 hrs (b) 6 hrs
(c) 5 hrs (d) 4.2 hrs

31. In a 30 litres mixture of water and milk, 50% is milk. How much pure milk need to be added to this mixture to make mixture 30% water?
(a) 10 litres (b) 18 litres
(c) 15 litres (d) 20 litres

32. A bag contains 5 green and 7 red balls. Two balls are drawn. The probability that one is green and the other is red is

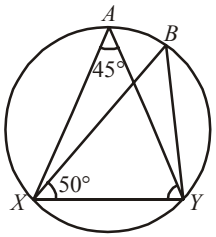
(a) $\frac{5}{132}$ (b) $\frac{7}{132}$
(c) $\frac{35}{66}$ (d) $\frac{31}{66}$

33. By selling 8 dozen pencils, a shopkeeper gains the selling price of 1 dozen pencils. What is the gain?

(a) $12\frac{1}{2}\%$ (b) $13\frac{1}{7}\%$
(c) $14\frac{2}{7}\%$ (d) $87\frac{1}{2}\%$

34. Two houses are collinear with the base of a tower and are at distance 3 m and 12 m from the base of the tower. The angles of elevation from these two houses of the top of the tower are complementary. What is the height of the tower?
(a) 4m (b) 6m
(c) 7.5m (d) 36m

35.



In the figure given above, what is $\angle BYX$ equal to?
(a) 85° (b) 50°
(c) 45° (d) 90°

36. The value of k for which the lines $2x + ky + 7 = 0$ and $27x - 18y + 25 = 0$ are perpendicular to each other, is
(a) $k = -1$ (b) $k = 2$
(c) $k = 3$ (d) $k = -2$

37. The sum of the three consecutive numbers in G.P. is 21 and the sum of their squares is 189. The product of the numbers is
(a) 72 (b) 216
(c) 108 (d) 144

38. If $x + \frac{1}{y} = 1$ and $y + \frac{1}{z} = 1$, what is the value of xyz?
(a) 1 (b) -1
(c) 0 (d) $\frac{1}{2}$

39. The length of a line segment AB is 2 unit. It is divided into two parts at the point C such that $AC^2 = AB \times CB$. What is the length of CB?
(a) $3+\sqrt{2}$ units (b) $3-\sqrt{5}$ units
(c) $2-\sqrt{5}$ units (d) $\sqrt{3}$ units

40. If $\frac{37}{13} = 2 + \cfrac{1}{x + \cfrac{1}{y + \cfrac{1}{z}}}$

where x, y, z are natural numbers, then what is z equal to?
(a) 1
(b) 2
(c) 3
(d) Cannot be determined due to insufficient data

41. What is $27 \times 1.\overline{2} \times 5.52\overline{62} \times 0.\overline{6}$ equal to?
(a) $121.\overline{57}$ (b) $121.\overline{75}$
(c) $121.7\overline{5}$ (d) None of these

42. What should come in place of the question mark (?) in the following questions?
$8^{9.4} \times 4^{12.8} \times 64^{8.1} = 16^{?}$
(a) 41.8 (b) 16.2
(c) 18.4 (d) 25.6

43. An aeroplane flies along the four sides of a square at the speeds of 200, 400, 600 and 800 km/h. Find the average speed of the plane around the field.
(a) 384 km/h (b) 370 km/h
(c) 368 km/h (d) None of these

44. A, B and C can do a work in 6, 8 and 12 days respectively. Doing that work together they get an amount of Rs. 1350. What is the share of B in that amount?
(a) ₹450 (b) ₹168.75
(c) ₹337.50 (d) ₹718.75

45. A and B started a business by investing ₹35,000 and ₹ 20,000 respectively. B left the business after 5 months and C joined the business with a sum of ₹ 15,000. The profit earned at the end of the year is ₹ 84,125. What is B's share of profit?
(a) ₹14133
(b) ₹15,000
(c) ₹13,460
(d) Cannot be determined

DIRECTIONS (Qs. 46 - 48): *Study the following table carefully in answer the questions that follow :*

Number of Executives recruited by Six different organisations over the years

Organisation	P	Q	R	S	T	U
2004	458	512	418	502	476	492
2005	522	536	472	500	482	523
2006	480	495	464	508	488	518
2007	506	505	428	444	490	534
2008	427	485	422	512	510	498
2009	492	488	444	499	512	510

46. What is the total number of Executives recruited by all the organisations together in the year 2006?
(a) 2927 (b) 3042
(c) 2864 (d) 2953

47. What is the ratio of the total number of Executives recruited by organisation U in the years 2007 and 2009 together to the total number of Executives recruited by organisation P in the same years?
(a) 436 : 517 (b) 499 : 522
(c) 517 : 436 (d) 522 : 499

48. What is the average number of Executives recruited by organisation S over all the years together? (rounded off to the nearest integer)
(a) 494 (b) 482
(c) 514 (d) 506

49. A hollow cylindrical iron pipe of length 1.4 m has base radius 2.5 cm and thickness of the metal is 1 cm. What is the volume of the iron used in the pipe?
(a) 2640 cu cm (b) 2604 cu cm
(c) 2460 cu cm (d) None of these

50. A solid metallic cube of edge 4 cm is melted and recast into solid cubes of edge 1 cm. If x is the surface area of the melted cube and y is the total surface area of all the cubes recast, then what is $x : y$?
(a) 2 : 1 (b) 1 : 2
(c) 1 : 4 (d) 4 : 1

ENGLISH LANGUAGE

DIRECTIONS (Qs. 51-52): *Each of the question in this section has a sentence with a blank space and four words given after the sentence. Select whichever word you consider most appropriate for the blank space and indicate your choice on the Answer Sheet.*

51. An accomplice is a partner in _____.
(a) business (b) crime
(c) construction (d) gambling

52. A person who pretends to be what he is not is called an_____.
(a) imbiber (b) impresario
(c) imitator (d) imposter

DIRECTIONS (Qs. 53-54): *Select the word or group of words that is most* ***similar*** *in meaning to the words in capital letters.*

53. IMPETUS
(a) Courage (b) Impatience
(c) Arrogance (d) Driving energy

54. PHILANDERER
(a) Time waster (b) Spendthrift
(c) Male flirt (d) Wanderer

DIRECTIONS (Qs. 55-56) : *Select the word or group of words that is most* ***opposite*** *in meaning to the words in capital letters.*

55. PROCRASTINATE
(a) To be prompt (b) To adjudicate
(c) To teach (d) To help others

56. PROCLIVITY
(a) Speed (b) Weakness
(c) Disgust (d) Disinclination

DIRECTIONS (Qs. 57-58) : *Look at the underlined part of each sentence. Below each sentence, three possible substitutions for the underlined part are given. If one of them (i.e.,) (a), (b) or (c) is better than the underlined part, indicate your response on the Answer Sheet against the corresponding letter (a), (b) or (c). If none of the substitutions improves the sentence, indicate (d) as your response on the Answer Sheet. Thus, 'No improvement' response will be signified by the letter (d).*

57. If I <u>were</u> you, I would do it at once.
(a) was (b) am
(c) would be (d) No improvement

58. They set a strong guard, lest anyone <u>could</u> escape.
(a) would (b) might
(c) should (d) No improvement

DIRECTIONS (Qs. 59-60): *Each question in this section has a sentence with three underlined parts labelled (a), (b) and (c). Read each sentence to find out whether there is any error in any underlined part and indicate your response in the Answer Sheet against the corresponding letter i.e., (a) or (b) or (c). If you find no error, your response should be indicated as (d).*

59. <u>My detailed statement</u> (a) <u>is respectively</u> (b) <u>submitted</u>. (c) <u>No error.</u> (d)

60. <u>I am waiting</u> (a) <u>for my friend</u> (b) <u>since this morning</u>. (c) <u>No error</u>. (d)

DIRECTIONS (Qs. 61-62) : *In the following questions four alternatives are given for the idiom/phrase italicised and underlined in the sentence. Choose the alternative which best expresses the meaning of idiom/phrase.*

61. Sobhraj could be easily arrested because the police were *tipped off in a advance*.
(a) Toppled over
(b) Bribed
(c) Given advance information
(d) Threatened

62. I met him after a long time, but he gave me *the cold shoulder*.
(a) scolded me (b) insulted me
(c) abused me (d) ignored me

DIRECTIONS (Qs. 63-65) : *In the following questions, a word has been spelt in four different ways, one of which is correct. Choose the correctly spelt word.*

63. (a) Dysentary (b) Dysantery
(c) Dysentry (d) Dysentery

64. (a) Rejevanation (b) Rejuvenation
(c) Rejvenation (d) Rejuenation

65. (a) accomodate (b) acommodate
(c) accommodate (d) accommodat

DIRECTIONS (Qs. 66-70): *Select the most appropriate word from the options against each number :*

One fine morning a **(66)** man knocked at the doors of the home for the aged run by nuns. He told the nun in charge that as he was **(67)** to Delhi, he wanted to leave his servant-maid to the **(68)** of the nuns. He assured the nun of sending some money every month **(69)** she was an orphan. The nun **(70)** her saying that she had got an excellen master.

66. (a) gentle (b) bad
(c) nice (d) good

67. (a) moved (b) shifted
(c) changed (d) transferred

68. (a) care (b) home
(c) custody (d) protection

69. (a) because (b) and
(c) though (d) if

70. (a) loved (b) praised
(c) consoled (d) condoled

DIRECTION (Q. 71): *In these questions, the sentences have been given in Active / Passive Voice. From the given alternatives, choose the one which best expresses the given sentence in Passive / Active Voice.*

71. I saw him leaving the house.
(a) Leaving the house he was seen by me.
(b) He was seen leaving the house by me.
(c) He had been seen leaving the house.
(d) He was seen to be leaving the house.

DIRECTIONS (Qs. 72-73): *In each of the following questions, out of the four alternatives, choose the one which can be substituted for the given words/sentence.*

72. A person interested in collecting, studying and selling of old things
(a) Antiquarian (b) Junk-dealer
(c) Crank (d) Archealogist

73. Policeman riding on motorcycles as guards to a VIP
(a) Outriders (b) Servants
(c) Commandos (d) Attendants

DIRECTIONS (Qs. 74-75): *In the following questions, the 1st and the last parts of the sentence are numbered 1 and 6. The rest of the sentence is split into four parts and named P, Q, R and S. These four parts are not given in their proper order. Read the sentence and find out which of the four combinations is correct. Then find the correct answer.*

74. Can any one
P. falsehood triumph
Q. and let
R. for a long time
S. suppress truth
permanently?
(a) RQSP (b) QPRS
(c) SRQP (d) PRQS

75. And then word
P. came from inside
Q. meet the released civilians
R. that after all
S. the press could
but fleetingly.
(a) RSQP (b) SRPQ
(c) PRSQ (d) RPQS

GENERAL AWARENESS

76. Which one of the following is not a computer language?
(a) Cobol (b) Visual Basic
(c) HTML (d) Netscape

77. Who among the following was the first Governor General of India?
(a) Lord Amherst
(b) Lord William Bentinck
(c) Sir Charles Metcalfe
(d) Robert Clive

78. Which one of the following is not a constituent of biogas?
(a) Methane (b) Carbon dioxide
(c) Hydrogen (d) Nitrogen dioxide

79. In which one of the following sessions was the Indian National Congress split into moderates and extremists?
(a) Nagpur (b) Allahabad
(c) Surat (d) Calcutta

80. Bar is a unit of which one of the following?
(a) Force (b) Energy
(c) Pressure (d) Frequency

81. Which of the following metals are present in haemoglobin and chlorophyll, respectively?
(a) Fe and Mg (b) Fe and Zn
(c) Mg and Zn (d) Zn and Mg

82. A mother of blood group O has a group O child. What could be the blood group of father of the child?
(a) Only O (b) A or B or O
(c) A or B (d) Only AB

83. Who among the following was the founder of the Muslim League?
(a) Muhammad Ali Jinnah
(b) Shaukat Ali
(c) Nawab Salimullah
(d) Aga Khan

84. Which one among the following is not a source of tax revenue for the Central Government in India ?
(a) Income tax (b) Customs duuties
(c) Service tax (d) Motor Vehicle tax

85. Which one of the following causes the chikungunia disease?
(a) Bacteria (b) Helminthic worm
(c) Protozoan (d) Virus

86. Which one of the following vitamins helps in clotting of blood?
(a) Vitamin-A (b) Vitamin-B_6
(c) Vitamin-D (d) Vitamin-K

87. The 'Thomas Cup is associated with
(a) Table Tennis (b) Lawn Tennis
(c) Badminton (d) Billiards

88. What is the purpose of adding baking soda to dough?
(a) To generate moisture
(b) To give a good flavour
(c) To give good colour
(d) To generate carbon dioxide

89. The Dandi March of Gandhi-is an example of
(a) Non-Coopefation (b) Direct Action
(c) Boycott (d) Civil Disobedience

90. Which one of the following inscriptions relate to the Chalukya king, Pulakesin II ?
(a) Nasik (b) Maski
(c) Hathigumpha (d) Aihole

91. Yeast is an important source of
(a) protein (b) vitamin B
(c) invertase (d) vitamin C

92. The longest river of peninsular India is
(a) Godavari (b) Krishna
(c) Kaveri (d) Narmada

93. Which one of the following National Park/ Sanctuary is not in Rajasthan ?
(a) Sariska National Park
(b) Sambar Wildlife Sanctuary
(c) Rajaji National Park
(d) Rhanthambore National Park

94. 'Pehli Udaan' is a name given to
(a) Launching of Air Asia in India
(b) SBI's Savings Account Scheme for children
(c) Proposed Bullet Train in India
(d) Satellite sent to Mars

95. Which one of the following is not a line of demarcation between two countries ?
(a) Durand Line (b) Mac Mahon Line
(c) Plimsoll Line (d) Maginot Line

96. Who has been appointed as the new chairman of the Union Public Service Commission (UPSC)?
(a) S R Hashim (b) Deepak Gupta
(c) Alka Sirohi (d) David Syiemlieh

97. Which of the following cities is the venue of the 4th Edition Of Global Partners' Forum?
(a) Kochi (b) Chennai
(c) Kolkata (d) New Delhi

98. Who is the head of IRDA panel to study feasibility of paying claims in installments?
(a) Suresh Mathur (b) Injeti Srinivas
(c) Vinod Paul (d) Rakes

99. The 2018 Vishwa Shanti Ahimsa Sammelan (VSAS) has started in which state?
(a) West Bengal (b) Maharashtra
(c) Gujarat (d) Uttar Pradesh

100. Which US-based Dalit writer has won the 2018 Shakti Bhatt First Book Prize?
(a) Deepak Unnikrishnan
(b) Aanchal Malhotra
(c) Sujatha Gidla
(d) San

Hints & Explanations

1. (c) A C E
+5↓ +5↓ +5↓
F H J

Similarly, O Q S
+5↓ +5↓ +5↓
T V X

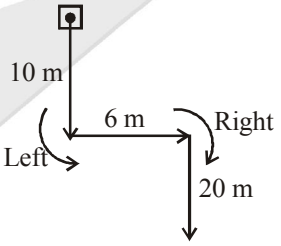
2. (a) As, a saint practices meditation. Similarly, a scientist does research.
3. (c) $18/3 - 1 = 5$
$12/3 - 1 = \boxed{3}$
4. (c)
5. (d) $H \xrightarrow{(-1)} G \xrightarrow{(-1)} F \xrightarrow{(-1)} E$
$P \xrightarrow{(-1)} O \xrightarrow{(-1)} N \xrightarrow{(-1)} M$
$D \xrightarrow{(-1)} C \xrightarrow{(-1)} B \xrightarrow{(-1)} A$
$M \xrightarrow{(+6)} S \xrightarrow{(+1)} T \xrightarrow{(+1)} U$
M S T U is odd word
6. (a) $F \xrightarrow{+1} G \xrightarrow{+1} H \xrightarrow{+1} I \xrightarrow{+1} J$
$A \xrightarrow{+0} A \xrightarrow{+0} A \xrightarrow{+0} A \xrightarrow{+0} A$
$G \xrightarrow{-1} F \xrightarrow{+3} I \xrightarrow{-1} H \xrightarrow{+3} K$
7. (c) $3+3=6$
$6+3=9$
$9+6=15$
$15+9=24$
$24+15=39$
$39+24=63$
$63+39=102$
8. (d) As, $A+G+E=1+7+5=13$
Similarly, $C+A+R=3+1+18=22$
9. (c) As per dictionary

4 3 1 2
Elocution → Embrace → Emplane → Empower
5
→ Equable.

10. (b) Words LUB and TUP are in consecutive order.
L U B/T U P/L U B/T U P/L U B/T U P/L U B/T U P
11. (b) Govind's age = 48 years
According to question
Prem's age = 48/2 = 24 years
Prem's age seven years before = 24 – 7
= 17 years.
12. (a) Mother
(–)
Mother = Lady
(–)
Man
(+)

man
His mother is the only daughter of my lady mother.

13. (b)



From the diagram, it is clear that Shankar started his journey from North to South.

14. (c) By options–
(a) $22 \times 7 + 3 - 9 = 148$
$154 + 3 - 9$
$157 - 9 = 148$ (Correct)
(b) $33 - 5 + 10 \times 20 = 228$
$33 - 5 + 200$
$200 + 33 - 5$
$233 - 5 = 228$ (Correct)
(c) $7 \times 28 + 3 - 52 = 127$
$196 + 3 - 52$
$199 - 52 = 147$ (Incorrect)
(d) $44 + 9 \times 6 - 11 = 87$
$44 + 54 - 11$
$98 - 11 = 87$ (Correct)
15. (a)

$3\ \overset{11}{\boxed{11+5+4\times3 \\ =16+12=28}}\ \underset{5}{4}\quad 5\ \overset{22}{\boxed{22+20+5\times3 \\ =42+15=57}}\ \underset{20}{3}\quad 6\ \overset{121}{\boxed{121+25+6\times5 \\ =146+30=176}}\ \underset{25}{5}$

16. (a)

		63	
	7	9	1
3	1	7	3

$\Rightarrow 63$

$\Rightarrow 7 \times 1 \times 9 = 63$

$\Rightarrow 3 \times 1 \times 7 \times \boxed{3} = 63$

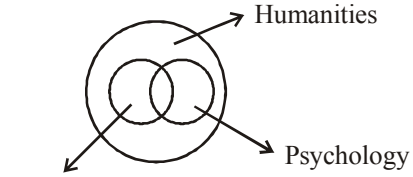
17. (d) Standing arrangement : (facing south)

Right End ↓ David ↓ Shekhar ↓ Dhanush ↓ Bala ↓ Basha Left End

Hence, Dhanush is standing at the middle of the row.

18. (d) Any written piece is recognised as song when it is sung by a singer. Therefore, only Conclusion I follows.

19. (a)



20. (a) The middle element adjacents to the right side line after rotating 90° anticlock wise. The bottom element goes up on the top and becomes enlarge.
The top element becomes the inner figure of bottom element.

21. (c) By options–
(a) can not be formed as there is no 'E' in the given word.
(b) can not be formed as there is no 'D' in the given word.
(d) can not be formed as there is no 'E' and only 'U' in the given word.
So, option (c) can be formed.

22. (d) 23. (b) 24. (c)

25. (b) $C \Rightarrow 02, 11, 20, 31, 43$
$A \Rightarrow 00, 14, 23, 34, 42$
$G \Rightarrow 56, 65, 77, 87, 97$
$E \Rightarrow 04, 13, 24, 33, 40$

Option	C	A	G	E
(a)	~~95~~	~~82~~	~~31~~	~~14~~
(b)	20	00	65	40
(c)	~~14~~	~~20~~	~~41~~	~~86~~
(d)	~~00~~	~~21~~	~~41~~	~~95~~

26. (a) $2+\sqrt{2}+\frac{1}{2+\sqrt{2}}-\frac{1}{2-\sqrt{2}}$

$=2+\sqrt{2}+\frac{2-\sqrt{2}-2-\sqrt{2}}{4-2}$

$=2+\sqrt{2}+\frac{(-2\sqrt{2})}{2}=2+\sqrt{2}-\sqrt{2}=2$

27. (d) $\because 1.\overline{34}=\frac{134-1}{99}=\frac{133}{99}$

and $4.1\overline{2}=\frac{412-41}{90}=\frac{371}{90}$

$\therefore\ 1.\overline{34}+4.1\overline{2}=\frac{133}{99}+\frac{371}{90}=\frac{1330+4081}{990}$

$=\frac{5411}{990}=5\frac{461}{990}$

28. (c) Share of $B+C=\frac{1872}{9-3}\times(5+8)=₹\ 4056$

29. (d) Equivalent % interest for compound rate of interest of 8% for 2 years

$=8+8+\frac{8\times 8}{100}=16.64\%$

So, interest = 16.64% of $3980 \approx 662$

30. (d) Total time required $=\frac{14}{5}+\frac{14}{10}$

$=\frac{28+14}{10}=4.2$ hrs

31. (d) 30 litres mixture contains 15 litres of water. When milk added to this, quentity of water will same in sance (*i.e.* 15 l).
Let $x\ell$ of pure milk to be added, then 30% of $(30+x)=15$
solve, $x=20$

32. (c) There are $5+7=12$ balls in the bag and out of these two balls can be drawn in ${}^{12}C_2$ ways. There are 5 green balls, therefore, one green ball can be drawn in ${}^{5}C_1$ ways; similarly, one red ball can be drawn in ${}^{7}C_1$ ways so that the number of ways in which we can draw one green ball and the other red is ${}^{5}C_1 \times {}^{7}C_1$. Hence, P (one green and the other red)

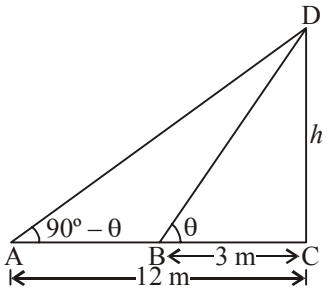
$=\frac{{}^{5}C_1\times{}^{7}C_1}{{}^{12}C_2}=\frac{5}{1}\times\frac{7}{1}\times\frac{1\times 2}{12\times 11}=\frac{35}{66}$

33. (c) Let the cost price = ₹ x
Profit = ₹ x
Cost price of 8 dozen pencil = ₹ 7x

Gain per cent $=\frac{x}{7x}\times 100$

$=\frac{100}{7}=14\frac{2}{7}\%$

34. (b) Let the height of the tower be h m and $\angle CBD = \theta$ then $\angle DAC = 90^\circ - \theta$
(Because both angles are complementary)



$\therefore$ In ΔBCD,

$$\tan\theta = \frac{CD}{BC} \Rightarrow \tan\theta = \frac{h}{3}$$

Now, in ΔACD

$$\tan(90^\circ - \theta) = \frac{CD}{AC} \Rightarrow \cot\theta = \frac{h}{12}$$

$$\frac{1}{\tan\theta} = \frac{h}{12}$$

$h \tan\theta = 12$

Put the value of $\tan\theta$

$$h \times \frac{h}{3} = 12$$

$h^2 = 36 \quad \therefore h = 6$

Then, height of tower = 6 m.

35. (a) We know that, the triangle of same segment of a circle makes an equal angles.

$\therefore \quad \angle XBY = \angle XAY = 45^\circ$

In ΔBXY, $\angle BXY + \angle XBY + \angle BYX = 180^\circ$

$\Rightarrow 50^\circ + 45^\circ + \angle BYX = 180^\circ$ $(\because \angle BXY = 50^\circ)$

$\Rightarrow \angle BYX = 180^\circ - 95^\circ = 85^\circ$

36. (c) $2x + ky + 7 = 0 \Rightarrow ky = -2x - 7 \Rightarrow y = \frac{-2}{k}x - \frac{7}{k}$

$27x + 18y + 25 = 0 \Rightarrow 18y = 27x + 25$

$$\Rightarrow y = \frac{3}{2}x + \frac{25}{18}$$

$$\therefore \frac{-2}{k} \times \frac{3}{2} = 1 \Rightarrow k = 3$$

37. (b) Let the three nmumbers in G.P. be a, ar, ar^2.

Given $a + ar + ar^2 = 21 \Rightarrow a(1 + r + r^2) = 21$ ...(i)

Also, $a^2 + a^2r^2 + a^2r^4 = 189 \Rightarrow a^2(1 + r^2 + r^4) = 189$. ..(ii)

So,

$$\frac{a^2(1+r^2+r^4)}{\left[a(1+r+r^2)\right]^2} = \frac{189}{(21)^2} = \frac{189}{441} = \frac{3}{7}$$

or, $$\frac{1+2r^2+r^4-r^2}{(1+r+r^2)^2} = \frac{3}{7}$$

or, $$\frac{(1+r^2)^2-r^2}{(1+r+r^2)^2} = \frac{3}{7}$$

or, $$\frac{(1+r^2+r)(1+r^2-r)}{(1+r+r^2)} = \frac{3}{7}$$

or, $$\frac{1+r^2-r}{1+r+r^2} = \frac{3}{7}$$

or, $7(1 + r^2 - r) = 3(1 + r + r^2)$

or, $4r^2 - 10r + 4 = 0$

or, $2r^2 - 5r + 2 = 0$

or, $2r^2 - 4r - r + 2 = 0$

or, $2r(r-2) - (r-2) = 0$

or, $(r-2)(2r-1) = 0$

or, $r = 2, \frac{1}{2}$

From equation (i)

$$a = \frac{21}{1+r+r^2}$$

$$\therefore \text{For } r = 2, a = \frac{21}{1+2+4} \text{ and for } r = \frac{1}{2}, a = 12$$

Hence, the three numbers are 3, 6, 12 or 12, 6, 3

Their product $= 3 \times 6 \times 12 = 216$

38. (b) Given that, $x + \frac{1}{y} = 1$

$\Rightarrow xy + 1 = y$ ...(i)

and $y + \frac{1}{z} = 1 \Rightarrow 1 - \frac{1}{z} = y$

$\Rightarrow \frac{z-1}{z} =$ ...(ii)

From eq. (ii),

$$y = \frac{z-1}{z}$$

Comparing eqn. (i) with (ii)

$$xy + 1 = \frac{z-1}{z}$$

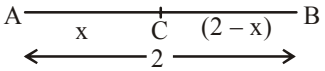
$\Rightarrow xyz + z = z - 1$

$\Rightarrow xyz = -1$

39. (b) Given, $AC^2 = AB \times CB$

$\Rightarrow x^2 = 2 \times (2 - x)$

$\Rightarrow x^2 = 4 - 2x$



$\Rightarrow \quad x^2 + 2x - 4 = 0$

$\Rightarrow \quad x = \dfrac{-2 \pm \sqrt{4+16}}{2 \times 1}$

$\Rightarrow \quad x = -1 \pm \sqrt{5}$

Now, $BC = (3 \pm \sqrt{5}) = 3 \pm \sqrt{5}$

40. (b) $\dfrac{37}{13} = 2 + \dfrac{1}{x + \dfrac{1}{y + \dfrac{1}{z}}}$

$\Rightarrow \quad \dfrac{37}{13}$ can be expressed as

$= 2 + \dfrac{1}{1 + \dfrac{2}{11}} = 2 + \dfrac{1}{\dfrac{1+1}{5 + \dfrac{1}{2}}}$

Now, this is compared by

$2 + \dfrac{1}{x + \dfrac{1}{y + \dfrac{1}{z}}} = 2 + \dfrac{1}{1 + \dfrac{1}{5 + \dfrac{1}{2}}}$

$\therefore z = 2$

41. (d) $27 \times 1.\overline{2} \times 5.526\overline{2} \times 0.\overline{6}$

$= 27 \times 1\dfrac{2}{9} \times 5\dfrac{4736}{9000} \times \dfrac{6}{9}$

$= 27 \times \dfrac{11}{9} \times \dfrac{49736}{9000} \times \dfrac{6}{9}$

$= \dfrac{11 \times 49736 \times 2}{9000} = \dfrac{1094192}{9000} = 121.577$

42. (d) $8^{9.4} \times 4^{12.8} \times 64^{8.1} = 16^{?}$

$8^{2 \times 4.7} \times 4^{12.8} \times 64^{8.1} = 16^{?}$

$64^{4.7} \times 4^{12.8} \times 64^{8.1} = 16^{?}$

$64^{4.7+8.1} \times 4^{12.8} = 16^{?}$

$(64 \times 4)^{12.8} = 16^{?}$

$(256)^{12.8} = 16^{?}$

$16^{2 \times 12.8} = 16^{?}$

$16^{25.6} = 16^{?}$

$? = 25.6$

43. (a) Let each side of the square be x km and let the average speed of the plane around the field be y km/h. Then,

$\dfrac{x}{200} + \dfrac{x}{400} + \dfrac{x}{600} + \dfrac{x}{800} = \dfrac{4x}{y}$

$\Rightarrow \dfrac{25x}{2400} = \dfrac{4x}{y} \Rightarrow y = \left(\dfrac{2400 \times 4}{25}\right) = 384.$

$\therefore$ Average speed = 384 km/h.

44. (a) A's one day's work $= \dfrac{1}{6}$

B's one day's work $= \dfrac{1}{8}$

C's one day's work $= \dfrac{1}{12}$

A's share : B's share : C's share

$= \dfrac{1}{6} : \dfrac{1}{8} : \dfrac{1}{12}$

Multiplying each ratio by the L.C.M. of their denominators, the ratios become 4 : 3 : 2

$\therefore$ B's share $= \dfrac{1350 \times 3}{9} =$ Rs.450

45. (c) Ratio of equivalent capitals of A, B and C for 1 month

$= 35000 \times 12 : 20000 \times 5 : 15000 \times 7$

$= 35 \times 12 : 20 \times 5 : 15 \times 7 = 84 : 20 : 21$

Sum of the ratios = 84 + 20 + 21 = 125

$\therefore$ B's share $= ₹\left(\dfrac{20}{125} \times 84125\right) = ₹13460$

46. (d) Total executives recruited were 2953.

47. (d) Required ratio equals 1044 : 998

= 522 : 499

48. (a) Required average number of executives = sum of no. of all executives

$= \dfrac{2965}{6} \approx 494$

49. (a) $\therefore$ Volume of pipe, $V = \pi\left(r_1^2 - r_2^2\right) \times h$

$= \dfrac{22}{7}[(3.5)^2 - (2.5)^2] \times 140$

$= \dfrac{22}{7}(12.25 - 6.25) \times 140$

$= 22 \times 6 \times 20 = 2640$ cu cm

50. (c) Volume of solid cube = $(4)^3 = 64$ cm^3

Volume of recast cube = $(1)^3 = 1$ cm^3

$\therefore$ Total surface area of cube : Total surface area of recast cube

$= x : y$

$\Rightarrow \quad x : y = 6(4)^2 : 6(1)^2 \times 64 = 1 : 4$

51. (b) An accomplice is a partner in crime. Thus option (b) is the answer.
52. (d) Imbiber means one who absorbs something. Impresario means a person who organizes concert and plays. Imitator is the one who copies another person. Imposter is the pretender, so correct answer is option (d).
53. (d) 'Impetus' means 'something that encourages a process or activity.'
54. (c) 'Philanderer' means 'a man who has sexual relations with different women.'
55. (a) 'Procrastinate' means to delay or linger in a decision. 'Prompt' means done without delay.
56. (d) 'Proclivity' means a natural tendency (or inclination) to do something.
57. (d) If I were you, I would do it at once.
58. (c) They set a strong guard, lest anyone should escape.
59. (b) My detailed statement is respectfully submitted.
60. (a) I have been waiting for my friend since morning.
61. (a) The underlined portion should be deleted.
62. (d) and indulging in other sports.
63. (b) I was told
64. (c) 65. (d) 66. (a) 67. (d) 68. (c)
69. (a) 70. (c)
71. (b) He was seen leaving the house by me.
72. (a) 73. (a) 74. (c) 75. (b)
76. (d) Netscape is an Internet browser that was popular during the early 1990's.
77. (a)
78. (d) Nitrogen dioxide (NO_2) is not a component of biogas.
79. (c) The 23rd Session (1907) of the Congress was held at Surat.In the session, there was an open clash between the Moderates and the Extremists and ultimately it led to a split in the Congress.
80. (c) 1 Bar = 10^5 Pa. Both bar and Pa are the unit of pressure.
81. (a) Fe and Mg metals are present in haemoglobin and chlorophyll respectively.
82. (b) The blood group of father of the child could be A or B or O.
83. (c) The All India Muslim League, a political organization was founded in 1906 by Aga Khan under the Nawab of Dhaka Salimullah. Its main purpose was to safeguard the political rights of Muslims in India.
84. (d) Motor Vehicle tax is not a source of tax revenue for the central government in India.
85. (d) Chikungunia is caused by chikenguniya virus which is an insect borne virus of genus *Alphavirus*. Symptoms show high fever, maculopapular rash, headache, etc.
86. (d) Vitamin-K adds in blood clotting. Vitamin-K acts as an essential cofactor for factor-II, VII, IX, X and also for proteins Z, C and S.
87. (c) Thomas Cup is associated with Badminton.
88. (d) Baking soda has sodium bicarbonate as the chief constituent. It decomposes on heating giving carbon dioxide. This causes dough, cakes, biscuits etc. to expand and become light.
89. (d) The Dandi March of Gandhi was an important part of the Indian Independence Movement.It was a direct action campaign of tax resistance and non-violent protest against British saltmonopoly and triggered the wider Civil Disobedience Movement.
90. (d) Aihole inscription is found at Aihole in Karnataka state India, was written by the Ravikriti,court poet of Chalukya king,Pulakeshin II who reigned from 610 to 642 CE.The poetic verses of Ravikirti,in praise of the king, can be read in the Meguti temple,dated 634CE.
91. (b) Yeast is an important source of vitamin B. Yeasts is eukaryotic microorganisms classified in the kingdom Fungi, with 1,500 species (estimated to be 1% of all fungal species). Yeasts are unicellular, although some species with yeast forms may become multicellular through the formation of strings of connected budding cells known as pseudohyphae, or false hyphae, as seen in most molds.
92. (a) Godavari is the longest river of peninsular India. From its source to the Eastern Ghats, the Godavari River flows through gentle, somewhat monotonous terrain, along the way receiving the Darna, Purna, Manjra, Pranhita, and Indravati rivers. Upon entering the Eastern Ghats region, however, the river flows between steep and precipitous banks, its width contracting until it flows through a deep cleft only 600 feet (180 metres) wide, known as the Gorge.
93. (c) 94. (b)
95. (c) Plimsol line is not a line of demarcation between two countries.
96. (d) 97. (d) 98. (a) 99. (b) 100. (c)