

Previous Years Paper

8th August 2022 (Shift -1)

- Q1.** Which country is known as the "Land of the Rising Sun"?
(a) Korea
(b) Japan
(c) Finland
(d) China

- Q2.** Arrange the following days in the order of the date of observance in India
(A) National Good Governance Day
(B) Armed Forces Flag Day
(C) Vijay Diwas
(D) Hindi Day
(E) Teacher's Day
Choose the correct answer from the options given below:

(a) (C), (E), (B), (D), (A)
(b) (C), (E), (D), (B), (A)
(c) (E), (D), (A), (C), (B)
(d) (D), (B), (E), (C), (A)

- Q3.** Which country successfully launched a new satellite named Shijian-21?
(a) South Korea
(b) Pakistan
(c) China
(d) UAE

- Q4.** The Reserve Bank of India has authorized _____ to collect direct taxes on behalf of the Central Board of Direct Taxes (CBDT).
(a) Karur Vysya Bank (KVB)
(b) ICICI Bank
(c) HDFC Bank
(d) Axis Bank

- Q5.** Match the List I with List II.

	List I		List II
A.	Belarus	I.	Jerusalem
B.	Angola	II.	Budapest
C.	Hungary	III.	Minsk
D.	Israel	IV.	Luanda

Choose the correct answer from the options given below:

(a) (A)-(II), (B)-(IV), (C)-(III), (D)-(I)
(b) (A)-(III), (B)-(IV), (C)-(II), (D)-(I)
(c) (A)-(IV), (B)-(II), (C)-(I), (D)-(III)
(d) (A)-(I), (B)-(II), (C)-(IV), (D)-(III)

- Q6.** Which among the following are the ranks of commissioned officers in army?
(A) General
(B) Commodore
(C) Colonel
(D) Captain

(E) Group Captain

Choose the correct answer from the options given below:

(a) (A), (C) and (D) only
(b) (B), (C) and (E) only
(c) (A), (B) and (D) only
(d) (C), (D) and (E) only

- Q7.** Which among the following are the part of forebrain?

(A) Cerebrum
(B) Cerebellum
(C) Medulla oblongata
(D) Hypothalamus
(E) Diencephalon

Choose the correct answer from the options given below:

(a) (A), (D) and (E) only
(b) (A), (C) and (E) only
(c) (B), (C) and (D) only
(d) (A), (B) and (D) only

- Q8.** Which among the following enzymes is required to digest protein?

(a) Disaccharides
(b) Trypsin
(c) Amylase
(d) Lipase

- Q9.** What is the name of the largest diamond in the world?

(a) The Cullinan
(b) The Kohinoor
(c) The Sergio
(d) The Woyie River

- Q10.** Which among the following countries have lion as their national emblem?

(A) Spain
(B) Belgium
(C) Norway
(D) France
(E) Netherlands

Choose the correct answer from the options given below:

(a) (A), (C) and (D) only
(b) (B), (C) and (E) only
(c) (A), (B) and (D) only
(d) (C), (D) and (E) only

- Q11.** First Field Marshal of India was:

(a) General KM Cariappa
(b) General SHFJ Manekshaw
(c) General V P Malik
(d) General Bipin Rawat

Q12. Which team has won the men's cricket world cup the greatest number of times?

- (a) West Indies
- (b) India
- (c) England
- (d) Australia

Q13. Find the correct option

$$M \times N : 13 \times 14 :: F \times R : ?$$

- (a) 7×19
- (b) 5×17
- (c) 14×15
- (d) 6×18

Q14. _____ transforms source code into the machine-readable code by converting into line by line.

- (a) Register
- (b) Compiler
- (c) Cache Memory
- (d) Interpreter

Q15. Match the List-I with List II.

	List-I		List-II
A.	Amartya Sen	I.	Dreams from My Father
B.	Amrita Pritam	II.	The Argumentative Indian
C.	Aung San Suu Kyi	III.	Death of a City
D.	Barack Obama	IV.	Freedom from Fear

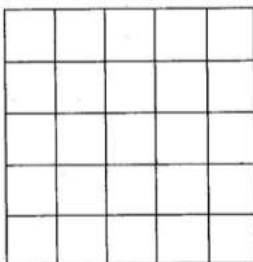
Choose the correct answer from the options given below:

- (a) A-II, B-III, C-IV, D-I
- (b) A-III, B-IV, C-I, D-II
- (c) A-IV, B-II, C-I, D-III
- (d) A-I, B-II, C-IV, D-III

Q16. The National Rail University has been established in India at:

- (a) Gorakhpur
- (b) Varanasi
- (c) Malda
- (d) Vadodara

Q17. Find the number of rectangles in the below figure:



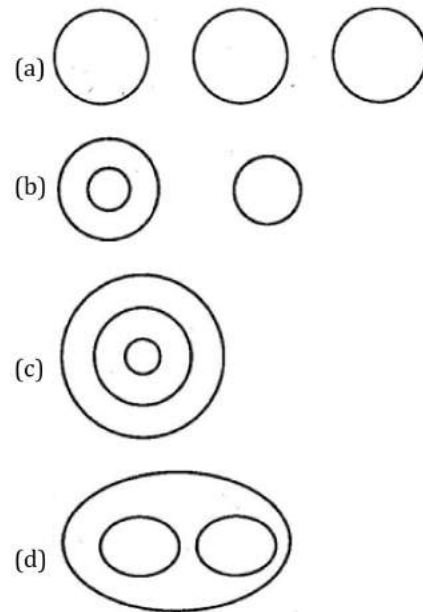
- (a) 25
- (b) 125
- (c) 225
- (d) 55

Q18. Time appears in the mirror 11:09. Then, what time it will appear in the clock?

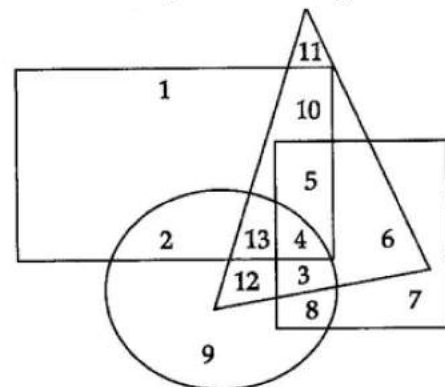
- (a) 1:51
- (b) 12:09
- (c) 12:51

(d) 1:09

Q19. Identify the diagram that best represents the relationship among: Men, Women, Human



Q20. In the following diagram, police represent circle, corrupt represents triangle, poet represents square and married represents rectangle



The number representing unmarried police officers who are not corrupt but are poets is

- (a) 8
- (b) 9
- (c) 2
- (d) 4

Q21. Arrange the following words in correct order:

- (A) Omelete
- (B) Hen
- (C) Roll
- (D) Serve
- (E) Egg

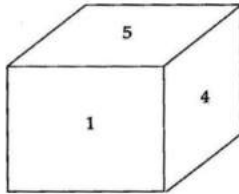
Chose the correct answer from the options given below:

- (a) B, E, A, D, C
- (b) E, B, A, C, D
- (c) B, E, A, C, D
- (d) B, A, E, C, D

Q22. Find the angle between the hands of clock at 12:30?

- (a) 165°
- (b) 170°
- (c) 175°
- (d) 155°

Q23. In a dice, 1, 2, 3 and 4 are written on the adjacent faces, in a clockwise order and 5 and 6 at the top and bottom. When three is at the top, what will be at the bottom?



- (a) 1
- (b) 2
- (c) 3
- (d) 4

Q24. What is the mirror-image of SMILE?

- (a) **SMILE**
- (b) **SMIL**
- (c) **ELIMS**
- (d) **ELIMS**

Q25. Find the missing number

	9			11			15	
5	52	8	9	46	3	9	?	6
	3			8			8	

- (a) 64
- (b) 77
- (c) 48
- (d) 23

Passage

Five men Ankur, Bharat, Chetan, Dev, Insan and their wives Parveen, Qazi, Reshma, Sudha and Tanu join a dance party, but it is not necessary that the order of husbands and wives are the same. This is the information that-

- I. - Husbands dance only with their wives
- II. - Chetan has a sister Tanu and has only a brother Ankur
- III. - If Dev has danced with Tanu, that means he danced -with another's wife
- IV. - Bharat does not dance with Qazi or Tanu or Sudha
- V. - Praveen is wife of Ankur's brother
- VI. - Qazi did not dance with Dev

Q26. Who is the dance partner of Reshma?

- (a) Insan
- (b) Dev
- (c) Bharat
- (d) Chetan

Q27. If Bharat and Chetan interchange their dance partners, who will dance with Bharat?

- (a) Reshma

- (b) Parveen
- (c) Sudha
- (d) Tanu

Q28. If Insan is Dev's son, how Bharat is related to Qazi?

- (a) Brother-in-law
- (b) Son
- (c) Sister-in-law
- (d) Cannot be determined

Q29. If such type of dance programme well organized, how many dances are possible that each woman dance with opposite sex?

- (a) 5
- (b) 4
- (c) 51
- (d) 25

Q30. Find the missing term: 31 : 961 :: ? : 1369

- (a) 33
- (b) 37
- (c) 39
- (d) 43

Q31. ECA : QOM :: KIG : ?

- (a) SUV
- (b) WUS
- (c) TRP
- (d) XVT

Q32. Acquire : Obtain :: Secure : ?

- (a) Procure
- (b) Hover
- (c) Humorous
- (d) Amusing

Q33. Sweet : Sour :: Less : ?

- (a) More
- (b) High
- (c) Up
- (d) Full

Q34. Fox : Vixen :: Drake : ?

- (a) Bee
- (b) Duck
- (c) Doe
- (d) Drone

Q35. Arrange the following words in the sequence they will appear in the dictionary:

- (A) Research
- (B) Resurgence
- (C) Respiration
- (D) Respective
- (E) Resources

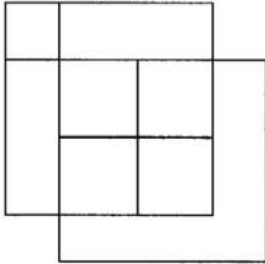
Choose the correct answer from the potions given below:

- (a) D, C, E, A, B
- (b) E, C, D, B, A
- (c) A, E, D, C, B
- (d) C, D, A, E, B

Q36. If in a certain language, D is coded as 2, I is coded as 1, N is coded as 7, M is coded as 5, A is coded as 0, O is coded as 8, how is DIAMOND coded in that language?

- (a) 2105872

- (b) 2015782
(c) 2108752
(d) 2017582

- Q37.** Kiya drives her car 20 km west from her home, then turns left and goes 20 km more, then, she turns right and goes 10 km and then she turns right and goes 15 km, finally she goes 30 km more after turning right again. At what distance is she from the starting point?
(a) 05 km
(b) 10 km
(c) 15 km
(d) 25 km
- Q38.** Complete the series;
52, 58, 60, 66, 68, 74, ...
(a) 74
(b) 76
(c) 78
(d) 80
- Q39.** If 9th day of a month is Sunday. What will be the last day of the month, on which Sunday will fall?
(a) 28th
(b) 29th
(c) 30th
(d) 31th
- Q40.** Complete the series; 7, 23, 95, 479, 2879,
(a) 11519
(b) 14399
(c) 17279
(d) 20159
- Q41.** Complete the series; 8192, 2048, ..., 128, 32, 8
(a) 256
(b) 248
(c) 1024
(d) 512
- Q42.** How many squares are there in a given shape?
- 
- (a) 11
(b) 12
(c) 13
(d) 15
- Q43.** In this question, four words have been given of which three are alike in some way and one is different. Find the odd one out.
(a) Rose
(b) Lotus
(c) Jasmine
(d) Sunflower
- Q44.** If day before yesterday is a Saturday. What will be sixth day after tomorrow?
(a) Sunday

- (b) Saturday
(c) Monday
(d) Tuesday

- Q45.** Pointing towards a person in the photograph, Mohit said, "he is the husband of the only daughter of the father of my sister's brother." How is that person related to Mohit?
(a) Uncle
(b) Cousin
(c) Brother-in-law
(d) Brother
- Q46.** What is the value of x if $4 : x = x : 16$
(a) 16
(b) 8
(c) 9
(d) 12
- Q47.** If $P = ₹2000$, $R = 5\%$ per annual, $T = 5$ year
A. Total sum of amount = ₹2200
B. SI = ₹200
C. SI = ₹500
D. Total sum of amount = 2500
Choose the correct answer from the options given below:
(a) C and D Only
(b) A and C Only
(c) B and C Only
(d) A and D Only
- Q48.** Find the LCM of $\frac{3}{5}$, $\frac{4}{9}$ and $\frac{5}{8}$ is
(a) 45
(b) 55
(c) 60
(d) 65
- Q49.** In a swimming pool measuring 80 m × 60 m, 120 men take a dip. If the average displacement of water by a man is 6 m³, then the rise in water level is —
(a) 0.25 m
(b) 0.10 m
(c) 0.15 m
(d) 0.35 m
- Q50.** The average age of group of 5 friends is 32 years. The youngest friend amongst them is 4 years old. What was the average age of the group at the time of birth of the youngest friend?
(a) 36 years
(b) 35 years
(c) 34 years
(d) 33 years
- Q51.** A volume of a wall is 128 cm³. If the height of the wall is 6 times its breadth and the length is 9 times its breadth, find the breadth.
(a) $\sqrt[3]{3.45}$ cm
(b) $\sqrt[3]{4.74}$ cm
(c) $\sqrt[3]{2.37}$ cm
(d) $\sqrt[3]{2.38}$ cm
- Q52.** If $P = x\%$ of Y and $Q = y\%$ of x , then which of following is true?
(a) $P = Q$

- (b) $P > Q$
 (c) $P < Q$
 (d) Relationship between P and Q cannot be established

Q53. A man makes a profit of 20% after selling a product on 28% discount on the printed price. Find the ratio of printed price to cost price

- (a) 7:3
 (b) 5:3
 (c) 4:3
 (d) 8:3

Q54. Alice is faster than Bob, Alice and Bom each walk 30 km. The sum of their speeds is 8 km/hr and sum of time taken by them is 16 hours. Then Alice's speed is equal to

- (a) 5
 (b) 4
 (c) 6
 (d) 8

Q55. A and B are two points in a river. Point X and Y divide the line AB in three equal parts. Let the flow of the river is from A to B. The ratio of the time taken to row from point A to Y and from B to Y is 3 : 4. Find the ratio of the speed of the boat upstream to the flow of the river.

- (a) 5 : 6
 (b) 6 : 5
 (c) 4 : 5
 (d) 5 : 4

Q56. A and B can complete a piece of work in 30 days. B and C in 10 days, which C and A in 5 days. If all of them work together, the time taken in completing the work

- (a) 4 Days
 (b) 5 Days
 (c) 6 Days
 (d) 7 Days

Q57. Suresh covers a distance by a cycle at 10 km/h. He returns to the starting point in a car at a speed of 50 km/h. Find the average speed for the entire journey.

- (a) 36.66 km/h
 (b) 16.66 km/h
 (c) 26.66 km/h
 (d) 46.66 km/h

Q58. A boy secures 70%, 40% and 60% marks in test papers with 100, 50 and 150 respectively as maximum marks. The percentage of his aggregate is:

- (a) 55
 (b) 60
 (c) 56.66
 (d) 70

Q59. Radha sells her scooty for ₹50000 at a loss of 20%. At what price she should sell her scooty to make a profit of 10%?

- (a) ₹65750
 (b) ₹64750
 (c) ₹66750

(d) ₹68750

Q60. Ratio between age of P and Q is 5 : 7. If 2 years ago Q's age was 2 years more than the age of P after 4 years, then find their total age

- (a) 30 years
 (b) 35 years
 (c) 42 years
 (d) 48 years

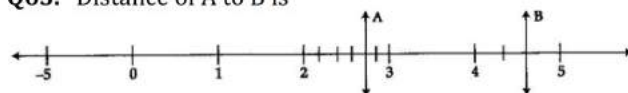
Q61. $(a + b)^2 = 5 + 2\sqrt{6}$, what can be the possible value of 'b' from the following?

- (a) $\sqrt{7}$
 (b) $\sqrt{3}$
 (c) $\sqrt{6}$
 (d) 5

Q62. If $x - \frac{1}{x} = 3$ then the value of $x^2 + \frac{1}{x^2}$ is

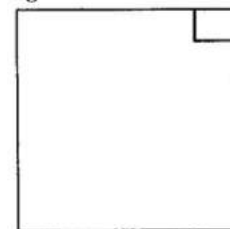
- (a) 9
 (b) 11
 (c) 7
 (d) 3

Q63. Distance of A to B is

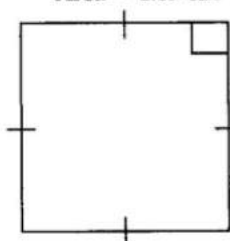


- (a) 1.8 unit
 (b) 1.9 unit
 (c) 2 unit
 (d) 2.1 unit

Q64. The ratio of the sides of the squares in the given figure is



Area = 1.69 cm²



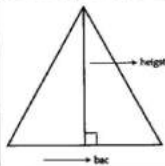
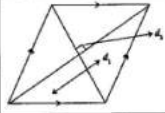
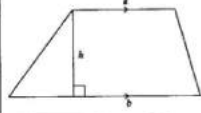
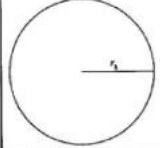
5.2 cm

- (a) 13:4
 (b) 1:4
 (c) 4:3
 (d) 10:4

Q65. Find the mean of 12, 15, 7, 8 and 'x + 13', if x = 2

- (a) 11.2
 (b) 9.2
 (c) 11.4
 (d) 12

Q66. Match List I with List II

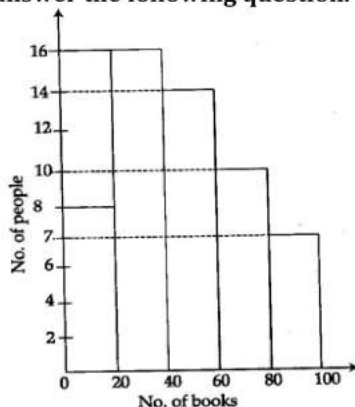
List I		List II	
A.		I.	πr^2
B.		II.	$\frac{1}{2} \times \text{base} \times \text{height}$
C.		III.	$\frac{1}{2} \times d_1 \times d_2$
D.		IV.	$\frac{1}{2} \times (a+b) \times h$

Choose the correct answer from the options given below:

- (a) A-IV, B-II, C-III, D-I
 (b) A-III, B-IV, C-II, D-I
 (c) A-I, B-III, C-IV, D-II
 (d) A-II, B-III, C-IV, D-I

- Q67.** The diameter of a circle whose area is numerically 110 more than its circumference is
 (a) 5 units
 (b) 7 units
 (c) 14 units
 (d) 10 units
- Q68.** If $m - n = 16$ and $m^2 + n^2 = 400$, the value of mn is =
 (a) 72
 (b) 25
 (c) 144
 (d) 192
- Q69.** The value of 'y' in the question $2x + 3y - 7 = 0$ if $x = -3/2$
 (a) 10
 (b) $10/3$
 (c) $4/3$
 (d) $13/3$

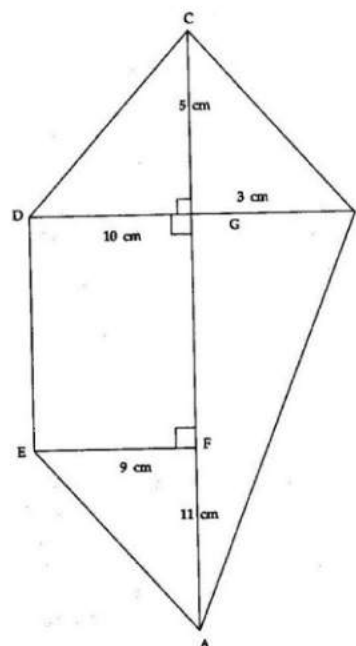
Direction for question 70 to 72: From the graph given below, answer the following question.



- Q70.** The total number of people owing books more than '40' is
 (a) 60
 (b) 31
 (c) 14
 (d) 30
- Q71.** The number of people owing books more than 20 but less than 60 is
 (a) 14
 (b) 16
 (c) 30
 (d) 40
- Q72.** The total number of people surveyed is
 (a) 16
 (b) 56
 (c) 54
 (d) 55

Direction for questions 73 to 75: From the given diagram, answer the following question.

- Q73.** 'AC' is 23 cm in the adjoining figure. Consider the figure and answer the questions



- (a) 133 cm^2
 (b) 140 cm^2
 (c) 70 cm^2
 (d) 66.5 cm^2
- Q74.** The area of $\triangle DBC$ is DB is a straight line
 (a) 32.5 cm^2
 (b) 65 cm^2
 (c) 25 cm^2
 (d) 15 m^2
- Q75.** The total area of figure is
 (a) 184.5 cm^2
 (b) 205 cm^2
 (c) 175.5 cm^2
 (d) 153 cm^2

SOLUTIONS

S1. Ans. (b)

Sol. If land of the Rising Sun is a popular Western name for Japan because the country is considered to lie close to where the sun rises. Japan is an island nation found in the Pacific Ocean. The country is positioned off the eastern coast of mainland Asia.

S2. Ans. (b)

S	Events	Options	Date	Descriptions
1	Vijay Diwas	C	26 July	Kargil Vijay Diwas is commemorated every 26 July in India, to observe India's victory over Pakistan in Kargil war of 1999.
2	Teacher's Day	E	5 September	Teachers' Day in India is celebrated on 5 th September to commemorate the birth anniversary of Dr. Sarvepalli Radhakrishnan, the first Vice President and the second President of India.
3	Hindi Day	D	14 September	Hindi Day is celebrated in India to commemorate the date 14 September 1949 on which a compromise was reached during the drafting of the Constitution of India.
4	Armed Forces Flag Day	B	7 December	Since 1949, 7 th December is observed as the Armed Forces Flag Day throughout the country to honor the martyrs and the men in uniform who valiantly fought on our borders to safeguard the country's honor.
5	National Good Governance Day	A	25 December	Good Governance is observed in India annually on 25 th of December, the birth anniversary of former-Prime Minister Atal Bihari Vajpayee.

S3. Ans. (c)

Sol. A satellite named Shijian-21, after the Chinese word "practice," was launched by China recently. China launched the debris mitigation technology satellite Shijian 21 from XSLC in Southwest China's Sichuan province in October 2021.

S4. Ans. (a)

Sol. Karur Vysya Bank is a Scheduled Commercial Bank in India. The Reserve Bank of India has authorised Karur Vysya Bank (KVB) to collect direct taxes on behalf of the Central Board of Direct Taxes (CBDT). After obtaining the approval, KVB has started the integration process with the CBDT to collect direct taxes. The integration would enable the bank to allow its customers to remit the direct taxes through any branch/net banking/ mobile banking services.

S5. Ans. (b)

Sol.

Serial	List-I (Country)	Correct Match	List-II (Capital)
A	Belarus	III	Minsk
B	Angola	IV	Luanda
C	Hungary	II	Budapest

D	Israel	I	Jerusalem
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S6. Ans. (a)

Sol. From the above, only General, Colonel, Captain are the ranks of commissioned officers in army. While Commodore and Group Captain are the ranks of commissioned officers in Navy and Air — Force similarly. Captain ranks above the rank of Commander and lower than a Commodore. It is equivalent to colonel in the Indian Army and Group Captain in the Indian Air Force.

S7. Ans. (a)

Sol. The lower part of brain stem forms the hindbrain which comprises of the medulla oblongata, pons, and cerebellum. The cerebrum, diencephalon and hypothalamus are parts of the forebrain.

S8. Ans. (b)

Sol. Protein digestive enzymes are pepsin and trypsin. They break down proteins into smaller peptides and amino acids. Pepsin is secreted by the gastric gland in the stomach whereas trypsin is secreted by Pancreas.

S9. Ans. (a)

Sol. The world's biggest diamond called the "Star of Africa I," or "Cullinan," and at 530 carats, it is the

largest-cut fine-quality colorless diamond in the world. This breathtakingly beautiful stone is on display in the Tower of London as part of the Crown Jewels.

S10. Ans. (b)

Sol. Belgium, Norway and Netherlands have lion as their national emblem. The lion is the official national animal of Netherlands. The lion is widely regarded as a national symbol, the Netherlands. A heraldic lion can be seen on the Belgian coat of arms and can be seen as the country's de facto national animal. A lion became the symbol of a Norwegian king at, least as early as 1280. It still stands proudly on Norway's Coat of Arms. Wild lions have likely never made their way to Norway, but European cave lions were once found as far north as Denmark.

S11. Ans. (b)

Sol. Field Marshal equivalent to an admiral of the fleet in the Indian Navy and a, Marshal of the Indian Air Force in the Indian Air Force. General SHFJ Manekshaw was the first person who was promoted to the rank of Field Marshal. Field Marshal Sam Hormusji Framji Jamshedji Manekshaw is widely known as Sam Manekshaw and Sam Bahadur. He was the Chief of the Army Staff of the Indian Army during the Indo-Pakistani

War of 1971, and the first Indian Army officer to be promoted to the rank of field marshal.

S12. Ans. (d)

Sol. Australia is the most successful team in the ICC ODI World Cup, won the men's cricket world cup number of times, i.e., 5 times and finished as the runner-up 2 times. The West Indies won the first two editions (1975 and 1979) and Australia won three in a row (1999, 2003 and 2007).

S13. Ans. (d)

Sol. As we know that the place value in alphabet series of M and N are 13 & 14 respectively.

So, here F and R will be replaced by their place value.

Hence, $F \times R = 6 \times 18$.

S14. Ans. (b)

Sol. A compiler is a software program that translates high-level programming language code into machine-readable code or binary code. It converts the entire source code into an executable file in one go, translating the code line by line and generating an output that can be directly executed by the computer's hardware. This process is known as compilation. The compiled code is typically faster and more efficient than interpreted code, as the translation is done before the program is run.

S15. Ans. (a)

Sol.

Serial	List-I	Correct Match	List-II	Descriptions
A	Amartya Sen	II	The Argumentative Indian	The Argumentative Indian is a book written by Nobel Prize winning Indian economist Amartya Sen. It is a collection of essays that discuss India's, history and identity, focusing on the traditions of public debate and intellectual pluralism.
B	Amrita Pritam	III	Death of a City	Death of a city written by Amrita Pritam. Amrita Pritam was an Indian novelist, essayist and poet who wrote in Punjabi and Hindi.
C	Aung San Suu Kyi	IV	Freedom from Fear	Freedom from Fear is both an essay by Aung San Suu Kyi, and a book of the same name comprising a collection of her essays published in 1991.
D	Barack Obama	I	Dreams from My Father	Barack Obama wrote the book before entering politics; 13 years after it was published, he was elected America's 44 th president.

S16. Ans. (d)

Sol. The National Rail and Transportation Institute (NRTI) is India's first transport Institute located in Vadodara, Gujarat, India. This institute opened its doors to the batch of 103 students from 20 states in two fully-residential undergraduate courses in each year. This institute is presently located inside the lush green 55-acre campus of

Ministry of Railways' apex training institution, National Academy of Indian Railways as a makeshift arrangement.

S17. Ans. (c)

Sol. In the given figure, total number of rows = 5
And total number of columns = 5

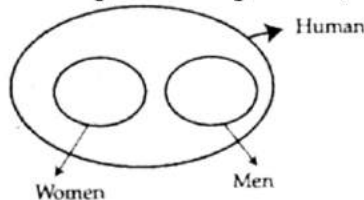
So, total number of rectangles = $1^3 + 2^3 + 3^3 + 4^3 + 5^3 = 225$

S18. Ans. (c)

Sol. Time in the mirror = 11:09
So, Time in the clock = 11:60
- 11:09
00:51
So, Time in the clock = 12:51

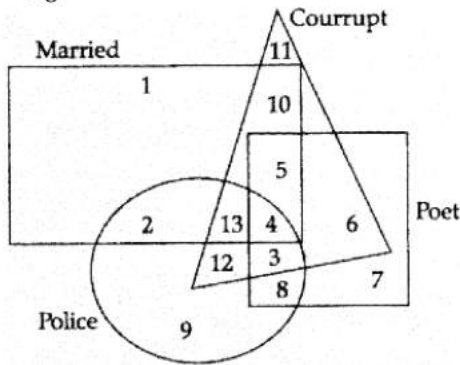
S19. Ans. (d)

Sol. Venn diagram for the given data,



S20. Ans. (a)

Sol. As per the given question,
Required number = Common in circle and square
but not in triangle and rectangle.
= 8



S21. Ans. (c)

Sol. The correct arrangement is as follows.
(B) Hen
(E) Egg
(A) Omelette
(C) Roll
(D) Serve

S22. Ans. (b)

Sol. Angle between hands of clock = $180 - 30 \times \frac{1}{2} = 165^\circ$

S23. Ans. (a)

Sol. The six faces are labeled as
Face I - 1
Face IV - 2
Face III - 3
Face II - 4
Face V - 5
Face VI - 6
Therefore, 1 appears opposite to 3.
Hence, when 3 is at the top, then 1 will be at the bottom.

S24. Ans. (d)

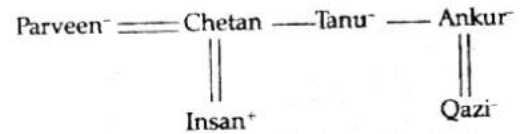
Sol. Here front mirror image of SMILE is not given in the options. So, the back mirror-image of SMILE is option (d).

S25. Ans. (b)

Sol. From the given figures,
(I) $8 \times 5 + 9 + 3 = 52$
(II) $9 \times 3 + 11 + 8 = 46$
So,
(III) $9 \times 6 + 15 + 8 = 77$

S26. Ans. (c)

Sol.



Reshma is connected to Bharat

Dev is connected to Sudha

Bharat is dance partner of Reshma

S27. Ans. (b)

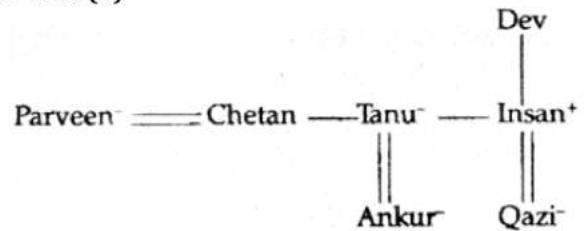
Sol.

Bharat is connected to Reshma

Chetan is connected to Parveen

As explained in above question, If Bharat and Chetan interchange their dance partners, then Bharat will dance with Parveen.

S28. Ans. (d)



If Insan is Dev's son, then there is no relation between Bharat and Qazi.

S29. Ans. (d)

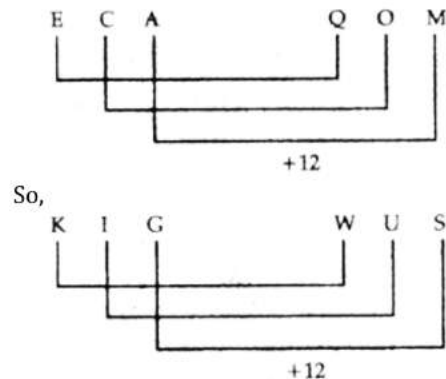
Sol. Number of Women = 5
Number of Men = 5
So, required number = $5 \times 5 = 25$

S30. Ans. (b)

Sol. From the given data, it is clear that the 2nd term is square of 1st term.
So, missing term will be $\sqrt{1369} = 37$

S31. Ans. (b)

Sol.



So, option B is correct option.

S32. **Ans. (a)**

Sol. Acquire: Acquire: Obtain :: Secure : Procure
They are synonyms of each other.

S33. **Ans. (a)**

Sol. Sweat : Sour :: Less : More
They are opposite to each other.

S34. **Ans. (b)**

Sol. Fox : Vixen :: Drake : Duck
They are male and female of each other.

S35. **Ans. (c)**

Sol. The correct sequence of words is Research, Resources, Respective, Respiration and Resurgence.

S36. **Ans. (a)**

Sol. It is given that,

D 2

I 1

N 7

M 5

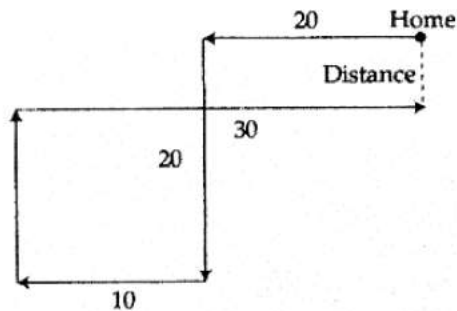
A 0

O 8

So, DIAMOND will be coded as 2105872.

S37. **Ans. (a)**

Sol.



Required distance = $20 - 15 = 5\text{km}$

So, option A is correct option.

S38. **Ans. (b)**

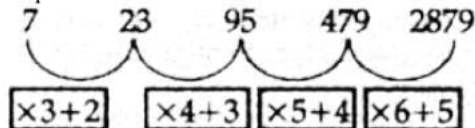
Sol. The pattern is +6, +2, +6, +2 and so on. So missing term = $74 + 2 = 76$

S39. **Ans. (c)**

Sol. It is given that the 9th day of a month is Sunday. So, after 21 days again it will be Sunday on 30th of the month.

S40. **Ans. (d)**

Sol. The pattern is as follows:



So, the next number = $2879 \times 7 + 6 = 20159$

S41. **Ans. (d)**

Sol. The pattern is as follows:

8192 2048 ? 128 32 8

Here, 2nd term = 1st term / 4

5th term = 4th term / 4

6th term = 5th term / 4

So, 3rd term = 2nd term / 4

= $2048 / 4$

= 512

S42. **Ans. (a)**

Sol. Total 11 squares are there in a given shape.

S43. **Ans. (b)**

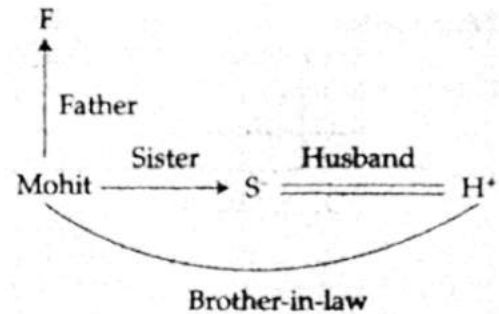
Sol. Lotus is grown in water, other are grown in land.

S44. **Ans. (c)**

Sol. If day before yesterday is a Saturday, then today is Monday and tomorrow will be Tuesday. Six days after Tuesday will be Monday.

S45. **Ans. (c)**

Sol.



S46. **Ans. (b)**

Sol. It is given that,

$$4/x = x/16$$

$$x^2 = 64$$

$$x = 8$$

S47. **Ans. (a)**

Sol. P = 2000, R = 5%, T = 5 year

As we know that,

$$SI = \frac{(P \times R \times T)}{100}$$

$$= \frac{(2000 \times 5 \times 5)}{100}$$

$$= ₹500$$

Total amount = $2000 + 500 = ₹2500$

S48. **Ans. (c)**

Sol. LCM of fraction = $\frac{\text{LCM of Numerator}}{\text{HCF of Denominator}}$

$$= \frac{\text{LCF}(3,4,5)}{\text{HCF}(5,8,9)} = \frac{60}{1}$$

$$= 60$$

S49. **Ans. (c)**

Sol. It is given that,

Length of swimming pool = 80m

Breadth of swimming pool = 60m

Let the depth of swimming pool = D m

Volume of water displaced = Displacement of water by 120 men.

$$80 \times 60 \times D = 120 \times 6$$

$$4800 \times D = 720$$

$$D = 0.15 \text{ m}$$

S50. **Ans. (b)**

Sol. Given that,

The average age of 5 friend = 32 years

So, sum of their ages = $32 \times 5 = 160$ years

The youngest friend is 4 years old, that means youngest was born 4 years ago.

Now 4 years ago,
Sum = $160 - (4 \times 5) = 160 - 20 = 140$ years
So, the average age of group at the time of the birth of youngest one = $140/4 = 32$ years
Hence, option B is correct answer.

S51. Ans. (c)

Sol. Given that,
The volume of the wall = 128 cm^3
Let the breadth = $x \text{ cm}$
So, Height = $6x \text{ cm}$
And Length = $9x \text{ cm}$
As we know that,
Volume = $L \times B \times H$
 $128 = 9x \times 6x \times x$
 $128 = 54x^3$
 $x = 3\sqrt[3]{2.37}$

S52. Ans. (a)

Sol. Here, $P\%$ of $Y = XY/100$
And $Q = Y\%$ of $X = XY/100$
So, $P = Q$

S53. Ans. (b)

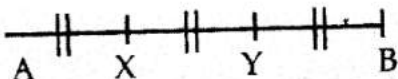
Sol. Let the C.P. of product = X
Then S.P. = $1.2X$
Now let the printed price = Y
Then S.P. = $0.72 Y$
Now, comparing both S.P.,
 $0.72 Y = 1.2X$
 $Y/X = 1.2/0.72$
 $= 5/3$
So, the ratio of printed price to cost price = $5/3$

S54. Ans. (a)

Sol. Let Alice speed = $x \text{ km/h}$
Then, Bob's speed = $8 - x \text{ km/h}$
As we know that,
Distance / Speed = Times
So, $\frac{30}{x} + \frac{30}{8-x} = 16$
 $30(8-x) + 30x = 16 \times (8-x)$
 $240 - 30x + 30x = 128x - 16 \times 2$
 $x^2 - 8x + 15 = 0$
 $(x-5)(x-3) = 0$
 $x = 3$ and $x = 5$
As per the question, Alice speed = 5 km/h

S55. Ans. (b)

Sol.



A X Y B

$AX = XY = YB$

Ratio of time taken by boat to go from A to Y and B to Y = $3 : 4$

As we know that,
Speed of the boat going downstream = (Speed of the boat + Speed of the current)
Speed of the boat going upstream = (Speed of the boat - Speed of the current)
Time = Distance/Speed
Let $AX = XY = BY = d$
Let the speed of the boat = $a \text{ km/h}$
Let the speed of the current = $b \text{ km/h}$
As per the question:

$$2d/(a+b) \div d/(a-b) = 3/4$$

$$\Rightarrow 2(a-b)/(a+b) = 3/4$$

$$\Rightarrow 11b = 5a$$

$$\Rightarrow a/b = 11/5$$

$$\text{Speed of the boat upstream} = (11 - 5) = 6$$

$$\text{Flow of the current} = 5$$

$$\Rightarrow \text{The required ratio} = 6 : 5$$

S56. Ans. (c)

Sol. It is given that,
Time taken by A and B = 30 days
Time taken by C and B = 10 days
Time taken by A and C = 5 days
Let total work be 30 units (LCM of 30, 10 and 5).
(A+B)'s one day work = $30/30 = 1$ units
(B+C)'s one day work = $30/10 = 3$ units
(C+A)'s one day work = $30/5 = 6$ units
Adding all three equations,
 $2A + 2B + 2C = 10$
 $2(A+B+C) = 10$
 $A+B+C = 5$
So,
(A+B+C)'s one day work = 5 units
So, time taken by them together to finish the task = $30/5 = 6$ days.

S57. Ans. (b)

Sol. Let the distance = $X \text{ km}$
Time taken to cover the distance by a cycle = $X/10$ hr.
And time taken to cover the distance by a car = $X/50$ hr.
So, Average speed = $\frac{\text{Total distance}}{\text{Total time}}$
 $= \frac{X}{\frac{X}{10} + \frac{X}{50}}$
 $= \frac{1000}{60} = 16.66 \text{ km/h}$

S58. Ans. (b)

Sol. 70% of 100 = $(70/100)$ of 100 = 70 marks
40% of 50 = $(40/100)$ of 50 = 20 marks
60% of 150 = $(60/100)$ of 150 = 90 marks
So, marks secured = $70 + 20 + 90 = 180$ marks
And Total marks = $100 + 50 + 150 = 300$ marks
So, required percentage = $(180/300) \times 100 = 60\%$

S59. Ans. (d)

Sol. Given that,
The S.P. of scooty = ₹50000
Loss percentage = 20%
So, C.P. = $(50000 \times 100)/80 = ₹62500$
Now, new profit percentage = 10%
So, new S.P. = $(62500 \times 110)/100$
= ₹68750

S60. Ans. (d)

Sol. Let the age of P = $5x$
Then the age of Q = $7x$
As per the question,
 $7x - 2 = (5x + 4) + 2$
 $2x = 8$
 $x = 4$
Total sum = $12x = 48$

S61. Ans. (b)

Sol. Given that,

$$(a + b)^2 = 5 + 2\sqrt{6}$$

From the given equation possible values of a and b are $\sqrt{2}$ and $\sqrt{3}$

S62. Ans. (b)

Sol. $(x - 1/x)^2 = x^2 + 1/x^2 - 2 \times x \times 1/x$
 So, $3^2 = x^2 + 1/x^2 - 2$
 $x^2 + 1/x^2 = -9 + 2 = 11$

S63. Ans. (c)

Sol. It is clear from the given diagram, that distance between A and B is 2 unit.

S64. Ans. (b)

Sol. Side of first square = $\sqrt{1.69} = 1.3$ cm
 Side of the second square = 5.2 cm
 So, required ratio = $1.3/5.2 = 1/4$

S65. Ans. (c)

Sol. Given numbers = 12, 15, 7, 8 and $x + 13$
 Where $x = 2$
 Now, mean = sum of all numbers/5
 $= 57/5 = 11.4$

S66. Ans. (d)

Sol. From the given options, option D is perfect match of areas of given figures.

S67. Ans. (b)

Sol. As we know that, area of circle = πr^2
 And circumference = $2\pi r$
 As per the question,
 $\pi r^2 = 2\pi r + 110$
 $\pi r^2 - 2\pi r = 110$
 $\pi r(r - 2) = 110$
 $r(r - 2) = 7 \times 5$
 So, $r = 7$

S68. Ans. (a)

Sol. As we know that,
 $(m - n)^2 = m^2 + n^2 - 2mn$
 $16^2 = 400 - 2mn$
 $2mn = 400 - 256$
 $2mn = 144$
 $mn = 72$

S69. Ans. (b)

Sol. Given that,
 $2x + 3y - 7 = 0$ if $x = -(3/2)$
 $-2(3/2) + 3y - 7 = 0$
 $-3 + 3y - 7 = 0$
 $3y - 10 = 0$
 $3y = 10$
 $y = 10/3$
 Hence, option b is correct option.

S70. Ans. (b)

Sol. The total number of people owing books more than 40 = $14 + 10 + 7 = 31$

S71. Ans. (b)

Sol. The number of people owing books more than 20 but less than 60 = 16

S72. Ans. (c)

Sol. The total number of people surveyed = $16 + 14 + 10 + 8 + 7 = 55$

S73. Ans. (d)

Sol. The area of DGFE (here, GF=h=7 cm)
 $= 1/2(a + b) \times h = 1/2(10 + 9) \times 7$
 $= 1/2 \times 19 \times 7 = 66.5 \text{ cm}^2$

S74. Ans. (a)

Sol. Area of triangle
 $BDC = \frac{1}{2} \times B \times H$
 $= 1/2 \times 13 \times 5 = 32.5 \text{ cm}^2$

S75. Ans. (c)

Sol. Area of figure = area $\triangle DBC$ + area $\triangle AGB$ + area $\triangle EFA$ + Area of rec. DGFE
 $= 1/2(B \times H + B \times H + B \times H + (a + b)H)$
 $= 1/2(13 \times 5 + 18 \times 3 + 9 \times 11 + (10 + 9)7)$
 $= 1/2(65 + 54 + 99 + 133)$
 $= 175.5 \text{ cm}^2$