**SATISH CHANDRA MEMORIAL SCHOOL**

METRER SAMPLE QUESTION PAPER(LEVEL I AND II) 2019

CLASS- IX

**SYLLABUS**

 **REASONING :**

 1. Series Completion

 2. Coding-Decoding

 3. Calender

 4. Direction sense

 5. Dice and cube

 6. Blood relations

 7. Venn Diagram

 **NCERT :**

 1.Number system

 2. Polynomials

 3. Coordinate Geometry

 4. Euclids Geometry

 5. Lines and angles

 6. Triangles

 7. Herons formula

**SECTION A (REASONING)**

\*Study the following figure and answer the questions given below.



|  |  |
| --- | --- |
|  | 1. If hospital management requires only married trained nurses for operation theater, which part of diagram should be chosen by him ?
 |
| (A) 7 (B) 4 (C) 5 (D) 6 |
| .  | 1. By which number, married but untrained nurses in the hospital are represented?
 |
| (A) 4 (B) 6 (C) 7 (D) 5 |
|   | 1. By which numbers trained nurses are represented ?

(A) 3,6 (B) 7,5 (C) 5,6 (D) 1,5 |
|  |
| 1. What is represented by the number 7 ?
 |
| (A) Married nurses in the hospital (B) Trained nurses (c) Unmarried trained nurses (D) Married trained nurses |
| (5) By which number, the trained unmarried nurses in the hospital are represented ? |
| (A) 6 (B) 5 (C) 7 (D) 4 |

\*\*In the following figure small square represents the persons who know English, triangle to those who know Marathi, big square to those who know Telugu and circle to those who know Hindi. In the different regions of the figures from 1 to 12 are given.



|  |  |
| --- | --- |
| (6) | How many persons can speak English and Hindi both the languages only ? |
| (A) 5 (B) 8 (C) 7 (D) 18(7) How many person can speak Marathi & Telegu both(A) 10 (B) 11 (c) 13 (D) None of these |
|  |
|  |
| (8) How many persons can speak only English ? |
| 1. 9 (B) 12 (C) 7 (D) 19
 |
| (9) How many persons can speak English, Hindi and Telugu ? |
| 1. 8 (B) 2 (C) 7 (D) None of these
 |
| (10) How many persons can speak all the languages ? |
| 1. 1 (B) 8 (C) 2 (D) None of these
 |

Each of these questions given below contains three elements. These elements may or may not have some inter linkage. Each group of elements may fit into one of these diagrams at (A), (B), (C), (D) and/or (E). You have to indicate the group of elements which correctly fits into the diagrams.

|  |  |
| --- | --- |
| (11)  | Which of the following diagrams indicates the best relation between Travelers, Train and Bus ? |
|

|  |  |
| --- | --- |
| **A.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c6.png |
| **B.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c3.png |
| **C.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c9.png |
| **D.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c11.png |

 |
| .  | (12) Which of the following diagrams indicates the best relation between Profit, Dividend and Bonus ? |
|

|  |  |
| --- | --- |
| **A.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c8.png |
| **B.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c2.png |
| **C.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c5.png |
| **D.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c18.png |

 |
| (13) Which of the following diagrams indicates the best relation between Women, Mothers and Engineers ? |
|

|  |  |
| --- | --- |
| **A.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c1.png |
| **B.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c2.png |
| **C.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c3.png |
| **D.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c4.png |

 |
| (14) Which of the following diagrams indicates the best relation between Factory, Product and Machinery ? |
|

|  |  |
| --- | --- |
| **A.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c4.png |
| **B.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c10.png |
| **C.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c3.png |
| **D.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c11.png |

 |
| (15) Which of the following diagrams indicates the best relation between Author, Lawyer and Singer ? |
|

|  |  |
| --- | --- |
| **A.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c6.png |
| **B.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c3.png |
| **C.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c11.png |
| **D.** | https://www.indiabix.com/_files/images/verbal-reasoning/venn-diagram/4-19-1-c4.png |

 |

Study the following figure and answer the questions given below.(16-20)



|  |  |
| --- | --- |
| (16).  | How many doctors are neither artists nor players ?1. 17 (B) 5 (c) 10 (D) 30
 |
|  |
|   | (17) How many doctors are both players and artists ?(A) 22 (B) 8 (C) 3 (D) 30 |
|  |
| (18) How many artists are players ? |
| 1. 5 (B) 8 (C) 25 (D) 16
 |
|  |
| (19) How many players are neither artists nor doctors ? |
| 1. 25 (B) 17 (C) 5 (D) 10
 |
| (20) How many artists are neither players nor doctors ? |
| 1. 10 (B) 17 (C) 30 (D)15
 |
| (21) Pointing to a photograph of a boy Suresh said, "He is the son of the only son of my mother." How is Suresh related to that boy? |
| 1. Brother (B) Uncle (C) Cousin (D)Father
 |
| (22) If A + B means A is the mother of B; A - B means A is the brother B; A % B means A is the father of B and A x B means A is the sister of B, which of the following shows that P is the maternal uncle of Q? |
|

|  |  |
| --- | --- |
| **A.** | Q - N + M x P |
| **B.** | P + S x N - Q |
| **C.** | P - M + N x Q |
| **D.** | Q - S % P |

 |
| (23) If A is the brother of B; B is the sister of C; and C is the father of D, how D is related to A? |
| 1. Brother (B) Sister (C) Nephew (D) Cannot be determined
 |
| (24) If A + B means A is the brother of B; A - B means A is the sister of B and A x B means A is the father of B. Which of the following means that C is the son of M? |
|

|  |  |
| --- | --- |
| **A.** | M - N x C + F |
| **B.** | F - C + N x M |
| **C.** | N + M - F x C |
| **D.** | M x N - C + F |

 |
| (25) Introducing a boy, a girl said, "He is the son of the daughter of the father of my uncle." How is the boy related to the girl? |
| 1. Brother (B) Nephew (C) Uncle (D) Son in law
 |

Each of these questions is based on the following information:

1. A + B means A is the mother of B.
2. A - B means A is the sister of B.
3. A \* B means A is the father of B.
4. A β B means A is the brother of B.

|  |
| --- |
| (26) Which of the following means Q is the grandfather of P? |
|

|  |  |
| --- | --- |
| **A.** | P + N \* M \* Q |
| **B.** | Q \* N \* M + P |
| **C.** | Q β M β N \* P |
| **D.** | None of these |

 |
| (27) Which of the following means that N is the maternal uncle of M? |
|

|  |  |
| --- | --- |
| **A.** | N β P - L + E - M |
| **B.** | N - Y + A β M |
| **C.** | M - Y \* P - N |
| **D.** | N β C + F \* M |

 |

The sheet of paper shown in the figure (X) given on the left hand side, in each problem, is folded to form a box. Choose from amongst the alternatives (1), (2), (3) and (4), the boxes that are similar to the box that will be formed.

|  |  |
| --- | --- |
| (28)   | (28) Choose the box that is similar to the box formed from the given sheet of paper (X).https://www.indiabix.com/_files/images/non-verbal-reasoning/cubes-and-dice/cubes/9.png1. 1 and 2 only (B) 2 and 4 only (C) 2 and 3 only (D) 1 and 4 only.
 |
|  |
| (29) Choose the box that is similar to the box formed from the given sheet of paper (X).https://www.indiabix.com/_files/images/non-verbal-reasoning/cubes-and-dice/cubes/19.png |
| 1. 1 and 4 only (B) 3 and 4 only (C) 1 and 2 only (D) 2 and 3 only.
 |
| (30) How many dots lie opposite to the face having three dots, when the given figure is folded to form a cube?https://www.indiabix.com/_files/images/non-verbal-reasoning/cubes-and-dice/cubes/24.png |
| 1. 2 (B) 4 (c) 5 (D) 6
 |
| (31) Choose the box that is similar to the box formed from the given sheet of paper (X).https://www.indiabix.com/_files/images/non-verbal-reasoning/cubes-and-dice/cubes/21.png1. 1 and 3 only (B) 1 and 4 only (C) 2 and 4 only (D) 3 and 4 only.
 |
|  |
| (32) Choose the box that is similar to the box formed from the given sheet of paper (X).https://www.indiabix.com/_files/images/non-verbal-reasoning/cubes-and-dice/cubes/12.png |
| (a) 1 and 2 only (b) 2 and 3 only (c) 2 and 4 only (d) 1,2,3 and 4 |
| (33) Observe the dots on a dice (one to six dots) in the following figures. How many dots are contained on the face opposite to that containing four dots?https://www.indiabix.com/_files/images/non-verbal-reasoning/cubes-and-dice/dice/26.png |
| 1. 2 (b) 3 (c) 6 (d) cannot be determined
 |
| (34) Three different positions of a dice are shown below. How many dots lie opposite to 2 dots?https://www.indiabix.com/_files/images/non-verbal-reasoning/cubes-and-dice/dice/15.png |
| 1. 1 (b) 3 (c) 5 (d) 6
 |
| (35) The six faces of a dice have been marked with alphabets A, B, C, D, E and F respectively. This dice is rolled down three times. The three positions are shown as:https://www.indiabix.com/_files/images/non-verbal-reasoning/cubes-and-dice/dice/18.pngFind the alphabet opposite A. |
| 1. C (b) D (c) E (d) F
 |
| (36) Three position of a dice are given. Based on them find out which number is found opposite the number 2 in the given cube.https://www.indiabix.com/_files/images/non-verbal-reasoning/cubes-and-dice/dice/14.png |
| 1. 6 (b) 5 (c) 3 (d) 1
 |
| (37) A dice is thrown four times and its four different positions are shown below. Find the number on the face opposite the face showing 2.https://www.indiabix.com/_files/images/non-verbal-reasoning/cubes-and-dice/dice/6.png |
| (a) 3 (b) 4 (c) 5 (d) 6 |
| (38) Two positions of a dice are shown. When 4 is at the bottom, what number will be on the top?https://www.indiabix.com/_files/images/non-verbal-reasoning/cubes-and-dice/dice/24.png |
| 1. 1 (b) 2 (c) 5 (d) 6
 |

1. If in a certain code ‘ALTERED’ is written as ‘ ZOGVIVW’ then how will ‘RELATED’ be written in that code
2. IVOGZVW B)IVOZGWV C) IVOZGVW D) VIOZGVW
3. Which number will best complete the relationship given below? 35: 6 :: 120 : ?
4. 12 B) 11 C) 10 D) 9
5. If in a certain code ‘MISTAKE’ is written as ‘ 4356127’ then how will ‘STEAM’ be written in that code A) 56713 B) 57614 C) 56741 D) 56714
6. Select the correct number from the given option that will complete the series given below by replacing the (?) 121, 144, 169, ?, 225
7. 196 B)289 C) 180D) 204
8. What will come in the place of question mark (?) in the following series: NPOQ QS TV ?
9. XX B) XZ C) WZ D) WX
10. If in a certain code ‘DARE’ is written as ‘1083’ and ‘FATE’ is coded as ‘2093’ then how will ‘FARE’ be written in that code A) 2083 B) 8320 C) 2038 D) 3802
11. Select the correct answer from the given option that will complete the series given below by replacing the (?) J L N P R T ?

A) S B) U C) V D) W

(46) Select the correct answer from the given option that will complete the series given below by

 the following series: A D I P ?

A) R B) T C) U D) Y

(47) Select the correct answer from the given option that will complete the series given below:

 10, 17, 26, 37, ?

A) 56 B) 50 C) 48 D) 52

(48) Select the missing term: 3, 7, 15, 31, 63, ?

A) 127 B) 139 C) 117 D) 123

(49) Select the missing term: G2X,J4V,M8T,?,S32P?

 A)N64S B)P16R C)Q16R D)P8S

(50) If SMILE is written as TOLPJ, What will be the code of RASCAL ?

 A)TAREDS B)SBUHER C)SCVGFR D)TCVGER

(51) In a certain code:”123” means “bright blue sky”,”145” means “dark grey sky”,”378” means “nice blue wall”.Which numerical is the code for “bright”?

 A)1 B)2 C)3 D)4

(52) If in a certain code ‘RICH’ is written as ‘SJDI’ then how will ‘POOR’ be written in that code as :

 A) QPPS B) MPPK C) DEEP D) ZXXV

(53) Select the missing term: DW,EV,FU,?, HS

 A)IK B)SU C)GT D)JP

(54) Select the missing term:9,11,15,23,39,?

 A)71 B)64 C)42 D)56

(55) Select the missing term:XYQ,ZAR,BCS,DET?

 A)FHV B)PVD C)FGU D)CFI

(56) If in a certain code ‘98602’ is written as ‘MANGO’ and ‘0139867’ is coded as ‘GERMANY’ then how will ‘9868013’ be written in that codeas?

 A)MANEGER B)MENEGER C)MENAGAR D)MANAGER

(57) Select the missing term:7,10,8,11,9,12,?

 A)13 B)12 C)7 D)10

(58) If in a certain code ‘GOOGLE’ is written as ‘244285’and ‘FACEBOOK’ as ‘63951447 then how will ‘GLOBAL’ be written as:

 A)824138 B)284138 C)284183 D)248138

(59) Select the missing term:2,10,34,?,322

 A)57 B)106 C)121 D)68

(60) Select the missing term:3,14,25, ?, 47

 A)36 B)38 C)39 D)35

(61) If in a certain code ‘12457643’ is written as ‘SOLVABLE’ then how will ‘1743’ be written in that code as :

 A)SALE B)LASE C)SAEL D)SABE

(62) If in a certain code ‘ERRAND’ is written as ‘122534’and ‘OBTAIN’ as ‘678593’ then how will ‘GLOBAL’ be written as:

 A)82593 B)82539 C)83942 D)38422

(63) Select the missing term:7,17,37,77,?

 A)157 B)145 C)154 D)158

(64) If in a certain code ‘FONDLE’ is written as ‘317652’ then how will ‘NOODLE’ be written in that code as :

 A) 711562 B) 711652 C) 821621 D) 711625

(65) Select the missing term:1,8,27,64,?

 A)89 B)25 C)43 D)125

(66) If in a certain code ‘DETRITED’ is written as ‘13245231’ then how will ‘TIRED’ be written in that code as :

 A) 25431 B) 12342 C) 15143 D) 25143

(67) Select the missing term:7,13,25,49,97,?

 A)193 B)210 C)127 D)182

(68) If in a certain code ‘INDICATOR’ is written as ‘345321678’ then how will ‘CARTOON’ be written in that code as :

 A) 2168774 B) 2186774 C) 2168477 D) 3121211

(69) Select the missing term:6,13,27,55,?

 A)103 B)111 C)113 D)115

(70) Select the missing term:128,124,120,?,112

 A)116 B)118 C)108 D)110

(71) If in a certain code ‘MEDITATION’ is written as ‘4781565123’ then how will ‘MOTION’ be written in that code as :

 A) 623123 B) 425113 C) 425123 D) 421523

(72) If in a certain code ‘RUNNER’ is written as ‘TWPPGT’ then how will ‘MOUSE’ be written in that code as :

 A) QOWUF B) OUGQW C) UGOQC D) OQWUG

(73) Select the missing term:R,O,L,I,F,?

 A)C B)D C) H D)G

(74) Select the missing term:5,10,20,40,80,160,?

 A)320 B)340 C)360 D)380

(75) If in a certain code ‘ABCD’ is written as ‘EFGH’and‘JKLM’ as ‘NOPQ’ then how will ‘RSTU’ be written as:

 A)WVYX B)QPUV C)VWXY D)VWYX

(76) If in a certain code ‘FIRE’ is written as ‘GHSD’ then how will ‘MANGO’ be written in that code as :

 A) NZOFP B) UTSER C) NNPOE D) RFDSE

(77) Select the missing term:3,5,12,20,48,80,?,320

 A)120 B)200 C)348 D)192

(78) If in a certain code ‘TEAMWORK’ is written as ‘NBFUJQNV’and ‘SOME’ as ‘PTDL’ then how will ‘PERSON’ be written as:

 A)SQFNMR B)SFQMNR C)SFQNMR D)SQMFNR

(79) Select the missing term:6,14,26,42,62,86,?

 A)114 B)115 C)116 D)118

(80) Two cyclist are standing on a point . One goes 6 km towards west and other one goes the same distance towards north. How far is one from other one ?

1. 3 km b) 12 km c) 4 km d) 6$\sqrt{2}$ km
2. (If North is replaced by south then East is replaced by each of the following direction ?
3. South b) West c) North-West d) Data inadequate.
4. Going 50m to the south of my house . I turn left and go another 20m . Then turning to the north I go 30 m and then start walking towards my house . In which direction am I walking now ?
5. North b) East c) North-west d) south-east
6. Two students Ram and Shyam 10m apart-are standing on a horizontal line. Both of them run the same distance towards North – East. They again travelled equal distance towards south . How far is Ram now from shyam ?
7. 10$√2$ us b) 5$\sqrt{2}m$ c) 10 m d) 20$√2$ m
8. X and Y are at the same distance from Z but x is towards north-East of z and Y is towards south-east of z . In which direction of Y does x lie ?
9. North b) north-west c) south d) south-west
10. If 2nd jan 1999 was Monday then what was the day on 15th june in the same year ?
11. Monday b) Thursday c) Sunday d) none
12. If 15th July 2004 was Sunday then what was the day on 8th Feb in the same year ?
13. Tuesday b) Wednesday c) Friday d) Saturday
14. What was the day of 15th August 1947 ?
15. Sunday b) Monday c) Thursday d) Friday
16. Which year is the leap year ?
17. 1100 b) 1945 c) 1200 d) 1978
18. Today is Monday . after 61 days it will be
19. Wednesday b) Saturday c) Tuesday d) Thursday
20. How many days are there in x weeks x days ?
21. $7x^{2}$ b) 8x c) 14x d) 7
22. The last day of a century cannot be
23. Monday b) Wednesday c) Tuesday d) Friday
24. A boy facing towards west . He turns $135^{0}$ anticlockwise and then $90^{0} $clockwise . which direction is he facing now ?

 a)North-West b) North-East c) South-West d) South-East

1. Ganesh goes 5 km south, then he turns left two times and walks 8 km and 5 km respectively how far and in which direction is he from the starting point ?
2. 8km,North b) 8 km,East c) 5km ,West d) 5km, South
3. A man walks 200 m towards East. He turns to right and walks 100 m. he again turns to right and walks 200 m . He then turns to right again and walks 200 m . How far is he from the starting point of the trip ?
4. 50 m b) 100 m c) 200 m d) 700 m
5. It was Sunday on jan 1 , 2006 . Which was the day of the week jan 1 210 ?
6. Monday b) Friday c) Sunday d) Tuesday
7. For what year will the calendar be the same as for the year 2009 ?
8. 2021 b) 2022 c) 2023 d) 2024
9. A tourist travelled 40km towards East and turning to his left he travelled 60 km . he then turned to his right and travelled 40 km . what was the distance between his initial and final positions ?

a)100 km b) 120 km c) 140 km d) not possible to determine

(98) Two students X and Y come out from the school and starts walking

 1.5 km each in opposite direction. Each turns to his right and go 2

 Km to reach their homes. . what is the distance between the homes

of X and Y

1. 8 km b) 7km c) 6km d) 5 km
2. What was the day on 26th Jan 1950
3. Sunday b) Monday c) Thursday d) Friday

**SECTION B (NCERT)**

1. What is the coefficients of x0in the equation 2x2 -5x-7 =0
2. 2 B) 5 C) -7 D) -5
3. Equation of X-axis is
4. X=constant B) Y=0 C) X=0 D) none of these
5. In which quadrant the points lies (-2, 4)
6. First B) Second C) Third D) Fourth
7. The polynomial whose zeros are 2 and 3 is
8. 2x2 -5x-7 B) x2 -5x-6 C) x2 -5x+6 D)x2 -5x-7
9. What is the distance of the point (2,-5) from X-axis
10. 5 unit B) -5 unit C) 2 unit D) -2 unit
11. Which type of polynomial is this x3-5x+6
12. Linear B) quadratic C) cubic D) none of these
13. In which quadrant both the values of x and y are negative

A) First B) Second C) Third D) Fourth

1. In the given figure , < a is greater one sixth of right angle then



1. b >$165^{0}$ b) b<$165^{0}$ c) b≤$165^{0}$ d) b≥ $165^{0}$
2. The measures of the angles of a triangle are in the ratio 2 : 7 : 11

Measure of angles are

a)$16^{0}, 56^{0}, 88^{0}$ b) $18^{0}, 63^{0}, 99^{0}$ c) $20^{0}, 70^{0}, 90^{0}$ d)$25^{0},175^{0},105^{0}$

(109) In the given figure. BO and CO are the bisectors of <B and <C

 respectively. If <A = $50^{0}$ then <BOC = ?

1. $130^{0}$ b) $100^{0}$ c) $115^{0}$ d) $120^{0}$
2. The side BC of ABC is produced to D if <ACD = $108^{0}$ and

 <B = $\frac{1}{2}$ <A then <A is

1. $36^{0}$ b) $72^{0}$ c) $108^{0}$ d) $59^{0}$
2. Angles of a triangle are in the ration 2 : 4 : 3 the smallest angle of

 The triangle is

1. $60^{0}$ b) $40^{0}$ c) $80^{0}$ d) $20^{0}$

(112) Find an angle which is double of its supplement

 a) $120^{0}$ b) $100^{0}$ c) $80^{0}$ d) $110^{0}$

(113) If in any triangle ABC the base BC is produced in both ways, the

 Sum of the exterior angles at B and C is

 a)π-A b) π + A c) $\frac{π}{2}$ + A d) π –$ \frac{A}{2}$

(114) AB is a line segment 10 cm long . C is a point is its interior such

 that AC = 4cm . Then find $AB^{2}- AC^{2}$

 a)$46cm^{2}$ b) $36cm^{2}$ c) $84cm^{2}$ d) $64cm^{2}$

(115) Who is the father of geometry ?

 a) Euclid b) Pythagoras c) Thales d) None

(116) Solve the equation X+4 = 10 and state Euclid’s axiom used.

 a) -4 b) 6 c) 14 d) 0

SECTION A(Answers)

1. **Answer:** Option **C**

**Explanation:**

No answer description available for this question.

1. **Answer:** Option **C**

**Explanation:**

No answer description available for this question

1. **Answer:** Option **C**

**Explanation:**

No answer description available for this question

1. **Answer:** Option **A**

**Explanation:**

No answer description available for this question

1. **Answer:** Option **D**

**Explanation:**

No answer description available for this question

1. **Answer:** Option **A**

**Explanation:**

Number of persons who can speak English and Hindi both only is 5.

**(7) Answer:** Option **C**

**Explanation:**

6 + 7 = 13.

**(8) Answer:** Option **B**

**Explanation:**

Number of persons were can speak English is 12.

**(9) Answer:** Option **B**

**Explanation:**

Number of persons who can speak English, Hindi and Telugu is 2.

(10) **Answer:** Option **D**

**Explanation:**

There is no such person who can speak all the languages.

**(11) Answer:** Option **C**

**Explanation:**

Bus and Train are different from each other but some travelers travel by bus and some travel by train.

**(12) Answer:** Option **B**

**Explanation:**

Bonus and Dividend are different from each other. But both these are parts of profit.

**(13) Answer:** Option **A**

**Explanation:**

All mothers are women and some mothers and some women may be engineers.

**(14) Answer:** Option **D**

**Explanation:**

Product and Machinery are different from each other but both are found in Factory.

**(15)Answer:** Option **B**

**Explanation:**

All the three are different professions.

**(16) Answer:** Option **A**

**Explanation:**

The number of doctors who are neither artists nor players is 17.

**(17) Answer:** Option **C**

**Explanation:**

The number of doctors who are both players and artists is 3.

**(18) Answer:** Option **C**

**Explanation:**

The number of artists who are players is 22 + 3 = 25.

**(19) Answer:** Option **A**

**Explanation:**

The number of players who are neither artists nor doctors is 25.

**(20) Answer:** Option **C**

**Explanation:**

The number of artists who are neither players nor doctors is 30.

**(21) Answer:** Option **D**

**Explanation:**

The boy in the photograph is the only son of the son of Suresh's mother i.e., the son of Suresh. Hence, Suresh is the father of boy.

**(22) Answer:** Option **C**

**Explanation:**

P - M → P is the brother of M

M + N → M is the mother of N

N x Q → N is the sister of Q

Therefore, P is the maternal uncle of Q.

**(23) Answer:** Option **D**

**Explanation:**

If D is Male, the answer is Nephew.

If D is Female, the answer is Niece.

As the sex of D is not known, hence, the relation between D and A cannot be determined.

Note: Niece - A daughter of one's brother or sister, or of one's brother-in-law or sister-in-law. Nephew - A son of one's brother or sister, or of one's brother-in-law or sister-in-law.

**(24) Answer:** Option **D**

**Explanation:**

M x N → M is the father of N

N - C → N is the sister of C

and C + F → C is the brother of F.

Hence, M is the father of C or C is the son of M.

**(25) Answer:** Option **A**

**Explanation:**

The father of the boy's uncle → the grandfather of the boy and daughter of the grandfather → sister of father.

**(26) Answer:** Option **D**

**Explanation:**

No answer description available for this question.

**(27)Answer:** Option **A**

**Explanation:**

N β P → N is the brother of P

P - L → P is the sister of L

L + E → L is the mother of E

E - M → E is the sister of M.

Hence, L is the mother of M, P is the maternal aunt of M and N is the maternal uncle of M.

**(28) Answer:** Option **C**

**Explanation:**

The fig. (X) is similar to the [**Form VI**](https://www.indiabix.com/non-verbal-reasoning/cubes-and-dice/introduction). So, when a cube is formed by folding the sheet shown in fig. (X), then  is one of the faces of the cube. However, the cube in fig. (1) has two such faces and fig. (4) has a face which is completely shaded. So, these two cubes cannot be formed. Hence, only the cubes in figures (2) and (3) can be formed.

**(29) Answer:** Option **A**

**Explanation:**

The fig. (X) is similar to the [**Form I**](https://www.indiabix.com/non-verbal-reasoning/cubes-and-dice/introduction). So, when the sheet shown in fig. (X) is folded to form a cube then one of the two half-shaded faces lies opposite to one of the blank faces and the other half-shaded face lies opposite to another blank face. The two remaining blank faces lie opposite to each other. Thus, both the cubes shown in figures (1).and (4) can be formed when the sheet shown in fig. (X) is folded. Also, though the cubes shown in figures (2) and (3) have faces that can appear adjacent to each other but the cube formed by folding the sheet in fig. (X) cannot be rotated to form either of the two. Hence, the cubes in figures (2) and (3) cannot be formed.

**(30) Answer:** Option **D**

**Explanation:**

The given figure is similar to [**Form V**](https://www.indiabix.com/non-verbal-reasoning/cubes-and-dice/introduction). Therefore, when this figure is folded to form a cube then the face bearing six dots will lie opposite the face bearing three dots.

**(31) Answer:** Option **A**

**Explanation:**

The fig. (X) is similar to [**Form II**](https://www.indiabix.com/non-verbal-reasoning/cubes-and-dice/introduction). So, when the sheet shown in fig. (X) is folded to form a cube then the two half-shaded faces lie opposite to each other, the face bearing a circle lies opposite to one of the two blank faces and the two remaining blank faces lie opposite to each other. Therefore, the cubes shown in fig. (4) which has the two half-shaded faces adjacent to each other, cannot be formed by folding the sheet shown in fig. (X). Also, the cube shown in fig. (2) has the face bearing a circle adjacent to two blank faces. This is not possible since there is one blank face opposite to the circle and one blank face opposite to the third blank face. Hence, only the cubes in figures (1) and (3) can be formed.

|  |
| --- |
| Choose the box that is similar to the box formed from the given sheet of paper (X).https://www.indiabix.com/_files/images/non-verbal-reasoning/cubes-and-dice/cubes/12.png |
|

|  |  |
| --- | --- |
| **A.** | 1 and 2 only |
| **B.** | 2 and 3 only |
| **C.** | 2 and 4 only |
| **D.** | 1, 2, 3 and 4 |

 |

**(32) Answer:** Option **D**

**Explanation:**

The fig. (X) is similar to **Form II**. So, when a cube is formed by folding the sheet shown in fig. (X), then the two half-shaded faces lie opposite to each other and one. of the three blank faces appears opposite to the face bearing a dot. Clearly, each one of the four cubes shown in figures (1), (2), (3) and (4) can be formed by folding the sheet shown in fig. (X).

**Answer:** Option **A**

**(33) Explanation:**

We shall assume the dice in fig. (ii) to be rotated so that the 5 dots appear at the same position as in fig. (i) i.e. on RHS face (i.e. on face II as per activity 1) and 1 dot appears at the same position as in fig; (i) i.e. on Front face (i.e. on face I). Then, from the, two figures, 2 dots appear on the top face (i.e. on face V) and 4 dots appear on the Bottom face (i.e. on face VI).

Since, these two faces are opposite to each other, therefore, two dots are contained on the face opposite to that containing four dots.

**(34)Answer:** Option **C**

**Explanation:**

From figures (ii) and (iii), we conclude that 1, 6, 3 and 4 dots lie adjacent to 5 dots. Therefore, 2 dots must lie opposite 5 dots. Conversely, 5 dots must lie opposite 2 dots.

**(35)Answer:** Option **C**

**Explanation:**

From figures (ii) and (iii), we conclude that the alphabets C, D, B and F appear adjacent to the alphabet E. Therefore, the alphabet A appears opposite E. Conversely, E appears opposite A.

**(36) Answer:** Option **A**

**Explanation:**

From figures (i) and (ii), we conclude that the numbers 1, 4, 3 and 5 lie adjacent to the number 6. Clearly, the number 2 lies opposite 6 and conversely 6 lies opposite 2.

**(37) Answer:** Option **C**

**Explanation:**

From figures (i), (ii) and (iv) We conclude that 6, 4, 3 and 1 lie adjacent to 2. Hence, 5 must lie opposite 2

**(38) Answer:** Option **A**

**Explanation:**

From figures (i) and (ii), we conclude that 2, 3, 5 and 6 he adjacent to 1. Therefore, 4 lies opposite 1. Hence, when 4 is at the bottom, then1 must be on the top.

1. C (relate them position wise and hence you can get the solution)
2. B (62 -1=35, 112 -1=120)
3. D (relate them position wise and hence you can get the solution)
4. A (112 =121, 122 =144, 132 =169, 142 = 196, 152 =225)
5. B (relate them in alphabetical order and you can get the solution )
6. A (relate them position wise and hence you can get the solution)
7. C (find the alphabetical series and you can get the solution)
8. D (A+2=D, D+4=I, I+6=P,P+8=Y)
9. C (10+7=17, 19+9=26, 26+11=37, 37+13=50)
10. A (3+4=7, 7+8=15,15+16=31,31+32=63, 63+64=127)
11. B (find the alphabetical series and each number is twice of the previous number)
12. C (relate them position wise and hence you can get the solution)
13. B (relate the number and word position wise and hence you can get the solution)
14. A (relate the word position wise and hence you can get the solution)
15. C (relate the 1st word and 2nd word position wise and hence you can get the solution)
16. A (+2, +4, +8, +16 increasing in this way)
17. C (relate them position wise and hence you can get the solution
18. D (relate the number and word position wise and hence you can get the solution
19. D (jumping each one number increasing by one)
20. B (relate the number and word position wise and hence you can get the solution)
21. B (2\*3+4=10, 10\*3+4=34, 34\*3+4=106,…)
22. A (3+11=14, 14+11=25, 25+11=36, 36+11=47)
23. A (relate the number and word position wise and hence you can get the solution)
24. A (relate the number and word position wise and hence you can get the solution)
25. A (+10,+20,+40,+80 increasing in this way)
26. B (relate the number and word position wise and hence you can get the solution)
27. D (13=1, 23=8, 33=27, 43= 64 )
28. A (relate the number and word position wise and hence you can get the solution)
29. A (+6,+12,+24,+48 in this way increasing)
30. B (relate the number and word position wise and hence you can get the solution)
31. B (each previous number\*2+1= next number)
32. A (each next number is decreasing by 4)
33. C (relate the number and word position wise and hence you can get the solution)
34. D (relate them position wise and hence you can get the solution)
35. A ( decreasing the letter by 2 alphabetical order)
36. B(previous number\*2 = next number)
37. C (relate them position wise and hence you can get the solution)
38. A (relate them position wise and hence you can get the solution)
39. D (for each odd/even position number multiplied by 4 and we can get the next odd/even number respectively)
40. B (relate them position wise and hence you can get the solution)
41. A (6+4\*2=14,14+4\*3=26, 26+4\*4=42, 42+4\*5=62, 62+4\*6=86, 86+4\*7=114)
42. D
43. D
44. C
45. C
46. A
47. B
48. B
49. D
50. C
51. B
52. B
53. C
54. C
55. B
56. B
57. B
58. A
59. A
60. D
61. C

**SECTION B (Answers)**

1. C (because -7=-7x0)
2. B (on x-axis value of y is zero)
3. B (on 2nd quadrant value of x is negative and y is positive)
4. C (the value of polynomial became zero for x = 2 & 3 )
5. A (perpendicular distance from the point to x-axis is 5 unit)
6. C (as highest degree is 3)
7. C (third quadrant is of the form -,-)
8. B
9. B
10. C
11. B
12. B
13. A
14. B
15. C
16. A
17. B

**SATISH CHANDRA MEMORIAL SCHOOL**

**METRER LEVEL -2 , MODEL PAPER 2018**

**STD-IX**

 **SEC-A**

**1.** **If in a certain code language ‘HIGH’ is written as ‘8978’ then how will ‘DEAF’ is written in that language ?**

 **[ Ans :- 4516 ]**

**2. If E = 5 and AMENDMENT = 89 , then SECRETARY = ? [ Ans :- 114 ]**

**3. The meaning of 123 is hot filtered coffee , 356 means very hot day and 589 means day and night then very =? Ans : 6**

**4. If 15th August 2011 was Monday, what day of the week was on 17th September 2011 ? [ Ans :- Saturday ]**

**5. What was the day on 1st January 1901 ?[ Ans :- Tuesday ] .**

**6. If the day before yesterday was Thursday, then when will be the Monday ? [ Ans:- Day after tomorrow ]**

**7. C is the mother of A and B. If D is the husband of B , then what is C to D ? [ Ans :- C is the mother in law of D ]**

**8. Pointing towards a woman, Suresh said,‘ she is the daughter of my father’s sister’. How the women related to Suresh ? [ Ans :- the woman is the cousin of Suresh ] .**

**9. Which year next to 1990 have the same calendar as that of the year 1990 ? [ Ans :- 1996 ]**

**10. Which of the following diagrams represents a relationship among India ,Rajasthan and Jaipur ?**

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**11. See the given diagram and find out the youth who does job but not educated.**

****

**12. To cyclist are standing on a point . One go towards east and other one goes same distance towards north. How far is one from other? Ans: 6**$√2$ **km.**

**13. If north is replaced by south then what will be replaced by east? Ans: Data inadequate**

**14. Going 50 km to the south of my house, I turn left and go another 20m.Then turning to the north ,I go 30m and then start walking towards my house. In which direction am I walking now? Ans: North-west.**

**15. 410 :511: : 511: ? Ans: 612**

**16 .** $√\frac{3}{2}$ **:** $ 3 \sqrt{3}∷$$√\frac{2}{3 }$ **: ? Ans:** $2 √3$

**17.Which digit is on the opposite surface of digit 5 ?**

****

|  |  |  |
| --- | --- | --- |
| **4A** | **6C** | **2E** |
| **6P** | **13R** | **7T** |
| **8N** | **10P** | **?** |

**18.**

**19**

**How many triangles are there in the given figure ? [Ans: 10]**

 **SEC-B**

**21.**$\left[\frac{1.2.4+2.4.8+3.6.12+…}{1.3.9+2.6.18+3.9.27+…}\right]^{\frac{1}{3}}$ **Ans:** $\frac{3}{5}$

**22.** $\sqrt{7\sqrt{7\sqrt{7\sqrt{7}}}}=?$ **Ans:** $7^{ \frac{15}{16}}$

**23.** $x+\frac{1}{x}=5$ **then find the value of** $\frac{x^{4}+\frac{1}{x^{2}}}{x^{2}-3x+1}$

**24. In a triangle ABC, BO and CO are the bisectors of** $∠B and ∠C respectively. $ **If** $∠$**A = 50**$°$ **then find** $∠BOC .$ **[ Ans :-** $115° $**]**

**25. If in any triangle ABC, the base BC is produced in both ways, then find the sum of exterior angles at B and C . [ Ans :- 𝝅 + A ]**

**26. The sides BC of triangle ABC is produced to D if** $∠ACD=108° and ∠B=\frac{1}{2} ∠A the n find ∠A$ **. [ Ans:- 172**$°$**]**

**27. Ram and Ravi have the same weight. If they each gain weight by 2kg, how will their weighs be compared ? [ Ans:- Euclid’s second axiom ]**

**28. If a straight line ax + by = c meets x- axis at A and Y-axis at B. then find area of triangle OAB where o is the point of intersection of coordinate axes . [ Ans:-** $\frac{c^{2}}{2ab} $**]**

**29. If x** $>0 and y<0 then where does the point\left( x,y \right) lie in a cartesian plane .$

**Ans: 4th quadrant**

**30. If a student is standing at a point (2,-6 ) and he goes perpendicularly towards x-axis and y-axis .From which axis he is more closer ?**