Instructions

- *The test contains 100 objective type questions.*
- *All questions are compulsory.*
- *Complete the test within 90 minutes.*
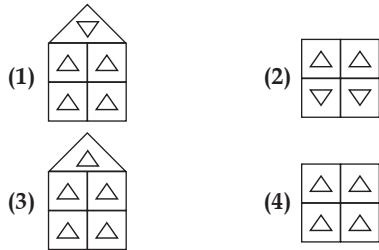- *All questions contain four alternatives, in which only one is correct.*

1. Which of the following is the smallest fraction?

   $\dfrac{7}{6}, \dfrac{7}{9}, \dfrac{4}{5}, \dfrac{5}{7}$

   (1) $\dfrac{5}{7}$
   (2) $\dfrac{7}{9}$

   (3) $\dfrac{4}{5}$
   (4) $\dfrac{7}{6}$

2. Which of the following is NOT a allotrope of Carbon?
   (1) Diamond
   (2) Fullerenes
   (3) Graphite
   (4) Carbon dioxide

3. India's first struggle for independence started on 10th May 1857 at:
   (1) Allahabad
   (2) Bareilly
   (3) Lucknow
   (4) Meerut

4. Who among the following has the power to grant pardons under Article 161 of the Constitution of India?
   (1) Chief Justice of India
   (2) Governor
   (3) President
   (4) Prime Minister

5. Who among the following won the 'Player of the Match' award at the final of the ICC Cricket World Cup 2019?
   (1) James Neesham
   (2) Mitchell Starc
   (3) Ben Stokes
   (4) Eoin Morgan

6. Find the value of x is $\dfrac{52}{x} = \sqrt{\dfrac{169}{289}}$
   (1) 62
   (2) 58
   (3) 52
   (4) 68

7. Bleaching powder is NOT used for:
   (1) disinfecting water
   (2) preparing bread
   (3) oxidising chemicals
   (4) bleaching cotton

8. The 'Bretton Woods Twins' refers to the two multilateral organisations created at the Bretton Woods Conference in 1944. They are _____ and _____.
   (1) UN, World Bank
   (2) IMF, UN
   (3) IMF, WTO
   (4) IMF, World Bank

9. Pointing towards a teacher sitting in the teacher's room. Paulo said to his friend, "She is the sister of the father of the sister of my brother. How is that teacher related to Paulo?
   (1) Sister
   (2) Paternal aunt
   (3) Maternal aunt
   (4) Grandmother

10. Since July 2016, World Trade Organisation (WTO) has _____ members.
    (1) 164
    (2) 163
    (3) 162
    (4) 161

11. The Great Victoria Desert is located in:
    (1) South Africa
    (2) The United States
    (3) Australia
    (4) The United Kingdom

12. Four words have been given out of which three are alike in some manner, while the fourth one is different. Select the odd one.
    (1) Year
    (2) Century
    (3) Time
    (4) Decade

13. For which of the following fields did Marie Curie win the Nobel Prize?
    (1) Chemistry and Biology
    (2) Physics and Meteorology
    (3) Physics and Chemistry
    (4) Physics and Astronomy

14. What is the mean of the data 2, 5, 4, 1, 8?
    (1) 20
    (2) 4
    (3) 3
    (4) 5

15. There are 6 contestants in a beauty pageant. Model Q is taller than model A but shorter than model E. Model X is not as tall as model E, but is taller than model I. Model F is taller than model I but shorter than model Q. Who among the following is the tallest?

(1) Model F   **(2)** Model Q

(3) Model E   **(4)** Model A

16. The present worth of ₹ 338 due in 2 years at 4% per annum compound interest is: _____

(1) ₹ 312.50   **(2)** ₹ 294.00

(3) ₹ 365.58   **(4)** ₹ 350.50

17. If $x = \dfrac{1}{\sqrt{2}+1}$, then what will be the value of $x + 1$?

(1) $\sqrt{2}-1$ **(2)** 2

(3) $\sqrt{2}$ **(4)** $\sqrt{2}+1$

18. Which of the following is NOT a computer programming language?

(1) Java   **(2)** Swift

(3) Python   **(4)** C^{++++}

19. There are six members in a family, named A, B, C, D, E and F. B is the wife of C. A is the son of E, E is the brother of C, D is the sister of A, B is the daughter-in-law of F. How is E related to D?

(1) Father   **(2)** Aunt

(3) Sister   **(4)** Daughter

20. If 40% of a number is 800 then the number is:

(1) 2000   **(2)** 400

(3) 800   **(4)** 200

21. What is the HCF of n and $n + 1$ where n is a natural number?

(1) 3   **(2)** 2

(3) 0   **(4)** 1

22. Who has taken over as the new CEO of the Railway Board on 1st Jan 2021?

(1) Ashutosh Gangal

(2) Piyush Goyal

(3) V K Yadav

(4) Suneet Sharma

23. How many of squares are there in a given illustration?

(1) 30   **(2)** 23

(3) 17   **(4)** 20

24. In a class of 40 students the number of girls is three fifths of the number of boys. Then find the number of boys in the class.

(1) 15   **(2)** 18

(3) 14   **(4)** 25

25. Express the decimal number of $3.12\overline{7}$ in fraction form.

(1) $\dfrac{180}{563}$ **(2)** $\dfrac{563}{180}$

(3) $\dfrac{281}{900}$ **(4)** $\dfrac{365}{180}$

26. Two number are in the ratio 9 : 5. If 9 is added to the greater number and 5 is subtracted from the smaller number, the greater number becomes thrice the smaller one. Find the number.

(1) 36, 20   **(2)** 72, 40

(3) 18, 10   **(4)** 36, 10

27. _____ has three active forms: retinol, retinal and retinoic acid.

(1) Vitamin C   **(2)** Vitamin A

(3) Vitamin B   **(4)** Vitamin D

28. Which of the following was Asia's first supercomputer?

(1) CRAY-3   **(2)** HITAC S-300

(3) PARAM   **(4)** EKA

Note: For the question, discrepancy is found in question/answer. So, This question is ignored for all candidates.

29. Three straight lines $x + y - 3 = 0$, $x + y + 2 = 0$ and $3x + 3y - 7 = 0$ are:

(1) parallel

(2) perpendicular

(3) intersecting each other

(4) concurrent

30. The _____ sector is the largest sector of India, contributing to a Gross Value Added (GVA) of ₹ 92.26 lakh crore in 2018-19.

(1) Construction   **(2)** Agriculture

(3) Manufacturing   **(4)** Service

31. The Satyagraha Sabha was founded in February 1919 by:

(1) Mohandas Karamchand Gandhi

(2) Abdul Ghaffar Khan

(3) Motilal Nehru

(4) Subhash Chandra Bose

32. If the cost price of six items is equal to the selling price of seven items, then what will be the percentage profit or loss?

(1) 14.28% loss   **(2)** 9.09% loss

(3) 7.14% loss   **(4)** 14.28% profit

33. Pipe 1 can empty a tank in 6 h while pipe 2 can do so in 18 h. If both are working together, in how much time will they empty the full tank?

(1) 9 h   **(2)** 4.5 h

(3) 10 h   **(4)** 5 h

34. What is the full form of BARC?

(1) Bhabha Atomic Rehabilitation Centre

(2) Bhaba Atomic Research Centre

(3) Bhabha Aromatic Research Centre

(4) Bhabha Aerospace Research Centre

35. What is the lubricating fluid found between the two bones at a movable joint called?

(1) Synovial fluid   **(2)** Interstitial fluid

(3) Amniotic fluid   **(4)** Cerebrospinal fluid

36. SENSEX is an index of Bombay Stock Exchange's top _____ companies.

(1) 30   **(2)** 40

(3) 100   **(4)** 50

37. Solve the following.

$$1 + \frac{1+\cos\theta}{\sin\theta} - \frac{\sin^2\theta}{1+\cos\theta} - \frac{\sin\theta}{1-\cos\theta} = ?$$

(1) $\cos\theta$ **(2)** $\sin\theta$

(3) $-\cos\theta$ **(4)** $-\sin\theta$

38. If the first term of a geometric progression is 2 and the common ratio is 3, then what will be the fifth term of the geometric progression?

(1) 162   **(2)** 243

(3) 81   **(4)** 324

39. According to 2011 Census, the urban-rural population ratio in India was about:

(1) 31:69   **(2)** 32:68

(3) 28:72   **(4)** 35:65

40. Who wrote 'Ain-i-Akbari'? It is a 16th century detailed document recording the administration of the Mughal empire under Emperor Akbar.

(1) Abdur Rahim   **(2)** Mulla Shah

(3) Abul Fazl   **(4)** Haji Ibrahim

41. The ☐ represents a set of calculations that are common across all the given equations. Identify the calculations involved and solve the third equation on the same basis:

25 ☐ **36 = 5; 6; 11**

100 ☐ **64 = 10; 8; 18**

36 ☐ **81 = ?; ?; ?**

(1) 10; 6; 4   **(2)** 6; 9; 15

(3) 9; 9; 117   **(4)** 4; 11; 18

42. If 24 men can complete a piece of work in 15 days working 8 h per day, then how many men will be required to complete the same work in 10 days working 6 h per day?

(1) 32   **(2)** 60

(3) 30   **(4)** 48

43. Dandi **March**, the non-violent protest organised by Mahatma Gandhi against the British salt monopoly, culminated on:

(1) 7th April 1930   **(2)** 5th April 1930

(3) 4th April 1930   **(4)** 6th April 1930

44. What will be the simple interest earned on an amount of ₹ 16,800 in 9 months at the rate of $6\frac{1}{4}\%$ per annum?

(1) ₹ 787.50   **(2)** ₹ 860

(3) ₹ 158   **(4)** ₹ 812.50

45. As per the Constitution of India, every person who is arrested and detained in custody shall be produced before the nearest magistrate within a period of _____ hours of such arrest, excluding the time necessary for the journey from the place of arrest to the court of the magistrate.

(1) 10   **(2)** 12

(3) 36   **(4)** 24

46. Find the value of 7500 + (1250 ÷ 50).

(1) 175   **(2)** 300

(3) 7525   **(4)** 6575

47. India's first national academy for music, dance and drama was:

(1) The Academy for Arts and Dance

(2) Sangeet Natak Akademi

(3) Sangeet Kala Manch

(4) Bharat Kala Kendra

48. Which of the Venn diagrams shown below correctly represents the relationship:

Juice, Soft Drinks, Drinks

49. Which of the following statements is correct?

(1) The Council of Ministers of a State is collectively responsible to the Legislative Assembly of the State.

(2) The Council of Ministers of a State is collectively responsible to the Council of States.

(3) The Council of Ministers of a State is collectively responsible to the Vice-President

(4) The Council of Ministers of a State is collectively responsible to the Legislative Council of the State.

50. With which of the following instruments is Hariprasad Chaurasia associated?

(1) Drum   **(2)** Tabla

(3) Violin   **(4)** Flute

51. Three of the following figures are alike in a certain way and one in different. Which one is different?

(1)   **(2)**

(3)   **(4)**

52. Power Alcohol is a mixture of _____ and ethyl alcohol.

(1) diesel   **(2)** mustard

(3) kerosene   **(4)** petrol

53. The position of the point (1, 2) with respect to the circle $x^2 + y^2 - 3x - 4y + 1 = 0$

(1) lies on the circle

(2) lies outside the circle

(3) lies inside the circle

(4) cannot be decided

54. Find the least number, which is exactly divisible by 12, 15 and 18.

(1) 120   **(2)** 240

(3) 180   **(4)** 160

55. Rahul has a deadline for a project in just two days and he has not yet started working on his project. Based on the following courses of action, select the correct one.

Courses of action:

(i) He must immediately read a book on time management to avoid such problems in the future.

(ii) He must manage his time efficiently and start his project without delay.

(iii) He must plan a layout of his project first and then start following that layout.

(1) Only (i) and (ii) are correct

(2) Only (ii) and (iii) are correct

(3) Only (i) is correct

(4) Only (ii) is correct
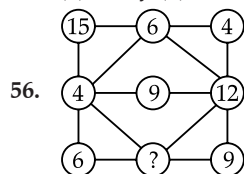
56.

Select the number from among the given options that can replace the question mark (?) in the above figure.

(1) 33   **(2)** 10

(3) 15   **(4)** 20

57. What is the full form of AIDS?

(1) Acquired Immune Deficiency Syndrome

(2) Acute Immune Deficiency Syndrome

(3) Acute Immune Deficit Syndrome

(4) Acquired Immune Deficit Syndrome

58. Girish Karnad who passed away in 2019, was awarded the 'Padma Shri' in the year_____.

(1) 2014   **(2)** 1974

(3) 1994   **(4)** 1984

59. United Nations was established in:

(1) 1946   **(2)** 1944

(3) 1947   **(4)** 1945

60. If $y = 5$, then what will be the value of $10y\sqrt{y^3 - y^2}$?

(1) 500   **(2)** $50\sqrt{2}$

(3) 100   **(4)** $200\sqrt{5}$

61. A dealer marks his goods 10% above the cost price and allows 10% discount. What is his percentage gain or loss?

(1) 1% gain   **(2)** 10% gain

(3) 1% loss   **(4)** 10% loss

62. Who among the following is known as the 'father of India Supercomputers'?

(1) RA Mashelkar   **(2)** Nandan Nilkeni

(3) Jayant Narlikar   **(4)** Vijay Bhatkar

63. In 2005, ASHA was instituted by the Government of India's Ministry of Health and Family Welfare as a part of the National Rural Health Mission. What is the full form of 'ASHA'?

(1) Active School Health Activist

(2) Accredited Social Health Activist

(3) Active Social Health Activist

(4) Accredited School Health Activist

64. In December 2008, the Government of India launched the INSPIRE Programme. The programme is related to the promotion of:

(1) International relations

(2) Science and technology

(3) Yoga

(4) Cultural activities

65. Which of the following is NOT included in UNESCO's list of World Heritage Sites in India?

(1) Anand Bhavan   **(2)** Sanchi

(3) Bhimbetka   **(4)** Khajuraho

66. In Brazil, coffee plantations are known as:

(1) Tarzana   **(2)** Miranda

(3) Torino   **(4)** Fazenda

67. What number must be subtracted from both the numerator and denominator of the fraction $\frac{15}{19}$ so as to make it $\frac{3}{4}$?
(1) 6 **(2)** 3
(3) 9 **(4)** 5

68. If B and C are brothers, A is the sister of C, O is the daughter of D, D is the wife of B, E is the mother of A and the wife of F, then how is O related to F?
(1) Mother's father
(2) Daughter's daughter
(3) Mother's brother
(4) Son's daughter

69. Identify the number that will replace the question mark (?) in the second equation based on the relationship represented in the first equation.

$$\boxed{\overset{a}{\underset{b\ \ c}{\bigcirc}}} = a^2 + b^3 + c^4 \quad \boxed{\overset{6\ \ 2}{\underset{3}{\bigcirc}}} = ?$$
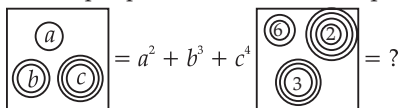
(1) 329 **(2)** 79
(3) 420 **(4)** 36

70. Identify the series that is different from the rest.
(1) 0.0016, 0.04, 0.2 **(2)** 243, 81, 27
(3) 2401, 49, 7 **(4)** $\frac{1}{16}, \frac{1}{4}, \frac{1}{2}$

71. The perimeter of the floor of a room is 18 m. What is the area of the walls of the room, if the height of the room is 3 m?
(1) 54 m² **(2)** 21 m²
(3) 108 m² **(4)** 42 m²

72. Study the following diagram and select the region that best represents the below statement
A doctor who is kind as well as honest
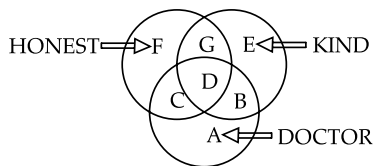
(1) B **(2)** F
(3) C **(4)** D

73. A school collected ₹ 2,601 as fees from its students. If the fees paid by each student and the number of students in the school were equal, then how many students were there in the school?
(1) 39 **(2)** 49
(3) 61 **(4)** 51

74. The _____ Five-Year Plan of India completed its term in March 2017.
(1) 12th **(2)** 10th
(3) 11th **(4)** 13th

75. A man walking at the speed of 5 km/h crosses a bridge in 15 min. The length of the bridge in metres is:
(1) 1000 **(2)** 1250
(3) 600 **(4)** 750

76. The river that is known as Jamuna in Bangladesh is called _____ in India.
(1) Brahmaputra **(2)** Ganga
(3) Narmada **(4)** Sindhu

77. Which of the following is NOT related to Western Ghats?
(1) Anaimalai Hills
(2) Mahendragiri Hills
(3) Nilgiri Hills
(4) Sahyadri Hills

78. If the area of a triangle with base 12 cm is equal to the area of a square with side 12 cm, then the altitude of the triangle.
(1) 24 cm **(2)** 18 cm
(3) 12 cm **(4)** 36 cm

79. In which of the following cities is the Indian National Centre for Ocean Information Services (INCOIS) located?
(1) New Delhi **(2)** Hyderabad
(3) Kolkata **(4)** Chennai

80. A nurse dressing the wound of a boy in a clinic is asked by her colleague how that boy is related to her. She replies, "My maternal uncle and the maternal uncle of his maternal uncle are the same." How is that boy related to the nurse?
(1) Brother **(2)** Paternal Aunt
(3) Brother's Son **(4)** Son

81. The equation whose roots are –2 and 3 is:
(1) $x^2 - 5x + 6 = 0$ **(2)** $x^2 - x + 6 = 0$
(3) $x^2 - x - 6 = 0$ **(4)** $x^2 + 3x - 6 = 0$

82. As of October 2020, the highest number of French Open tennis tournaments have been won by:
(1) Roger Federer **(2)** Dominic Thiem
(3) Novak Djokovic **(4)** Rafael Nadal

83. During which of the following movements did Mahatma Gandhi give the slogan 'Do or Die'?
(1) Quit India Movement
(2) The Non-Cooperation Movement
(3) The Home Rule-Movement
(4) Ghadar Movement

84. The image of the point (7, 8) when reflected along the x-axis is:
(1) (7, –8) **(2)** (–7, 8)
(3) (8, 7) **(4)** (–7, –8)

85. Find the median and the mode of the following data:

    2, 3, 5, 7, 2, 3, 3, 5, 7 and 9.

    (1) 4, 3   (2) 3, 3
    (3) 4, 4   (4) 3, 4

86. The following table shows the marks obtained by two students Raj and Ramesh in different subjects.

Subject	Raj	Max-marks	Ramesh	Max-marks
Mathematics	18	20	85	100
Physics	17	20	70	100
Chemistry	16	20	60	100
Biology	15	20	75	100

    What is the difference between Raj and Ramesh's percentage of aggregate marks?

    (1) 2%   (2) 2.5%
    (3) 10%   (4) 5%

87. Given below are roll numbers of the candidates who have been shortlisted in an entrance examination. The first two digits represent the city, the second two digits represent the centre and the last three digits represent the candidate. Study the data and answer the question that follows.

2367812	2852118	2453705	2946172
2578912	2452009	2345214	2850504
2687124	2371419	2731899	2578362
2834718	2182617	2431891	2718007
2463891	2486126	2275915	2363321

    The maximum number of candidates have been selected from the city with which code?

    (1) 23   (2) 28
    (3) 24   (4) 27

88. The bar graph given below shows the number of students (in hundred numbers) graduated from 4 different departments of a university, Mathematics (DOM), Physics (DOP), Chemistry (DOC) and English (DOE) during 3 consecutive years.

    What is the average number of students that graduated from all the departments (in hundred numbers) for the year 2017?
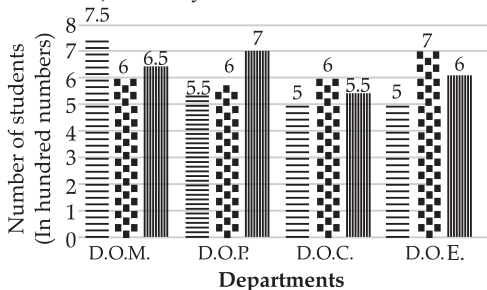
    = 2016   A 2017   B 2018

89. The following pie chart shows the monthly expenditure incurred by Raj's family over different items.
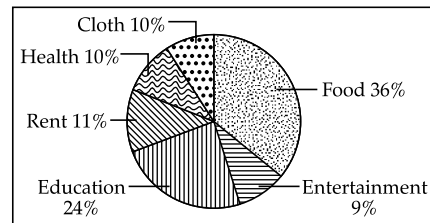
    What is the percentage of expenditure incurred on food with respect to expenditure on cloth?

    (1) 46%   (2) 26%
   (3) 240%   (4) 360%

90. Select the number from among the given alternatives that can replace the question mark (?) in the last figure.
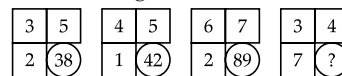
    (1) 84   (2) 31
    (3) 74   (4) 14

91. Select the number from among the given alternatives that can replace the question mark (?) in the last figure.
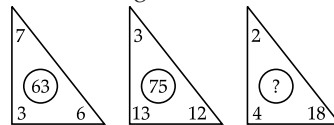
    (1) 87   (2) 144
    (3) 22   (4) 44

92. There are two numbers with the difference of 14 between them and the difference of their squares is 56. What are those number?

    (1) 9, –5   (2) 3, 17
    (3) 2, 16   (4) 23, –9

93. Out of the four words listed, three are alike in some manner and one is different. Select the odd one.

    (1) Pen   (2) Pencil
    (3) Paper   (4) Chalk

94. In a certain code language, COMPUTER is written as 31191267218 and PHONE is written as 12511142. How will MOTHER be written in the same code language?

    (1) 91175218   (2) 91121875
    (3) 91171852   (4) 91172518©

95. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

(top of right column)

    (1) 625   (2) 200
    (3) 2500   (4) 550

Statements:

1. All Venus are Mercury.

2. Some Jupiter are Venus.

3. All Pluto are Jupiter.

Conclusions:

I. All Pluto are Mercury.

II. Some Pluto are Mercury.

III. Some Mercury are Jupiter.

IV. All Jupiter are Mercury.

(1) Only conclusion III follows.

(2) Only conclusions I and III follows.

(3) Only conclusion II follows.

(4) Only conclusion I follows.

96. Read the given statement and conclusions carefully and decide which of the conclusions logically follow(s) from the statement.

Statement:

A friend in need is a friend in deed.

Conclusion:

(i) A person who helps you in different situations is your friend.

(ii) Your enemies can also sometimes have a change of heart and help you in times of need.

(1) Only conclusion (i) follows

(2) Both conclusions (i) and (ii) follow

(3) Only conclusion (ii) follows

(4) None of the conclusion follows

97. In a code language if QUESTION is coded as PRTVDFRTSUHJNPMO, then how will ANSWER be coded?

(1) ZBMORTVXDFQS

(2) ZABABCNMONOPQRSSTUWSQ

(3) OMNJHUSTRFDVTRP

(4) REWSNA

98. In a certain language institute, English and Spanish language courses were available. some students enrolled for only English and some students for only Spanish. A group of students of this institute were not interested in either so they didn't enrol. The rest enrolled for both English and Spanish. Which one of the following logic diagrams correctly reflects the above situation.
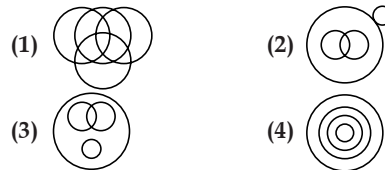
99. Select the number from among the given alternatives that can replace the question mark (?) in the last figure.

(1) 4 **(2)** 6

(3) 2 **(4)** 5

100. Select the number from among the given alternatives that can replace the question mark (?) in the last figure.
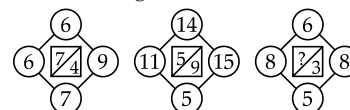
(1) 3 **(2)** 2

(3) 9 **(4)** 7

❑❑

SMART ANSWERSHEET ✎

Correct %	Indicates % of students answered correctly.		Skipped %	Indicates % of students skipped questions.

🔄 Easy   💬 Medium   🎯 Difficult

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

PERFORMANCE ANALYSIS

OVERALL	
Avg. Score	48/100
Toppers Score	93/100
Cut Off	83/100
Your Score	_____

ANSWERS WITH EXPLANATIONS

1. Option (1) is correct.

   Explanation:- $\dfrac{7}{6}$ and $\dfrac{7}{9}$ $\Rightarrow$ 7×9 and 7×6
   63 and 42

   $\dfrac{7}{9}$ and $\dfrac{4}{5}$ $\Rightarrow$ 7×5 and 4×9
   35 and 36

   $\dfrac{7}{9}$ and $\dfrac{5}{7}$ $\Rightarrow$ 7×7 and 5×9
   49 and 45

   So, $\dfrac{5}{7}$ is the smallest fraction.

2. Option (4) is correct.

   Explanation:- In nature carbon can be obtained in various allotropic forms. Allotropes are those elements which have similar chemical properties but different physical properties.

   Carbon exists in two allotropic forms i.e., crystalline and amorphous form.

   The crystalline allotropes are Diamond, Graphite and fullerenes.

   The amorphous allotropes are coal, charcoal, lamp black etc.

   The correct answer is carbon dioxide. The carbon dioxide is a compound of carbon not an allotrope.

3. Option (4) is correct.

   Explanation:- The year 1857 witnessed the first war of independence, it began at Meerut on May 10, 1857. The revolt of 1857 was the conscious beginning of the Independence struggle against the colonial tyranny of the British.

4. Option (2) is correct.

   Explanation:- The Article 161 of Indian Constitution deals with the power of the Governor to grant pardons, etc, and to suspend, remit or commute sentences in certain cases.

5. Option (3) is correct.

   Explanation:- Ben Stokes won "Player of the match" award at the final of the ICC Cricket World Cup 2019. Stokes earned Man of the Match honours with his unbeaten 84, plus eight runs in the Super Over.

6. Option (4) is correct.

   Explanation:-

   Given $\dfrac{52}{x} = \sqrt{\dfrac{169}{289}}$,

   $\dfrac{52}{x} = \dfrac{13}{17}$

7. Option (2) is correct.

   $\therefore$ $x = \dfrac{52 \times 17}{13} = 68$

   Hence, $x = 68$

   Explanation:- Bleaching powder is a mixed salt of chlorine and calcium. It is also known as calcium oxychloride and is mainly used in the bleaching process, in the formation of other chemicals and it is not edible in nature, so it cannot be used in making breads.

8. Option (4) is correct.

   Explanation:- The IMF and the World Bank were created in July 1944 at an international conference in Bretton Woods. The IMF oversees the stability of the world's monetary system, while the World Bank's goal is to reduce poverty by offering assistance to middle-income and low-income countries.

9. Option (2) is correct.
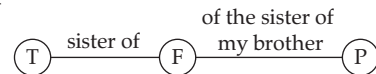
   Explanation:-

   So that teacher is related to paulo as a paternal aunt.

10. Option (1) is correct.

    Explanation:- The WTO has 164 members, accounting for 98% of world trade. The World Trade Organisation has 164 members and 25 observer governments. Liberia became the 163rd member on 14 July 2016, and Afghanistan became the 164th member on 29 July 2016.

11. Option (3) is correct.

    Explanation:- The Great Victorian Desert is located in Australia. This is the largest of Australia's deserts, stretching from eastern Western Australia across the western half of South Australia.

12. Option (3) is correct.

    Explanation:-
    Year, century and Decade are in same manners.
    But 'Time' is different

13. Option (3) is correct.

    Explanation:- Marie Curie was awarded with Nobel Prize in the field of both Physics and Chemistry. Marie Curie with her husband was awarded half of the Nobel Prize for Physics in 1903, for their study into the spontaneous radiation discovered by Becquerel, who was awarded the other half

of the Prize. In 1911 she received a second Nobel Prize in Chemistry, in recognition of her work in radioactivity.

14. Option (2) is correct.

What is the mean of the data 2, 5, 4, 1, 8?

Explanation:-

Mean $\bar{x} = \dfrac{\sum x}{n}$, when $n = 5$

$\bar{x} = \dfrac{2+5+4+1+8}{5} = \dfrac{20}{5} = 4$

Mean $\bar{x} = 4$

15. Option (3) is correct.

Explanation:-

Model E > Model Q > Model A

Model (X) $\not>$ Model E > I Model

Model Q > Model F > Model I

E > Q > A

X $\not>$ E > I

Q > F > I

Among there model E is the Tallest

16. Option (3) is correct.

Explanation:-

Given P = 338, T = 2 year, R = 4%

$\text{C.I.} = P\left[\left(1+\dfrac{R}{100}\right)^{T} - 1\right]$

$= 338\left[\left(1+\dfrac{4}{100}\right)^{2} - 1\right]$

$= 338\left[\left(1+\dfrac{1}{25}\right)^{2} - 1\right] = 338\left[\left(\dfrac{26}{25}\right)^{2} - 1\right]$

$\text{C.I.} = 338\left[\dfrac{676-625}{625}\right] = \dfrac{338\times 51}{625} = 27.580$

Present worth = 338 + 27.580 = ₹365.580

17. Option (3) is correct.

If $x = \dfrac{1}{\sqrt{2}+1}$, then what will be the value of $x + 1$

Explanation:-

Given $x = \dfrac{1\times\left(\sqrt{2}-1\right)}{\left(\sqrt{2}+1\right)\times\left(\sqrt{2}-1\right)} = \dfrac{\sqrt{2}-1}{2-1}$

$x = \dfrac{\sqrt{2}-1}{2-1} = \sqrt{2}-1$

$x = \sqrt{2}-1$

$\therefore \quad x + 1 = \sqrt{2}-1+1 = \sqrt{2}$

$x + 1 = \sqrt{2}$

18. Option (4) is correct.

Explanation:- C^{++++} is not a computer programming language. Instead of this, C^{++} is a programming language developed by Bjarne Stroustrup in 1979 at Bell Labs. C^{++} pronounced as "C plus plus". It comprises a combination of both high-level and low-level language features.

19. Option (1) is correct.

Explanation:-

Name of family members are A, B, C, D, E and F.

B is the wife of C

A is the son of E

E is the brother of C

D is the Sister of A

B is the daughter in law of F

How E related to D?
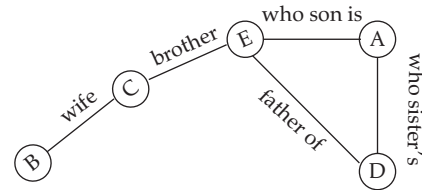
So, that E is the father of D.

20. Option (1) is correct.

Explanation:-

Let x be the number

$x \times 40\% = 800$

$\therefore \quad \dfrac{x\times 40}{100} = 800$

$\therefore \quad x = \dfrac{800\times 100}{40} = 2000$

$x = 2000$

21. Option (4) is correct.

HCF of n and $n + 1$ is 1, because 1 is the highest common factor in n and $n + 1$

$n \rightarrow n \times 1$

$n + 1 \rightarrow (n + 1) \times 1$

H.C.F. $\rightarrow 1$

22. Option (4) is correct.

Explanation:- Suneet Sharma has taken over the charge of CEO of the Railway Board as on 1st January 2021. Mr. Sharma is the 2nd Chairman & Chief Executive Officer, Railway Board, Indian Railways and the ex-officio Principal Secretary to the Government of India.

23. Option (1) is correct.

Explanation:-

Here $n = 4$

Total no. of squares = $\dfrac{n(n+1)(2n+1)}{6}$

$= \dfrac{4\times 5\times 9}{6} = 30$ squares

24. Option (4) is correct.

Explanation:- Let x be the No. of boys in class

Total students = 40

No. of Girls = $\dfrac{3}{5}x$

$\dfrac{3}{5}x + x = 40$ (1)

$\dfrac{8}{5}x = 40$

$\therefore x = 25$ boys

25. Option (2) is correct.

Explanation:-

$3 + \dfrac{127 - 12}{900}$

$\Rightarrow \quad 3 + \dfrac{115}{900}$

$\Rightarrow \quad 3 + \dfrac{23}{180} = \dfrac{563}{180}$

26. Option (1) is correct.

Explanation:-

Given $x : y = 9 : 5$

i.e. $\dfrac{x}{y} = \dfrac{9}{5}$ (1)

$(x + 9) = 3(y - 5)$ (2)

$x + 9 = 3y - 15$

$x - 3y = -15 - 9 = -24$

$x - 3y = -24$ (3)

From equation (1) and (3),

$\left(\dfrac{9}{5} - 3\right)y = -24$

$\therefore \quad -\dfrac{6}{5}y = -24$

$y = 20$

$x = \dfrac{9}{5}y = \dfrac{9}{5} \times 20 = 36$

$x = 36, y = 20$

27. Option (2) is correct.

Explanation:- Vitamin A is a fat-soluble vitamin and an essential nutrient for humans.

It is a group of organic compounds that includes retinol, retinal, retinoic acid, and several provitamin A carotenoids.

28. Option (4) is correct.

Explanation:- EKA was the first Asian machine to be ranked on a worldwide supercomputer list. It is the first supercomputer to have been developed totally by a corporation without any government help.

29. Option (1) is correct.

Explanation:-

$a_1x + b_1y + c_1 = 0$ (1)

$a_2x + b_2y + c_2 = 0$ (2)

Two lines are parallel

If $\dfrac{a_1}{a_2} = \dfrac{b_1}{b_2}$

$x + y + 2 = 0$ $a_1 = 1, b_1 = 1$

$x + y - 3 = 0$ $a_2 = 1, b_2 = 1$

$\therefore \quad \dfrac{a_1}{a_2} = \dfrac{b_1}{b_2}$

Similarly for IIIrd line $x + y - \dfrac{7}{3} = 0$

ratio will be 1. So all lines are parallel to each other.

30. Option (4) is correct.

Explanation:- The service sector is the largest sector of the global economy in terms of value-added and is especially important in more advanced economies. The service sector is the largest sector in India. Gross Value Added (GVA) at current prices for the Services sector is estimated at 92.26 lakh crore in 2018-19.

31. Option (1) is correct.

Explanation:- Mohandas Karamchand Gandhi/ Mahatma Gandhi began a crusade against the Rowlatt bill and set up the Satyagraha Sabha on 24th February 1919 at Bombay. The Rowlatt Act authorized the government to imprison any person without trial and empowered the British Government to suspend the right of Habeas Corpus.

32. Option (1) is correct.

Explanation:-

Let C.P. of 1 items = ₹x

C.P. of 6 items = ₹$6x$

S.P. of 1 items = ₹y

S.P. of 7 items = ₹$7y$

As given in the question,

$6x = 7y$

$\Rightarrow \quad \dfrac{y}{x} = \dfrac{6}{7}$

$\text{Loss}\% = \left(\left(\dfrac{\text{C.P.} - \text{S.P.}}{\text{C.P.}}\right) \times 100\right)\%$

$= \left(\dfrac{x - y}{x}\right) \times 100$

$\left(1 - \dfrac{y}{x}\right) \times 100$

$\Rightarrow \quad \left(1 - \dfrac{6}{7}\right) \times 100$

$\Rightarrow \quad \dfrac{100}{7} = 14.28\%$

So, Correct answer is 14.28%.

33. Option (2) is correct.

Explanation:-

Pipe 1 can empty a tank in 6 h

Pipe 2 can empty a tank in 18 h

Pipe 1 can empty a portion of a tank in 1 hr = $\dfrac{1}{6}$

Pipe 2 can empty a portion of a tank in 1 hr = $\dfrac{1}{18}$

Pipe 1 and 2 both empty a portion of a tank in 1 h

$= \dfrac{1}{6} + \dfrac{1}{18}$

$$= \frac{3+1}{18} = \frac{4}{18}$$

Pipe 1 and 2 both empty a tank in $= \frac{18}{4}$ h

i.e. = 4.5 h

34. Option (2) is correct.

Explanation:- Full form of BARC is Bhabha Atomic Research Centre. The Bhabha Atomic Research Centre is India's premier nuclear research facility, headquartered in Trombay, Mumbai in Maharashtra, India.

35. Option (1) is correct.

Explanation: - Synovial fluid, also familiar as joint fluid, is a kind of thick liquid present in between the joints. This fluid provides cushiony surface to the bone ends and reduces the friction at the time of movement of joints.

36. Option (1) is correct.

Explanation:- The BSE SENSEX is a free-float market-weighted stock market index of 30 well-established and financially sound companies listed on the Bombay Stock Exchange.

37. Option (1) is correct.

Explanation:-

$$\frac{\sin\theta+1+\cos\theta}{\sin\theta} - \frac{\sin^2\theta}{1+\cos\theta} - \frac{\sin\theta}{1-\cos\theta}$$

$$\frac{\sin\theta+1+\cos\theta}{\sin\theta} - \left[\frac{\sin^2\theta(1-\cos\theta)+\sin\theta(1+\cos\theta)}{1-\cos^2\theta}\right]$$

$$\Rightarrow \frac{\sin\theta+1+\cos\theta}{\sin\theta} - \left[\frac{\sin\theta(1-\cos\theta)+(1+\cos\theta)}{\sin\theta}\right]$$

$$\Rightarrow \frac{1+\sin\theta+\cos\theta-\sin\theta+\sin\theta\cos\theta-1-\cos\theta}{\sin\theta}$$

$$\Rightarrow \frac{\sin\theta\cos\theta}{\sin\theta} = `\cos\theta$$

38. Option (1) is correct.

Explanation:-

We have a, ar, ar^2, ar^3, ar^4

Five times are in G.P.

Given $a = 2$; $r = 3$

So, that fifth term is $ar^4 = 2 \times (3)^4 = 162$

39. Option (1) is correct.

Explanation:- According to 2011 census, the urban-rural population ratio in India was 31:69. Total 833 million (68.84%) live in rural areas while 377 million stay in urban areas. 453.6 million people in India are migrants, which is 37.8% of total population.

40. Option (3) is correct.

Explanation:- The Ain-i-Akbari was written by Abul-Fazl Allami in the 16th century. Abul-Fazal was the grand vizier of the Mughal emperor Akbar, from his appointment in 1579 until his death in 1602. The Ain-i-Akbari deals with Akbar's administration, household, army, the revenues and the geography of his empire.

41. Option (2) is correct.

Explanation:-

25 ▢ 36 ⇒ 5² ▢ 6² = 5; 6; 5 + 6 = 11

Concept is a^2 ▢ b^2 = a; b; a + b

Same way 36 ▢ 81 = 6; 9; 15

Correct option is (2).

42. Option (4) is correct.

Explanation:-

Work = Work (Concept)

$24 \times 15 \times 8 = x \times 10 \times 6$

$x = \frac{4\times15\times8}{10} = 48$ men

x = 48 men

43. Option (4) is correct.

Explanation:- The Salt March, also known as the Salt Satyagraha or Dandi March, was started on 12th March 1930 from Sabarmati Ashram and reached Dandi after 24 days on 6th April 1930. It was the start of the civil disobedience movement which commenced as Mahatma Gandhi broke the salt law.

44. Option (1) is correct.

Explanation:-

Given P = ₹16800

T = 9 months = $\frac{9}{12}$ year

R = $6\frac{1}{4}\%$ = $\frac{25}{4}\%$

We have S.I. = $\frac{P\times R\times T}{100}$

$= \frac{16800\times25\times9}{100\times4\times12} = \frac{63\times25}{2} = \frac{1575}{2}$

S.I. = ₹787.5

45. Option (4) is correct.

Explanation:- Every person who is arrested and detained in custody shall be produced before the nearest magistrate within a period of twenty-four hours of such arrest excluding the time necessary for the journey from the place of arrest to the court of the magistrate and no such person shall be detained in custody. In no circumstances can the accused be detained in custody for a moment more than twenty four hours without a special order of a Magistrate who can order his detention for a term exceeding 15 days on the whole. At the end of the 15 days he must be produced before the Magistrate.

46. Option (3) is correct.

Explanation:-

Given $7500 + \frac{1250}{50} = 7525$
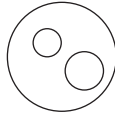
47. Option (2) is correct.

Explanation:- The Sangeet Natak Akademi was the first national Academy for music, dance and drama in the Republic of India. It is one of the best academies of India dedicated to sangeet, natak

and other performing arts. It was established by a resolution of the (then) Ministry of Education, Government of India, on 31 May 1952.

48. Option (1) is correct.

Explanation:-

Juice and soft drinks both are drinks. So that first Venn diagram is correct.

49. Option (1) is correct.

Explanation:- The Council of Ministers of an Indian state is collectively responsible to the legislative council. In the states, the Governor, as the representative of the President, is the head of executive, but real executive power rests with the Chief Minister who heads the Council of Ministers.

50. Option (4) is correct.

Explanation:- Hariprasad Chaurasia is an Indian music director and classical flautist, who plays the bansuri, in the Hindustani classical tradition. He was awarded the Padma Vibhushan in 2000.

51. Option (2) is correct.

Explanation:-

This image is water image which is different in all option.

52. Option (4) is correct.

Explanation:- Power alcohol is made up of petrol and ethyl alcohol which is used to produce power or energy.

It is a mixture of 80% petrol and 20% ethyl alcohol. It is also used as an additive to motor fuels to act as fuel for internal combustion engine.

53. Option (3) is correct.

Explanation:- Given equation of circle

$$x^2 - 3x + \frac{9}{4} - \frac{9}{4} + y^2 - 4y + 4 - 4 + 1 = 0$$

Put $x = 1$ and $y = 2$ in above eqaution

$= 1 + 4 - 3 - 8 + 1$

$= -5$

Since, -5 is less then 0, so point (1,2) is present inside of the circle

Condition:

(i) The value of circle followed by the point =0 (on circle)

(ii) The value of circle followed by the point >0 (out side the circle)

(iii) The value of circle followed by the point <0 (inside of circle)

54. Option (3) is correct.

Explanation:- Find L.C.M. of 12, 15 and 18.

$12 \rightarrow 3 \times 2 \times 2$

$15 \rightarrow 3 \times 5$

$18 \rightarrow 3 \times 3 \times 2$

So, L.C.M. of 12, 15, 18 = $3 \times 2 \times 2 \times 5 \times 3 = 180$ is divisible by 12, 15 and 18.

55. Option (2) is correct.

Explanation:- (i) He must immediately read a book on time management to avoid such problems in the future.

(ii) He must manage his time efficiently and start his project without delay.

(iii) He must plan a layout of his project first and then start following that layout.

Sol. Correct course of action is

(ii) He must manage his time efficiently and start his project without delay.

(iii) He must plan a layout of his project first and then start following that layout.

Correct answer (2) and (3) are correct.

56. Option (2) is correct.
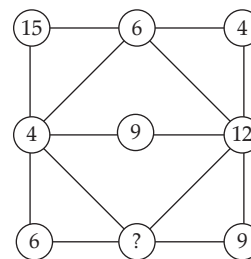
Explanation:-

Concept is sum of all around is 25.

So, that answer is 10.

i.e. 6 + 10 + 9 = 25

Correct option is (2).

57. Option (1) is correct.

Explanation:- Full form of AIDS is Acquired Immune Deficiency Syndrome. It is a chronic, potentially life-threatening condition caused by the human immunodeficiency virus (HIV). HIV is a virus that attacks the body's immune system. If HIV is not treated, it can lead to AIDS.

58. Option (2) is correct.

Explanation:- Girish Karnard was awarded the Padma Shri, one of India's top civilian honours, in 1974. He was conferred Padma Shri and Padma Bhushan by the Government of India and won four Filmfare Awards, of which three are Filmfare Award for Best Director.

59. Option (4) is correct.

Explanation:- The United Nations is an international organization established on 24 October 1945. Just after the Second World War, the UN was founded by 51 countries committed to maintaining international peace and security, developing friendly relations among nations and promoting social progress, better living standards and human rights.

60. Option (1) is correct.

Explanation:-

Given $y = 5$

Then, $10y\sqrt{y^3 - y^2} = 10 \times 5\sqrt{5^3 - 5^2}$

$= 50\sqrt{125 - 25}$

$= 50\sqrt{100} = 50 \times 10 = 500$

61. Option (3) is correct.

Explanation:-

Let C.P. = ₹100

Marks Price 10% above = $100 \xrightarrow{10\%} ₹110$

Discount 10% on Marks Price = $\dfrac{110 \times 10}{100} = ₹11$.

S.P. after discount = $110 - 11 = ₹99$.

Loss = $\left[\left(\dfrac{\text{C.P.} - \text{S.P.}}{\text{C.P.}}\right) \times 100\right]\%$

$= \left[\left(\dfrac{100 - 99}{100}\right) \times 100\right] = \dfrac{1}{100} \times 100 = 1\%$

62. Option (4) is correct.

Explanation:- Dr Vijay P. Bhatkar is popularly known as the father of Indian Super computer. He is best known as the architect of India's national initiative in supercomputing where he led the development of Param supercomputers.

63. Option (2) is correct.

Explanation:- Full form of ASHA is Accredited Social Health Activist. ASHAs are local women trained to act as health educators and promoters in their communities. ASHA should have effective communication skills, leadership qualities and be able to reach out to the community. She should be a literate woman with formal education up to eighth class.

64. Option (2) is correct.

Explanation:- INSPIRE scheme is one of the flagship programmes of Department of Science & Technology (DST), Government of India. Full form of INSPIRE is 'Innovation in Science Pursuit for Inspired Research'. Government of India has approved the INSPIRE Scheme in November 2008 and launched it on 13th December 2008.

65. Option (1) is correct.

Explanation:- Anand Bhavan from the above list is not included in UNESCO World Heritage Sites in India. India has the sixth largest number of sites in the world. There are 40 UNESCO World Heritage Sites in India. The UNESCO is a specialized agency of the United Nations aimed at promoting world peace and security through international cooperation in education, arts, sciences and culture.

66. Option (4) is correct.

Explanation:- Coffee plantation in Brazil are popularly known as 'fazendas'. Brazil is the highest exporter of coffee in the world. Plantations of fazendas have been found in Brazil since the colonial period.

67. Option (2) is correct.

Explanation:-

Let x be the number which is subtracted from numerator and denominator of the fraction $\dfrac{15}{19}$.

So, as to make it $\dfrac{3}{4}$

$\dfrac{15 - x}{19 - x} = \dfrac{3}{4}$

$\therefore (15 - x) \times 4 = 3 \times (19 - x)$

$60 - 4x = 57 - 3x$

$60 - 57 = 4x - 3x$

$3 = x$

68. Option (4) is correct.

Explanation:-
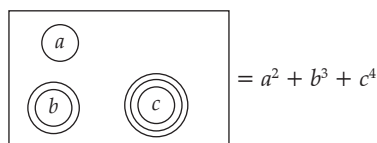
B - brother of - C

A - sister of - C

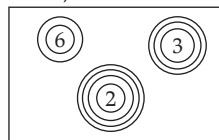O - daughter of - D

D - wife of - B

E - mother of - A

E - Wife of - F

O is the son's daughter of F because F is the father of B

69. Option (1) is correct.

$= a^2 + b^3 + c^4$

Then,

$= 6^3 + 3^4 + 2^5$

$= 216 + 81 + 32 = 329$

Power increase by one.

70. Option (2) is correct.

Explanation:-

Identify the series that is different from the rest

(1) $\left(\dfrac{2}{10}\right)^4 \left(\dfrac{2}{10}\right)^2 \left(\dfrac{2}{10}\right)^1$ (2) $(3)^5 (3)^4 (3)^3$

(3) $(7)^4 (7)^2 (7)^1$ (4) $\left(\dfrac{1}{2}\right)^4 \left(\dfrac{1}{2}\right)^2 \left(\dfrac{1}{2}\right)^1$

Second option is different from other three options.

71. Option (1) is correct.

Explanation:-

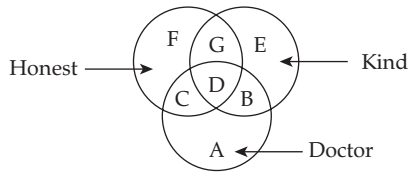Given perimeter of the floor of a room is 18 m

$2(l + b) = 18$

$l + b = 9$

Given height of room = 3m

Area of the four walls of cuboid = $2(l + b)\, h$

$= 2 \times 9 \times 3 = 54$ m²

72. Option (4) is correct.
Explanation:-

A doctor who is kind as well as honest.
According to the Venn diagram
$(A \cap B \cap C) = D$
So, D is the doctor, who is kind and honest.

73. Option (4) is correct.
Explanation:-
Collected fees = ₹ 2601
Let the No. of students be x
Total fees collected = No. of students × fees paid by each students in ₹.
$2601 = x \times x$
$\therefore \quad x^2 = 2601$
$\therefore \quad x = \sqrt{2601}$
$x = \sqrt{2601} = 51$
No. of students = 51 in school.

74. Option (1) is correct.
Explanation:- The Twelfth Five Year Plan completed its term in March 2017. The first five-year plan in India was launched in 1951 and since then, India has witnessed twelve Five Year Plans. On 1 January 2015, a Cabinet resolution was passed to replace the Planning Commission with the newly formed NITI Aayog.

75. Option (2) is correct.
Explanation:-
Given Man speed = 5 km/h
$= \dfrac{5 \times 1000}{60 \times 60}$ m/sec
$= \dfrac{5 \times 5}{18}$ m/s
Time t = 5 minutes = 15 × 60 sec
We have speed $= \dfrac{\text{distance}}{\text{time}}$
Distance = speed × time
$= \dfrac{5 \times 5}{18} \times 15 \times 60 = 5 \times 5 \times 50$
$= 25 \times 50$
Lengths of bridge = 1250 m

76. Option (1) is correct.
Explanation:- Brahmaputra River is called Jamuna in Bengal and Bangladesh and Tsangpo in China & Tibet. The river crosses Assam below Dhubri and enters Bangladesh where the river is known as Jamuna and it flows for 337 km.

77. Option (2) is correct.
Explanation:- Mahendragiri Hills is not related to Western Ghats. It is situated amongst the Eastern Ghats at an elevation of 1,501 metres (4,925 ft).

78. Option (1) is correct.
Explanation:-
Given side of square a = 12 cm and base of triangle b = 12 cm
Let h be the altitude of triangle.
Given Area of Triangle = Area of square
$\dfrac{1}{2} \times b \times h = a^2$
$\Rightarrow \dfrac{1}{2} \times 12 \times h = 12 \times 12$
$\therefore \quad 6 \times h = 12 \times 12$
$\therefore \quad h = \dfrac{12 \times 12}{6} = 24$ cm

79. Option (2) is correct.
Explanation:- Indian National Center for Ocean Info rmation Services (INCOIS) is an autonomous organization of the Government of India, situated in Pragathi Nagar, Hyderabad. It provides information on physical, chemical, biological and geological parameters of ocean that is vital for both research and operational oceanography.

80. Option (4) is correct.
Explanation:- Nurse replies "my maternal uncle and the maternal uncle of his maternal uncle are the same."
So, that the boy is the son of nurse.

81. Option (3) is correct.
Explanation:-
The equation whose roots are –2 and 3 is
$x^2 – (\alpha + \beta)x + \alpha\beta = 0$
$x^2 – (3 – 2)x + (3)(–2) = 0$
$x^2 – x – 6 = 0$

82. Option (4) is correct.
Explanation:- Rafael Nadal has won the French Open a record 14 times, including most recently in June, 2022.
The French Open is the premier clay court championship in the world and the only Grand Slam tournament currently held on this surface.

83. Option (1) is correct.
Explanation:- During the launch of the Quit India Movement, Mahatma Gandhi delivered his famous slogan 'do or die' speech at the Gowalia Tank Maidan. Mahatma Gandhi said "we shall either free India or die in the attempt; we shall not live to see the perpetuation of our slavery".

84. Option (1) is correct.
Explanation:- Given point (7, 8) lies in first quadrant when reflected along the x-axis
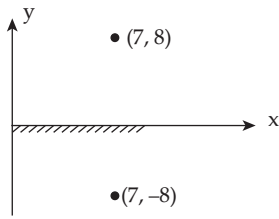
Then its lies in IVth quadrant i.e. (7, –8)

85. Option (1) is correct.

Explanation:-

First we arrange the given data in ascending order

2, 2, 3, 3, ③, ⑤, 5, 7, 7, 9

$n = 10$ even

Mode = ③ (because 3 appear 3 times)

$$\text{Median} = \left(\frac{\left(\frac{n}{2}\right)^{th} \text{terms} + \left(\frac{n^{th}}{2} + 1\right)}{2} \right)$$

$$= \frac{5^{th} + 6^{th}}{2} = \frac{3 + 5}{2}$$

$$= \frac{8}{2} = 4$$

Median, Mode = 4, 3

86. Option (3) is correct.

Explanation:-

Subject	Raj	Max Marks	Ramesh	Max Marks
Maths	18	20	85	100
Physics	17	20	70	100
Chemistry	16	20	60	100
Biology	15	20	75	100

Raj score aggregate marks % = 82.5%

Ramesh score = 72.5%

Difference = 82.5 – 72.5 = 10%

87. Option (3) is correct.

Explanation:-

2367812	2852118	㉔53705	2946172
2578912	㉔52009	2345214	2850504
2687124	2371419	2731899	2578362
2834718	2182617	㉔31891	2718007
㉔63891	㉔86126	2275915	2363321

The maximum number of candidates have been selected from the city with code 24

Five candidates selected.

88. Option (1) is correct.

Explanation:- What is the average number of students that graduated from all the department (in hundred no.) for the year 2017?

D.O.M. → 600, D.O.P = 600,

D.O.C → 600, D.O.E. = 700

$$\text{Average} = \frac{600 + 600 + 600 + 700}{4} = \frac{2500}{4} = 625$$

89. Option (4) is correct.

Explanation:-

Expenditure incurred on food = 36%

Expenditure incurred on cloth = 10%

Percentage of expenditure incurred on food with respect to expenditure on cloth

$$= \frac{36}{10} \times 100 = 360\%$$

90. Option (3) is correct.

Explanation:-

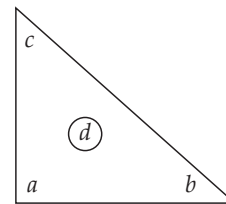| b	c
a	ⓓ

Concept is = $a^2 + b^2 + c^2 = d$

$2^2 + 3^2 + 5^2 = 4 + 9 + 25 = 38 = d$

Then $2^2 + 6^2 + 7^2 = 49 + 4 + 36 = 89$

$7^2 + 3^2 + 4^2 = 49 + 9 + 16 = 74$

91. Option (4) is correct.

Explanation:-

Used concept is

$(a + b) \times c = d$ $(13 + 12) \times 3 = 75$

$(3 + 6) \times 7 = 63$ $(4 + 18) \times 2 = ㊹$

92. Option (1) is correct.

Explanation:-

Let x, y be two numbers

Given $x - y = 14$ (1)

$x^2 - y^2 = 56$ (2)

$(x - y)(x + y) = 56$ from (1)

$14(x + y) = 56$

∴ $x + y = 4$ (3)

From (1) and (3)

$x + y = 4$

$\underline{x - y = 14}$

$2x = 18$

∴ $x = 9, y = -5$

93. Option (3) is correct.

Explanation:-

In these four things, three things, are in same manner (Pen, Pencil, Chalk) writing material and paper is different can on which write by those things. So, paper is different.

94. Option (1) is correct.
Explanation:-
C = 3, O = 11, M = 9, P = 12, H = 5, N = 14, E = 2,
R = 18, T = 7
MOTHER coded in 91175218
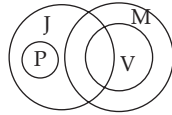
95. Option (1) is correct.
Statement
1. All Venus are mercury
2. Same Jupiter are Venus
3. All Pluto are Jupiter.
V = Venus
J = Jupiter
M = Mercury
P = Pluto

Explanation:-
Conclusion:
1. All Pluto are Mercury   (✗)
2. Some Pluto are Mercury   (✗)
3. Some Mercury are Jupiter (✓)
4. All Jupiter are Mercury.   (✗)

96. Option (1) is correct.
Statement:
A friend in need is a friend Indeed.
Conclusion:
(i) A person who helps you in different situations is your friend.
(ii) Your enemies can also sometimes have a change of heart and help you in times of need.
Only conclusion (1) is correct.

97. Option (1) is correct.
Explanation:-
QUESTION → PRTVDFRTSUHJNPMO
Coding
–1Q + 1 → PR
–1U + 1 → TV
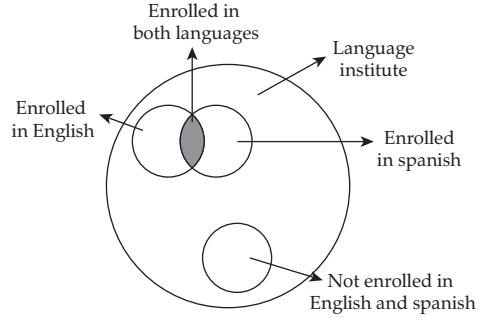–1E + 1 → DF
–1S + 1 → RT
–1T + 1 → SU
–1I + 1 → HJ
–1O + 1 → NP
–1N + 1 → MO
Answer: ZBMORTVXDFQS

98. Option (3) is correct.
Explanation:-
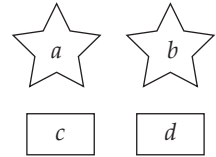

99. Option (1) is correct.
Explanation:
Used concept is
$a \times b = cd$
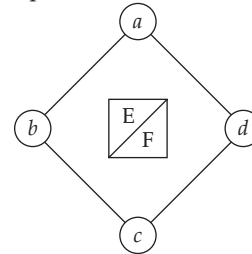$9 \times 4 = 36$
$8 \times 7 = 56$
$6 \times 8 = ④8$

100. Option (3) is correct.
Explanation:
Used concept is

$(a + b + c + d) = E \times F$
$6 + 6 + 7 + 9 = 28$
$\boxed{28 = 28}$
$5 + 8 + 6 + 8 = 27 = ⑨ \times 3 = 9$