

9. (3) As,
 $17 + 2^3 = 25$
 $25 + 3^3 = 52$
 Similarly,
 $19 + 2^3 = 27$
 $27 + 3^3 = 54$

10. (3) $dx\cancel{y}zr/d\cancel{x}y\cancel{z}r/d\cancel{d}x\cancel{y}zr/dx\cancel{y}zr$

11. (3)

12. (4) **In first column,**

$$\sqrt{225} - \sqrt{169} = 2 \Rightarrow (2)^3 = 8$$

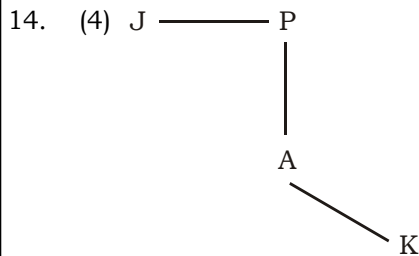
In second column,

$$\sqrt{361} - \sqrt{256} = 3 \Rightarrow (3)^3 = 27$$

In third column,

$$\sqrt{576} - \sqrt{225} = 9 \Rightarrow (9)^3 = 729$$

13. (1) $46 \div 4 + 25 - 23 \times 5 = 7$
 Change the numbers 4 and 23 to each other
 $46 \div 23 + 25 - 4 \times 5 = 7$
 $2 + 25 - 20 = 7$
 $27 - 20 = 7$
 $7 = 7$

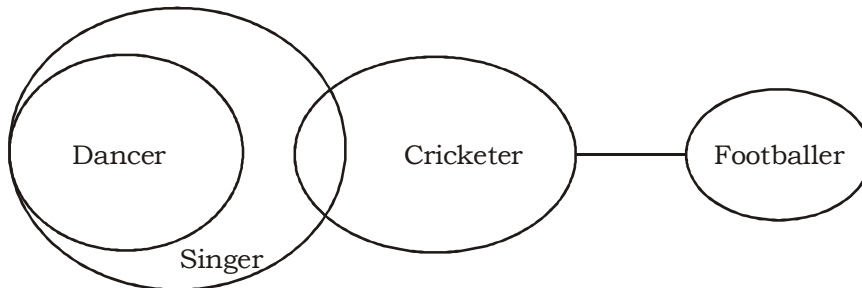


Hence, K is in the South-East of J.

15. (4) 1. Key → 3. Lock → 2. Door → 4. Room → 5. Switch on

16. (2) Required number = $22 + 15 + 7 + 5 = 49$

- 17.(4)



I. False II. False III. False

Hence, no conclusion follows.

18. (2) 19. (3)

20. (3) Each day of the week is repeated after 7 days.
So, after 63 days, it will be Sunday.
∴ After 65 days, it will be Tuesday.
21. (2) As, Similarly,
- | | | | | | | | | |
|---------------|---------------|---------------|---------------|--|---------------|---------------|---------------|---------------|
| R | O | A | D | | L | O | T | S |
| +1 | +1 | +1 | +1 | | +1 | +1 | +1 | +1 |
| P | S | E | B | | P | M | T | U |
22. (2) 23. (3) 24. (3) 25. (1)
26. (1) The Pradhan Mantri Jeevan Jyoti Bima Yojana offers coverage of ₹ 2 lakh to the nominee of the scheme, in the event of the unfortunate demise of the insured person. The coverage amount offered to the beneficiary has tax exemptions as per the Income Tax Law.
27. (1) Mercury is not an insulator. Insulators are material that does not conduct electricity.
28. (2) Kalpa is called the arms of the Veda Purusha. It is for the proper application of the Vedic texts. The texts are clear, short and practical for ceremonies. Vyakarana - It talks about the formation of the word.
29. (3) Dharmaraja Ratha is a monument in the Pancha Rathas complex at Mahabalipuram, on the Coromandel Coast of the Bay of Bengal, in the Kancheepuram district of the state of Tamil Nadu, India.
31. (4) Pritzker Prize, in full Pritzker Architecture Prize, international award given annually to recognize the contributions of a living architect. It has often been called the Nobel Prize of architecture.
32. (3) Dhuandhar falls is actually located on the Narmada river, one of the five holy rivers of India.
33. (3) The power of a lens is -2.0 D. Here 'D' stands for: Dioptre. It is the unit of measurement of the refractive power of an optical lens and curved mirror. A dioptre is equal to the reciprocal of focal length of the lens or mirror.
37. (1) The cation is a positively charged ion. It has more protons than electrons. NH₃ forms a bond with an H⁺ using the N lone pair.
38. (1) The most famous monasteries dot the landscape of the Sikkim are the Rumtek monastery in the capital city of Gangtok, Pemayangtse monastery in the city of Pelling in the West Sikkim, Tashiding monastery near the Yuksam city in the West Sikkim, Phodong Monastery near Gangtok, Enchey monastery in Gangtok, Ralang Monastery in Ravangla in South Sikkim, old Sanga-Choeling monastery located near the city of Pelling where you can reach by trekking along with many other monasteries worth visiting while on the Sikkim tour.
39. (4) Cytology, the study of cells as fundamental units of living things.
40. (4) Article 25 of the Constitution guarantees freedom of religion to all persons in India.
41. (1) On that occasion, Shivaji formalized the institution of a council of eight ministers to guide the administration of his nascent state. This council came to be known as the Ashta Pradhan.
42. (3) The Widal test is one method that may be used to help make a presumptive diagnosis of enteric fever, also known as typhoid fever.
43. (3) The East India Company, Corporate Violence, and the Pillage of an Empire: William Dalrymple: Bloomsbury Publishing.
44. (4) A budget deficit is a situation where the expenditure of the government exceeds the revenue generated by the government. A budget deficit reflects the financial health of a country.
45. (2) It causes chickenpox (varicella), a disease most commonly affecting children, teens, and young adults, and shingles (herpes zoster) in adults; shingles is rare in children.
47. (1) The Battle of Khanwa was fought near the village of Khanwa, in Bharatpur District of Rajasthan, on 16 March 1527. It was fought between the forces of the first Mughal Emperor Babur and the Rajput forces led by Rana Sanga of Mewar, after the Battle of Panipat.

51. (1) Let the sum of age of Anil's son be x years.

Anil's age = $3x$ years

ATQ,

$$4(x - 4) - 6 = (3x - 2) \text{ years}$$

$$4x - 16 - 6 = 3x - 2$$

$$x = 20 \text{ years}$$

$$\therefore \text{Present age of Anil} = 3 \times 20 = 60 \text{ years}$$

52. (3) Let the income of Sumit be ₹ 100.

$$\text{Invested in share} = 100 \times \frac{20}{100} = ₹ 20$$

$$\text{Remaining amount} = 100 - 20 = ₹ 80$$

$$\text{Given to mother} = 80 \times \frac{40}{100} = ₹ 32$$

$$\text{Mother spent on household expenditure} = 32 \times \frac{50}{100} = ₹ 16$$

$$\text{Saving of mother} = 32 - 16 = ₹ 16$$

ATQ,

$$₹ 16 \rightarrow 5600$$

$$\therefore ₹ 100 \rightarrow \frac{5600}{16} \times 100 = ₹ 35000$$

Hence, monthly income of Sumit = ₹ 35000

53. (2) Quantity of pure salt in original mixture = $150 \times \frac{70}{100} = 105$ gram

Quantity of pure juice after adding 30 gram juice = $105 + 30 = 135$ gram

$$\therefore \text{Required\%} = \left(\frac{135}{180} \times 100 \right) \% = 75\%$$

54. (4) $\frac{42 - 12 \times 3 + 8 \div 2 + 15}{8 \times 2 - 4 + 9 \div 3}$

$$= \frac{42 - 12 \times 3 + 4 + 15}{8 \times 2 - 4 + 3}$$

$$= \frac{42 - 36 + 4 + 15}{16 - 4 + 3} = \frac{25}{15} = \frac{5}{3}$$

55. (1) Let the length of train be x m.

ATQ,

$$\frac{x}{14} = \frac{x + 260}{40}$$

$$40x = 14x + 260 \times 14$$

$$26x = 260 \times 14$$

$$x = \frac{260 \times 14}{26} = 140 \text{ m}$$

$$\therefore \text{Speed of train} = \frac{140}{14} = 10 \text{ m/s}$$

56. (3) Total of 6 number = $136 \times 6 = 816$

Let the 6th number be x.

Sum of the first 5 number = $7x$

ATQ,

$$7x + x = 816$$

$$8x = 816$$

$$\therefore x = \frac{816}{8} = 102$$

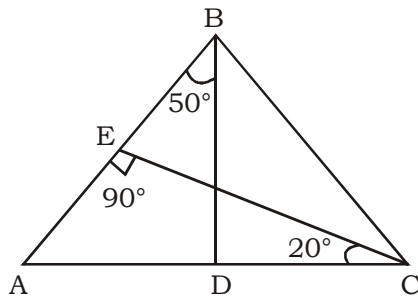
57. (1) $1005x4$ is divided by 8.

Put the value of x = 0

Now, 100504 is completely divisible by 8.

$$\therefore \text{Required integer} = 0$$

58. (2)



In $\triangle CAE$,

$$\angle CAE = 180^\circ - (90^\circ + 20^\circ)$$

$$= 180^\circ - 110^\circ = 70^\circ$$

In $\triangle ABD$,

$$\angle BDA = 180^\circ - (70^\circ + 50^\circ)$$

$$= 180^\circ - 120^\circ = 60^\circ$$

59. (4) $x = 3\cos A + 4\sin A$

$$x^2 = 9\cos^2 A + 16\sin^2 A + 24\cos A \sin A \quad \dots\dots(i)$$

$$y = 3\sin A - 4\cos A$$

$$y^2 = 9\sin^2 A + 16\cos^2 A - 24\cos A \sin A \quad \dots\dots(ii)$$

Adding equation (i) and (ii), we get

$$x^2 + y^2 = 9\cos^2 A + 16\sin^2 A + 24\cos A \cdot \sin A + 9\sin^2 A + 16\cos^2 A - 24\cos A \cdot \sin A$$

$$x^2 + y^2 = 9(\cos^2 A + \sin^2 A) + 16(\cos^2 A + \sin^2 A)$$

$$x^2 + y^2 = 9 + 16$$

$$\therefore x^2 + y^2 = 25$$

60. (1) If $x^4 + x^2y^2 + y^4 = 21$ and $x^2 + xy + y^2 = 7$

Formula used:

$$x^4 + x^2y^2 + y^4 = (x^2 - xy + y^2)(x^2 + xy + y^2)$$

$$21 = (x^2 - xy + y^2) \times 7$$

$$(x^2 - xy + y^2) = \frac{21}{7}$$

$$(x^2 - xy + y^2) = 3 \quad \dots\dots(i)$$

$$x^2 + xy + y^2 = 7 \quad \dots\dots(ii)$$

Subtracting equation (i) from equation (ii),

$$2xy = 4$$

$$xy = 2$$

$$(xy)^2 = 4$$

From equation (ii),

$$x^2 + y^2 = 7 - 2$$

$$x^2 + y^2 = 5$$

Now,

$$\left(\frac{1}{x^2} + \frac{1}{y^2} \right)$$

$$\frac{(x^2 + y^2)}{(xy)^2} = \frac{5}{4}$$

61.(2) Let the number of clerks be x.

ATQ,

$$(15000 \times 60) + (x \times 8000) = (x + 60) \times 12000$$

$$900000 + 8000x = 12000x + 720000$$

$$4000x = 180000$$

$$x = \frac{180000}{4000} = 45$$

∴ Number of clerks = 45

62.(2) Portion of the tank filled in 5 minutes = $5 \left(\frac{1}{20} + \frac{1}{30} + \frac{1}{40} \right) = \frac{13}{24}$

Portion of the tank filled by B and C in the next 6 minutes = $6 \left(\frac{1}{30} + \frac{1}{40} \right) = \frac{7}{20}$

Portion of the tank which is yet to be filled = $1 - \left(\frac{13}{24} + \frac{7}{20} \right) = \frac{13}{120}$

Time taken by C fill the tank taking into consideration the leak as well

$$= \frac{\frac{13}{120}}{\left(\frac{1}{40} - \frac{1}{60} \right)} = \frac{13}{120} \times 120 = 13 \text{ minutes}$$

∴ Total time taken = 5 + 6 + 13 = 24 minutes

63. (4) $(1!)^{99} + (2!)^{98} + (3!)^{97} + \dots + (99!)^1$
 $= 1^{99} + 2^{98} + 6^{97} + 24^{96} + 120^{95} + 720^{94} + \dots$
 $= 1 + 4 + 6 + 6 + 0 + 0 + \dots$
 $= 7 \text{ (unit digit)}$

64. (4) Let the denominator be x .

Then, numerator = $x + 3$

ATQ,

$$\frac{x + 3 + 5}{x - 2} = \frac{8}{3}$$

$$\frac{x + 8}{x - 2} = \frac{8}{3}$$

$$3x + 24 = 8x - 16$$

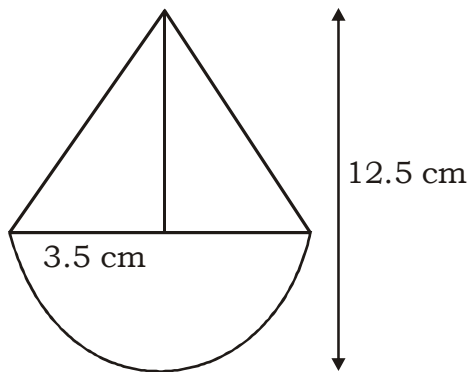
$$5x = 40$$

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

Therefore, the original fraction is $\frac{11}{8}$.

$$\text{Now, required fraction} = \frac{\frac{11}{8}}{\frac{11}{2}} = \frac{11}{8} \times \frac{2}{11} = \frac{1}{4}$$

65. (4)



$$\text{Volume of cone} = \frac{1}{3} \pi r^2 h$$

Where, $r = 3.5$ cm

$$h = 12.5 - 3.5 = 9$$
 cm

$$\text{Now, Volume} = \frac{1}{3} \times \frac{22}{7} \times 3.5 \times 3.5 \times 9 = 115.5 \text{ cm}^3$$

$$\text{Volume of hemisphere} = \frac{1}{3} \pi r^3$$

$$= \frac{4}{3} \times \frac{22}{7} \times 3.5 \times 3.5 \times 3.5 = 179.66 \text{ cm}^3$$

$$\therefore \text{Total volume of given figure} = 115.50 + 179.66 = 295.16 \text{ cm}^3$$

66. (2) $a + \frac{1}{a} = 5$

Squaring on both sides,

$$a^2 + \frac{1}{a^2} + 2\left(a \times \frac{1}{a}\right) = 25$$

$$a^2 + \frac{1}{a^2} = 23$$

$$a^2 + \frac{1}{a^2} - 2 = 23 - 2$$

$$\left(a - \frac{1}{a}\right)^2 = 21$$

$$\left(a - \frac{1}{a}\right) = \sqrt{21}$$

Using formulas :

$$a^3 + b^3 = (a + b)^3 - 3ab(a + b)$$

and

$$a^3 - b^3 = (a - b)^3 + 3ab(a - b)$$

$$a^3 + \frac{1}{a^3} = 110$$

$$a^3 - \frac{1}{a^3} = 21\sqrt{21} + 3\sqrt{21} = 24\sqrt{21}$$

Multiplying both the equations and adding 3.

$$\left(a^6 - \frac{1}{a^6}\right) + 3 = \left(a^3 + \frac{1}{a^3}\right)\left(a^3 - \frac{1}{a^3}\right) + 3$$

$$= 110 \times 24\sqrt{21} + 3$$

$$= 2640\sqrt{21} + 3$$

67. (3) $(x^6 - 1) = (x^2 - 1)(x^4 + x^2 + 1)$

$$= (x - 1)(x + 1)(x^4 + x^2 + 1)$$

And

$$(x^4 + 2x^3 - 2x - 1)$$

$$= x^4 - x^3 + 3x^3 - 3x^2 + 3x^2 - 3x + x - 1$$

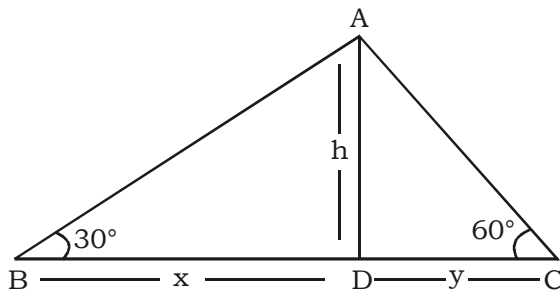
$$= (x - 1)(x^3 + 3x^2 + 3x + 1)$$

$$= (x - 1)(x + 1)^3$$

$$= (x^2 - 1)(x + 1)^2$$

$$\text{So, HCF} = (x - 1)(x + 1) = x^2 - 1$$

68. (2)



Let the height of pole be = h

In ΔABD ,

$$\tan 30^\circ = \frac{AD}{BD}$$

$$\frac{1}{\sqrt{3}} = \frac{h}{x}$$

$$x = h\sqrt{3} \quad \dots\dots\dots(i)$$

In ΔACD ,

$$\tan 60^\circ = \frac{h}{y}$$

$$\sqrt{3} = \frac{h}{y}$$

$$y = \frac{h}{\sqrt{3}} \quad \dots\dots\dots(ii)$$

Adding equation (i) and (ii),

$$x + y = 84\sqrt{3}$$

$$h\sqrt{3} + \frac{h}{\sqrt{3}} = 84\sqrt{3}$$

$$3h + h = 84 \times 3$$

$$h = 63 \text{ m}$$

69. (3) Slope of the given line = $\frac{(7-3)}{(5-2)} = \frac{4}{3}$

So, the slope of the required line is also $\frac{4}{3}$.

One point on this line is $(-4, 0)$

Hence the equation of the line = $y - 0 = \frac{4}{3}(x + 4)$

$$3y = 4x + 16$$

70. (3) Let, the sum or principal = ₹ P

Given,

CI = ₹ 420, n = 2 years, $r_1 = 10\%$ and $r_2 = 15\%$

$$A = P \left(1 + \frac{r_1}{100} \right) \left(1 + \frac{r_2}{100} \right)$$

$$A = P \left(1 + \frac{10}{100} \right) \left(1 + \frac{15}{100} \right)$$

$$A = P \left(\frac{11}{10} \right) \left(\frac{23}{20} \right)$$

$$A = P \left(\frac{253}{200} \right) \quad \dots(i)$$

Also,

$$CI = A - P$$

$$4240 = P \left(\frac{253}{200} \right) - P$$

$$4240 = P \left(\frac{53}{200} \right)$$

$$\therefore P = ₹ 16000$$

71. (1) $7.6 - (8.4 \div 1.4 \times 6) + 10 \times 4 \div 1$
 $= 7.6 - (6 \times 6) + 40$
 $= 7.6 - 36 + 40 = 7.6 + 4 = 11.6$

72. (1) Required% = $\frac{350}{350 + 400 + 450} \times 100$
 $= \left(\frac{350}{1200} \times 100 \right) \% = 29.16\%$

73. (2) Total number of students = $300 + 350 + 275 + 400 + 275 + 250 + 400 + 325 + 375 + 250 + 400$
 $+ 450 + 250 + 300 + 500 = 5100$
 Total number of students in commerce = $250 + 400 + 325 + 375 + 250 = 1600$
 Required% = $\left(\frac{1600}{5100} \times 100 \right) \% = 31.37\%$

74. (1) Required ratio = $(300 + 350 + 275 + 400 + 275) : (250 + 400 + 325 + 375 + 250)$
 $= (1600 : 1600) = 1 : 1$

75. (3) Total number of students in all the five colleges = 5100
 Total number of students in college B = 1200
 Required angle = $\left(\frac{1200}{5100} \times 360^\circ \right) = 84.70^\circ \approx 85^\circ$

MEANINGS IN ALPHABETICAL ORDER

Assorted	of various sorts put together; miscellaneous	मिश्रित
Dirge	a lament for the dead, especially one forming part of a funeral rite	शोकगीत
Disparate	essentially different in kind; not allowing comparison	मुक्तलिफ
Docile	ready to accept control or instruction; submissive	विनम्र
Effete	(of a person) affected, overrefined, and ineffectual	अशक्त
Epicure	a person who takes particular pleasure in fine food and drink	रसिया
Felony	a crime, typically one involving violence	घोर अपराध
Grime	dirt ingrained on the surface of something	जमी हुई कीट
Homogenous	of the same kind; alike	सजातीय
Incursion	an invasion or attack, especially a sudden or brief one	चढ़ाई
Infallible	incapable of making mistakes or being wrong	अचूक
Irrevocable	not able to be changed, reversed, or recovered; final	स्थिर
Kaleidoscopic	having complex patterns of colors; multicolored	जल्दी जल्दी बदलता हुआ
Motley	incongruously varied in appearance or character; disparate	पंचमेल
Retreat	(of an army) withdraw from enemy forces as a result of their superior power or after a defeat	पीछे हटना
Rotund	(of a person) plump	गोल
Spine	the backbone	रीढ़ की हड्डी
Supple	bending and moving easily and gracefully; flexible	कोमल
Venial	denoting a sin that is not regarded as depriving the soul of divine grace	क्षम्य
Vertebrae	each of the series of small bones forming the backbone	कशेरुका
Violation	the action of violating someone or something	उल्लंघन

KD

Campus

K D Campus Pvt. Ltd

1997, GROUND FLOOR OPPOSITE MUKHERJEE NAGAR POLICE STATION, OUTRAM LINES, GTB NAGAR, NEW DELHI – 09

SSC MOCK TEST - 376 (ANSWER KEY)

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

76. (3) If two subjects are joined by 'neither ... nor', the verb agrees with the nearest subject i.e., 'knowledge' in the given sentence. Replace 'were' by 'was'.
77. (1) The past form of the verb i.e, V3 of 'overflow' is 'overflowed'.
78. (1) Remove article i.e, 'The' before South Asia.
80. (2) Since, there is a movement, 'into' shall be considered.
86. (3) The correct spelling is Apprentice.
92. (2) 'More than one' is singular in nature. It will take singular verb, noun, adjective etc.