

RRB KOLKATA ASSISTANT STATION MASTERS EXAM

Exam Held On: 13-06-2010

Based On Memory

- What would be the value of $\log_{10} 5$, if $\log_{10} 2 = 0.3010$?
(A) 0.699 (B) 1.301
(C) -1.301 (D) 0.5661
- Which of the following cities of East India was built originally for the workers of 'Sakchi' and named in 1919 as—
(A) Bandel
(B) Jamshedpur
(C) Kharagpur
(D) None of the above
- In a code language CENTRAL is written as LARTNFC. How will SEMINAR be written in the same code language ?
(A) NARIMES (B) MESIRAN
(C) RANIMES (D) NARISPM
- Two buses started simulatneously from the same piace and for the same destination at the speeds of 75 km/hr and 57 km/hr, respectively. What would be the distance between the buses after 3 hrs and 2 min ?
(A) 63.5 km (B) 61.5 km
(C) 60.5 km (D) 70.5 km
- Tungska Fireball explosion took place in—
(A) 1908 (B) 1908
(C) 1945 (D) None of these
- Directions of the currents of which of the following oceans change twice annually ?
(A) Pacific ocean
(B) Atlantic ocean
(C) Indian ocean
(D) Arctic ocean
- Which of the following diseases is caused by the fishes polluted by industrial wastage mixed with mercury ?
(A) Bronchitis
(B) Bright disease
(C) Minimeta disease
(D) Hashimota disease
- Perimeter of a square-shaped waste land is 208 metres. Width of the path around it is 2 metre. At the rate of Rs. 12.5 per metre, what would be the total cost of fencing around the path ?
(A) Rs. 2500 (B) Rs. 2700
(C) Rs. 2800 (D) None of these
- As 'Good' is related to 'Bad', identically 'Virtue' is related to which of the following ?
(A) Blame (B) Cheat
(C) Despair (D) Vice
- Which of the following countries has developed the aircraft that is quite invisible to country-made RADAR ?
(A) Iraq (B) Iran
(C) North Korea (D) Israel
- How many authors have been honoured with Tagore Literature Awards ?
(A) 6 (B) 7
(C) 8 (D) 9
- An amount of Rs. 1655 and Paise 90 is distributed among Amit, Bipin and Chandra in such a way that Amit gets Rs. 3 for every Rs. 2 to Amit and Chandra gets Rs. 3 for every Rs. 4 to Bipin. How much did Amit get ?
(A) Rs. 456 paise 80
(B) Rs. 472 Paise 70
(C) Rs. 486 Paise 90
(D) None of these
- Who won the Australian Open Men Singles title 2010 ?
(A) Andy Rodick
(B) Roger Federer
(C) David Nailbendian
(D) Pete Samprass
- How many days of the Earth does the Mercury take to take one round of the Sun ?
(A) 88
(B) 98
(C) 78
(D) None of the above
- What would be the radius of that circle whose area is equal to the sum of the areas of the circles of radius of 5 m and 12 m each ?
(A) 13 m
(B) 14 m
(C) 15 m
(D) None of the above
- Seventh day of a month lies on three days before Friday. Which will be the day on the 19th date of this month ?
(A) Sunday (B) Monday
(C) Wednesday (D) Friday
- Which of the following is odd ?
(A) Snake (B) Lizard
(C) Whale (D) Crocodile
- A train of 750 m length is running at a rate of 60 km/hr. How long will it take to cross a signal post ?
(A) 50 (B) 40
(C) 55 (D) 45
- A sold an article to B at a profit of 22.5% and B sold to C at 7.5% profit. C paid Rs. 5267 and 50 Paise for that article. At what cost did A purchase that article ?
(A) 3500 (B) 4000
(C) 4500 (D) 5000
- Among the following lumber vertabrae, which has the most damageable inbervertebra disc in its centre ?
(A) L2 - L3 (B) L3 - L4
(C) L4 - L5 (D) L5 - S1
- What fraction of an hour will pass between 4 : 56 p.m. and 5 : 32 p.m. ?
(A) $\frac{1}{4}$ (B) $\frac{3}{4}$
(C) $\frac{3}{5}$ (D) $\frac{1}{2}$
- When was Indian National Congress founded ?
(A) In 1875
(B) In 1885
(C) In 1895
(D) None of the above

23. In the Besnagar inscription of Heleodorus, there is the description of the following—
 (A) Samkarshan and Vasudev
 (B) Samkarshan, Vasudev and Pradyumna
 (C) All the five brave
 (D) Vasudeo
24. As per Russia's Finans magazine, who among the following has been chosen as the wealthiest man of Russia ?
 (A) Vladimir Lisin
 (B) Mikhail Prokhorov
 (C) Roman Ebramovich
 (D) Deripaska
25. Branch of botany dealing with the study of algae is—
 (A) Microbiology
 (B) Phycology
 (C) Agrostology
 (D) Mycology
26. Who among the following was not a member of the constituent Assembly, constituted in July 1946 ?
 (A) Dr. Rajendra Prasad
 (B) K.M. Munshi
 (C) Mahatma Gandhi
 (D) Abul Kalam Azad
27. My brother is elder than me by 562 days and my sister is elder than my brother by 75 weeks. If my sister was born on Tuesday, on what day of the week was I born ?
 (A) Sunday (B) Monday
 (C) Tuesday (D) Wednesday
28. Following was the name of the mother of Chhatrapati Shivaji—
 (A) Jodhabai (B) Lakshmbai
 (C) Jeejabai (D) Putlibai
29. Height of A is less than that of B, but more than that of C. Height of D is less than A, but more than that of C. Height of E is less than B, but more than that of A. Then who is of the least height ?
 (A) B (B) C
 (C) A (D) D
30. The muscle covering the outermost part of cranium is—
 (A) Gallia Eponeurotica
 (B) Gallia Perineurotica
 (C) Gallia Hyponeurotica
 (D) Gallia Epineurotica
31. Which of the following is odd ?
 (A) Carrot (B) Bean
 (C) Grape (D) Banana
32. As 'BEGK' is related to 'ADFJ', similarly 'PSVY' is related to the following—
 (A) ORUX (B) ROUX
 (C) LQUT (D) LOQT
33. What minimum amount should be added to Rs. 149250 so that the sum can be distributed equally among 4744 people ?
 (A) Rs. 2448
 (B) Rs. 2558
 (C) Rs. 2568
 (D) None of these
34. If 'Cloud' is termed as 'White', 'White' as 'Rain', 'Rain' as 'Green', 'Green' as 'Air', 'Air' as 'Blue' and 'Blue' as 'Water', then the bird flies in which of the following ?
 (A) Cloud (B) White
 (C) Rain (D) Blue
35. Choose the odd term in the following series :
 3, 8, 15, 24, 34, 48, 63
 (A) 15 (B) 24
 (C) 34 (D) 48
36. Sum of the digits of a two-digit number is 14. If 36 is added to this number, the digits of the number mutually change their places. Which of the two digits is smaller ?
 (A) 4 (B) 5
 (C) 6 (D) 7
37. Which of the following is the official language of Maldives ?
 (A) Swehili (B) Ashanti
 (C) Urdu (D) Divehi
38. Muhammad Iqbal's song, 'Saare Jahan Se Achchha' was set to music by who of the following ?
 (A) Rabindranath Tagore
 (B) Abanindranath Tagore
 (C) Pt. Ravishankar
 (D) Chitalgarh Ramchandra
39. Lengths of the parallel sides of a trapezium are 11 cm and 25 cm, respectively. Other two sides are of 15 cm and 13 cm, respectively. Area of the trapezium will be—
 (A) 189 cm²
 (B) 216 cm²
 (C) 256 cm²
 (D) None of these
40. What would be the value of x, if $3^{(x-y)} = 27$ and $3^{(x+y)} = 243$?
 (A) 0 (B) 2
 (C) 4 (D) 6
41. If 'Lead' is termed as 'Stick', 'Stick' as 'Nib', 'Nib' as 'Needle', 'Needle' as 'Rope', 'Rope' as 'Thread', then what would be the term for 'Nib' that would be used for writing ?
 (A) Sick (B) Nib
 (C) Needle (D) Thread
42. When small child Temuzin grew up, he was called—
 (A) Atila-de-Hun
 (B) Changez Khan (Zengees Khan)
 (C) Suleman Pratapi
 (D) Taimur Long (Tambarlen)
43. The value of $\left[\frac{3 \times \sqrt{2}}{\sqrt{6} + \sqrt{3}} \right] - \left[\frac{2 \times \sqrt{6}}{\sqrt{3} + 1} \right] + \left[\frac{2 \times \sqrt{3}}{\sqrt{6} + 2} \right] = ?$
 (A) 3 (B) 2
 (C) 0 (D) $\sqrt{3}$
44. Which of the following states does not produce wheat ?
 (A) Karnataka
 (B) Maharashtra
 (C) West Bengal
 (D) Tamil Nadu
45. Neither A is equal to B nor B is equal to C nor C is equal to D and $D = 3A = B + C$ (all are positive), then which of the following are equal ?
 (A) B and D (B) A and C
 (C) A and D (D) B and C
46. Who among the following invaded India in 711 ?
 (A) Muhammad-bin-Tughluq
 (B) Muhammad Ghazni
 (C) Muhammad
 (D) Muhammad-bin-Kasim
47. Who among the following was the topmost reformer and devotional saint ?
 (A) Ramanand (B) Tulsi Das
 (C) Kabir (D) Namdev

48. A contractor employs a labourer at Rs. 75 per day as remuneration, alongwith the condition that if he is absent, he will be fined Rs. 15 per day and will not get the remuneration of absent day/days. After 20 days the contractor paid Rs. 1140 to the labourer, for how many days had been the labourer absent from his work ?
 (A) 3 (B) 5
 (C) 4 (D) 2
49. How many maximum number of points can a player earn in a single attempt in the game of snooker ?
 (A) 145 (B) 147
 (C) 150 (D) 153
50. 'Jhooming' agriculture of North-East India is called 'Ladang' in Malaysia and 'Masole' in the valley of Zaire. Then, which of the following is called Jhooming agriculture ?
 (A) Shifting Agriculture
 (B) Mixed Agriculture
 (C) Transplanting Agriculture
 (D) Livelihood Agriculture
51. Out of 60 students of a class, 35 study mathematics and 20 study mathematics and chemistry both. Then how many students study only chemistry ?
 (A) 40 (B) 35
 (C) 25 (D) 15
52. RAMAN is written as 12325 and DINESH as 675489, then how will HAMAM be written ?
 (A) 92233 (B) 92323
 (C) 93322 (D) 93232
53. Citizen of which of the following countries won the U.S. Open Men Singles 2009 title ?
 (A) U.S.A. (B) Argentina
 (C) Switzerland (D) France
54. A and B completes separately a pice of work in 10 and 15 days, respectively. A worked for 4 days alone and B for 5 days alone. Then C completed the rest portion of work alone in 8 days. How long will all the three take together to complete that work ?
 (A) 4 days (B) 5 days
 (C) 6 days (D) None of these
55. Which of the following states are famous for tobacco production ?
 (A) Andhra Pradesh and Gujarat
 (B) Maharashtra and Karnataka
 (C) Karnataka and Kerala
 (D) Kerala and Tamil Nadu
56. The nearest city of Mud Island is—
 (A) Port Blair (B) Chennai
 (C) Kolkata (D) Mumbai
57. The highest peak of Andaman Nicobar Island is—
 (A) Saddle Peak
 (B) Thuilar Mountain
 (C) Diyavolo Mountain
 (D) Koyale Mountain
58. Ratio of the present age of A and that of B is 4 : 5 and after 5 years it will be 5 : 6. Then what is present age of A ?
 (A) 10 yrs (B) 20 yrs
 (C) 25 yrs (D) 40 yrs
59. Which of the following is odd ?
 (A) Lake (B) Pond
 (C) Pool (D) Small river
60. The factors of $8x^2 - 18x + 9$ —
 (A) $(4x - 3)(2x + 3)$
 (B) $(8x - 1)(x - 9)$
 (C) $(8x - 3)(x^2 - 3)$
 (D) $(2x - 3)(4x - 3)$
61. Who among the following is known as 'Ashok Second' ?
 (A) Samudragupta
 (B) Chandragupta Maurya
 (C) Kanishka
 (D) Harshvardhan
62. Since mid-day till mid-night, how many times do both the pointers (neglecting the pointer of second) of a watch form right angles ?
 (A) 15 (B) 22
 (C) 23 (D) 24
63. Three pipes are connected to a tank. First two pipes can fill it in 3 hrs and 3 hrs 45 min., respectively. Third can empty it in one hour. All the three pipes start functioning at 1 p.m., 2 p.m. and 3 p.m., at what time will the tank be emptied ?
 (A) 4 : 20 p.m. (B) 4 : 45 p.m.
 (C) 5 : 20 p.m. (D) 5 : 45 p.m.
64. Date of Jalianwala massacre is—
 (A) March 13, 1919
 (B) 13th April, 1919
 (C) March 13, 1920
 (D) April 13, 1920
65. Which of the following statements is incorrect about mangrove forests ?
 (A) Wood of sundari trees is used as fuel and to make boats
 (B) During high tides, roots of sundari trees should be submerged in salty water
 (C) Sundari trees grow in lower littoral area
 (D) Wood of sundari trees is ideal for pulp making
66. Recently, under which of the following conditions did the Supreme Court approve long-standing demand of Army for construction of strategic road near the tri-junction of Tibet, Bhutan and Sikkim ?
 (A) To pay 10% of total loss to Tibet due to deforestation
 (B) To pay 5% of total loss to Sikkim due to deforestation
 (C) To pay 10% of total loss to Sikkim due to deforestation
 (D) To pay 10% of total loss to Bhutan due to deforestation
67. Who among the following biologists used the statement "Survival of the fittest" for the first time in his book, 'Principles of Biology' ?
 (A) Charles Darwin
 (B) Jagdish Chandra Bose
 (C) Herbert Spencer
 (D) Richard Licke
68. Plain of Ganga is an example of—
 (A) Morphogenetic plain
 (B) Depositional plain
 (C) Outwash Plain
 (D) Eroded plain
69. Recently, Stephan Court of Kolkata was in news since furious fire had broken out there. Who among the following land property agents had buit Stephen Court and Grand Hotel ?
 (A) Arathun Stephen
 (B) George Stephen
 (C) Willian Stephen
 (D) Monokothun Stephen

70. Maximum percentage of the compound that is found in the stone formed in kidney is—
 (A) Calcium oxalate
 (B) Magnesium sulphate
 (C) Sodium chloride
 (D) Sodium phosphate
71. Number of cranial nerves in human body is—
 (A) 12 pairs (B) 13 pairs
 (C) 14 pairs (D) 15 pairs
72. As shoe is related to leather, similarly shirt is related to—
 (A) Thread (B) Yarn
 (C) Fabric (D) Cloth
73. Which of the following is the dominant probability of formation of the fog ?
 (A) Dry cool current blows over warm current
 (B) Warm air with moisture blows over cool current
 (C) Dry and cool air blows over cool current
 (D) Warm current with moisture blows over warm current
74. Pack animal of Peru is—
 (A) Camel (B) Yak
 (C) Lama (D) Ibex
75. Who built Panama Canal ?
 (A) Fredinend Megellan
 (B) Ferdinend-de-Lacepse
 (C) Lee Korbusear
 (D) Edward Lutins
- Directions**—(Q. 76 to 80) Read the following informations attentively and answer the questions given below—
- (1) P, Q, R, S and T are the members of a family.
 (2) There are two married pairs in the family.
 (3) Q is a trader and father of T.
 (4) U is a teacher and grandfather of R.
 (5) S is a house wife and grandmother of T.
 (6) R is the daughter of P.
76. Who is the husband of P ?
 (A) R (B) U
 (C) Q (D) None of these
77. Who is the sister of T ?
 (A) U (B) Q
 (C) R (D) None of these
78. Who among the following are married couples ?
 (A) US and QP (B) US and RP
 (C) US and QT (D) TS and RU
79. On the basis of profession, what is P ?
 (A) Housewife
 (B) Engineer
 (C) Student
 (D) Engineer or student
80. Which of the following groups consists inevitably of only men ?
 (A) QU (B) QUT
 (C) TU (D) QUR
81. Read the sentence given below to find out any grammatical error or idiomatic error in it. The error, if any, will be in one part of the sentence. The letter indicating that part is the answer (Ignore errors of punctuation, if any).
 "Mammoths were a / species of elephants / who lived millions of year ago / but are now extinct"
 (A) (B)
 (C)
 (D)
82. Choose the word which is most opposite in meaning to the word printed in bold in the sentence below, keeping in mind the context—
 "The injection was given to the patient to **alleviate** the pain."
 (A) elevate (B) aggravate
 (C) sharpen (D) promote
83. Choose the word which is most similar in meaning to the word printed in bold in the sentence below, keeping in mind the context—
 "He was very upset at the ingratitude but decided not to put up a **struggle** as many of the men would be killed."
 (A) hardship (B) adversity
 (C) strife (D) fight
84. Choose the word which is most opposite in meaning to the word printed in bold in the sentence below, keeping in mind the context—
 "There is quite **tenuous** evidence for it."
 (A) substantial (B) enough
 (C) reasonable (D) ample
85. Since the culprit was caught, the search was called
 Fill in the blanks using the most appropriate words from among the options given.
 (A) Out (B) Away
 (C) Off (D) Over
86. "He insisted seeing the documents".
 Fill in the blanks using the most appropriate words from among the options given.
 (A) of (B) to
 (C) on (D) for
87. Choose the word which is most opposite in meaning to the word printed in bold in the sentence below, keeping in mind the context—
 "The court jester was allowed to make **derogatory** remarks about the king."
 (A) humorous
 (B) emotional
 (C) commendable
 (D) complimentary
88. "On hearing this, Ram got and swore to teach Shyam the lesson of his life". Fill in the blanks using the most appropriate words from among the options given.
 (A) agitated (B) furious
 (C) inspired (D) defensive
89. Read the sentence given below to find out any grammatical error or idiomatic error in it. The error, if any, will be in one part of the sentence. The letter indicating that part is the answer (Ignore errors of punctuation, if any).
 "I had gone only a little way / (A) down the street / when I realised (B) (C) that / I had not lock the door".
 (D)
90. Read the sentence given below to find out any grammatical error or idiomatic error in it. The error, if any, will be in one part of the sentence. The letter indicating that part is the answer. (Ignore errors of punctuation if, any)
 "Hostility between the / two groups have / increased in the / (B) (C) past few months".
 (D)

91. Read the sentence given below to find out any grammatical error or idiomatic error in it. The error, if any, will be in one part of the sentence. The letter indicating that part is the answer. (Ignore errors of punctuation, if any)
 "The sink is so / dirty that / one
 (A) (B)
 needs a very strong / abrasive to
 (C)
 cleaning it".
 (D)
92. Choose the word which is most similar in meaning to the word printed in bold in the sentence below, keeping in mind the context—
 "His **rustic** speech and clothes led us to think of him as an ignorant villager".
 (A) Strange
 (B) Old-fashioned
 (C) Unsophisticated
 (D) Unconventional
93. Read the sentence given below to find out any grammatical error or idiomatic error in it. The error, if any, will be in one part of the sentence. The letter indicating that part is the answer. (Ignore errors of punctuation, if any.)
 "It is difficult to / understand the
 (A) (B)
 problems / that the physically
 (C)
 challenged people / encounters in their daily life".
 (D)
94. Choose the word which is most opposite in meaning to the word printed in bold in the sentence below, keeping in mind the context—
 "The evidence Ram gave in support of his theory was quite **copious**".
 (A) unsatisfactory
 (B) scanty
 (C) poor
 (D) unconvincing
95. "Some monkeys who were playing nearby the tree, got and ran for shelter under the tree".
 Fill in the blanks using the most appropriate word from among the options given.
 (A) drenched (B) shocked
 (C) drowned (D) flooded
96. "You should.....this paragraph in order to make your essay more"
 Fill in the blanks using the most appropriate words from among the options given.
 (A) revise, discursive
 (B) enlarge, redundant
 (C) delete, succinct
 (D) excise, legible
97. Choose the word which is most similar in meaning to the word printed in bold in the sentence below, keeping in mind the context—
 "Officers responsible for the **abortive** coup were punished".
 (A) unsatisfying
 (B) unsuccessful
 (C) bloodless
 (D) chaotic
98. Choose the word which is most similar in meaning to the word printed in bold in the sentence below, keeping in mind the context—
 "The poor man stood **abashed** by the display of wealth".
 (A) humiliated
 (B) embarrassed
 (C) surprised
 (D) elevated
99. Choose the word which is most similar in meaning to the word printed in bold in the sentence below, keeping in mind the context—
 "It is amazing how such a **motley** group could get along so well".
 (A) promiscuous
 (B) assorted
 (C) heterogeneous
 (D) confused
100. Choose the word which is most opposite in meaning to the word printed in bold in the sentence below, keeping in mind the context—
 "He then lifted him onto his back and carried him to the **edge** of the forest form where the forester went on his merry way back to Benaras".
 (A) blunt (B) interiors
 (C) indoors (D) beginning

Answers with Hints

1. (A) $\therefore \log_{10} 2 = 0.3010$
 $\therefore \log_{10} 5 = \log_{10} \left(\frac{10}{2} \right)$
 $= \log_{10} 10 - \log_{10} 2$
 $= 1.0000 - 0.3010$
 $= 0.699$
2. (B) 3. (C)
4. (B) \therefore Relative speed of both the buses
 $= (75 - 57) \text{ km/hr}$
 $= 18 \text{ km/hr}$
 Time $= 3 \text{ hrs } 25 \text{ min}$
 $= \left(3 + \frac{25}{60} \right) \text{ hrs}$
 $= \frac{41}{12} \text{ hrs}$
 \therefore Required distance
 $= \text{Relative speed} \times \text{time}$
 $= 18 \times \frac{41}{12} \text{ km}$
 $= 61.5 \text{ km}$
5. (A) 6. (C) 7. (C)
8. (C) \therefore One side of the square-shaped waste land
 $= \frac{208}{4} = 52 \text{ m}$
 One side of the square-shaped land including the path of 2m width
 $= 52 + 4$
 $= 56 \text{ m}$
 \therefore Total cost of fencing around the path
 $= 4 \times 56 \times 12.5$
 $= \text{Rs. } 2800$
9. (D) 10. (B) 11. (C)
12. (A) As per question,
 \therefore Amit : Bipin $= 2 : 3$
 $= 8 : 12$
 Bipin : Chandra
 $= 4 : 3$
 $= 12 : 9$
 \therefore Amit : Bipin : Chandra
 $= 8 : 12 : 9$
 Sum of the ratio
 $= 8 + 12 + 9 = 29$
 \therefore The amount that Amit obtained
 $= \text{Rs. } \frac{8}{29} \times 1655.90$
 $= \text{Rs. } 456.80$
13. (B) 14. (A)

15. (A) Let the radius of the required circle = R metres. Then

$$\begin{aligned} \therefore \pi R^2 &= \pi (5)^2 + \pi (12^2) \\ &= \pi (5^2 + 12^2) \\ &= \pi (25 + 144) \\ &= \pi (13)^2 \end{aligned}$$

$$\therefore R = 13 \text{ m}$$

16. (A) 17. (C)

18. (D) \therefore Speed of the train

$$\begin{aligned} &= 60 \text{ km/hr} \\ &= 60 \times \frac{5}{18} \text{ m/s} \\ &= \frac{50}{3} \text{ m/s} \end{aligned}$$

\therefore Required time

$$\begin{aligned} &= \frac{\text{Length of the train}}{\text{Speed of the train}} \\ &= \frac{750}{\left(\frac{50}{3}\right)} \\ &= \frac{750 \times 3}{50} \text{ sec} \\ &= 45 \text{ sec} \end{aligned}$$

19. (B) Let the cost price of the articles for A = Rs. x

\therefore Cost price of the article for B

$$= \text{Rs. } \frac{122.5}{100} \times x$$

Cost price of the article for C

$$= \text{Rs. } \frac{107.5}{100} \times \frac{122.5}{100} \times x$$

$$\therefore \frac{10.75 \times 12.25}{100} \times x = 5267.50$$

$$\begin{aligned} \therefore x &= \frac{5267.50}{10.75 \times 12.25} \times 100 \\ &= \text{Rs. } 4000 \end{aligned}$$

20. (D)

21. (C) \therefore Time interval between 4 : 56 p.m. and 5 : 32 p.m.

$$\begin{aligned} &= (4 + 32) \text{ min} \\ &= 36 \text{ min} \end{aligned}$$

\therefore Required fraction

$$\begin{aligned} &= \frac{36 \text{ min}}{1 \text{ hr}} \\ &= \frac{36 \text{ min}}{60 \text{ min}} = \frac{3}{5} \end{aligned}$$

22. (B) 23. (D) 24. (A) 25. (B) 26. (C)

27. (D) \therefore Birthday of my sister

= Tuesday

My sister is elder than my brother by 75 weeks.

My brother's birth day will be Monday

My brother is elder than me, by
= 562 days
= 80 weeks + 2 days
 \therefore My birthday of the week (Monday + 2 days)
= Wednesday

28. (C)

29. (B) As per question,

\therefore Height of C < Height of A
< Height of B ... (1)
Height of C < Height of D
< Height of A ... (2)
Height of A < Height of E
< Height of B ... (3)

Consequently,

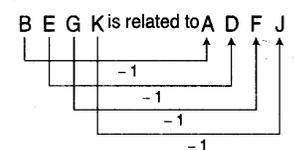
Height of C < Height of D
< Height of A
< Height of E
< Height of B

Hence, C is of the least height

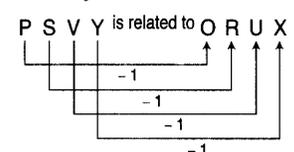
30. (A)

31. (A) Carrot develops beneath ground while rest three develop above ground

32. (A) As,



Similarly,



33. (B) $\therefore 4744 \times 31 = 147064$

$$< 149250$$

and $4744 \times 32 = 151808$

$$> 149250$$

\therefore The least required amount

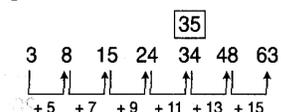
$$\begin{aligned} &= 151808 - 149250 \\ &= \text{Rs. } 2558 \end{aligned}$$

34. (D) \therefore Birds fly = in air

\Rightarrow 'Air' is called blue

\therefore Birds fly = in blue

35. (C) Following is the sequence and formation-process of the given number-series—



$$\begin{aligned} \therefore \text{Correct number} &= 24 + 11 \\ &= 35 \end{aligned}$$

$$\therefore \text{Incorrect number} = 34$$

36. (B) Let the digit of unit is y and that of ten is x in the two-digit number.

$$\therefore \text{Given number} = 10x + y$$

As per question

$$x + y = 14 \quad \dots(1)$$

$$\text{and } (10x + y) + 36 = 10y + x$$

$$\Rightarrow 9(y - x) = 36$$

$$\therefore y - x = 4 \quad \dots(2)$$

On solving equations (1) and (2),

$$x = 5$$

$$\text{and } y = 9$$

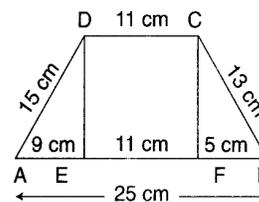
\therefore Required number

$$\begin{aligned} &= 10 \times 5 + 9 \\ &= 59 \end{aligned}$$

\therefore The smaller digit among the two digits = 5

37. (D) 38. (C)

39. (B)



Let the parallel sides of the trapezium ABCD are

$$AB = 25 \text{ cm,}$$

$$\text{and } CD = 11 \text{ cm}$$

Rest two sides of the trapezium are

$$BC = 13 \text{ cm}$$

$$\text{and } DA = 15 \text{ cm}$$

Lengths of the perpendiculars from points C and D on AB are

$$CF = \sqrt{BC^2 - BF^2}$$

$$= \sqrt{13^2 - 5^2}$$

$$= \sqrt{144}$$

$$= 12 \text{ cm}$$

$$\text{and } DE = \sqrt{DA^2 - AE^2}$$

$$= \sqrt{15^2 - 9^2}$$

$$= \sqrt{144}$$

$$= 12 \text{ cm}$$

\therefore Perpendicular-distance between the parallel lines = CF = DE = 12 cm

EFCD is a rectangle

$$\begin{aligned} \therefore \text{Area of the trapezium} &= \frac{1}{2}(25 + 11) \times 12 \\ &= 18 \times 12 \\ &= 216 \text{ cm}^2 \end{aligned}$$

40. (C) $\therefore 3^{(x-y)} = 27 = 3^3$
 $\Rightarrow x - y = 3 \quad \dots(1)$

and $3^{(x+y)} = 243 = 3^5$
 $\Rightarrow x + y = 5 \quad \dots(2)$

On adding eqs. (1) and (2),
 $2x = 3 + 5 = 8$

$\therefore x = 4$

41. (C) 42. (B)

43. (C) Given expression

$$= \left[\frac{3 \times \sqrt{2}}{(\sqrt{6} + \sqrt{3})} \right] - \left[\frac{2 \times \sqrt{6}}{(\sqrt{3} + 1)} \right] + \left[\frac{2 \times \sqrt{3}}{(\sqrt{6} + 2)} \right]$$

$$= \frac{3\sqrt{2} \times (\sqrt{6} - \sqrt{3})}{(\sqrt{6} + \sqrt{3}) \times (\sqrt{6} - \sqrt{3})} - \frac{2\sqrt{6} \times (\sqrt{3} - 1)}{(\sqrt{3} + 1) \times (\sqrt{3} - 1)} + \frac{2\sqrt{3}(\sqrt{6} - 2)}{(\sqrt{6} + 2) \times (\sqrt{6} - 2)}$$

$$= \frac{6\sqrt{3} - 3\sqrt{6}}{(6 - 3)} - \frac{6\sqrt{2} - 2\sqrt{6}}{(3 - 1)} + \frac{6\sqrt{2} - 4\sqrt{3}}{(6 - 4)}$$

$$= (2\sqrt{3} - \sqrt{6}) - (3\sqrt{2} - \sqrt{6}) + (3\sqrt{2} - 2\sqrt{3})$$

$$= 2\sqrt{3} - \sqrt{6} - 3\sqrt{2} + \sqrt{6} + 3\sqrt{2} - 3\sqrt{3}$$

$$= 0$$

44. (D)

45. (B) $\therefore A \neq B$
 $B \neq C$
 $C \neq D$
 and $D = 3A = B + C$

Option (A)
 $\therefore D = B + C$

B and D are not equal

Option (C)
 $\therefore D = 3A$

A and D are not equal

Option (D)
 $\therefore B \neq C$

B and C are not equal

\therefore Only option (B), namely, A and C are equal.

46. (D) 47. (C)

48. (C) Let the labourer was absent for x days.

Then as per question
 $\therefore (20 - x) \times 75 - 15 \times x = 1140$
 $\Rightarrow 1500 - 90 \times x = 1140$
 $\therefore x = \frac{1500 - 1140}{90}$
 $= 4 \text{ days}$

49. (B) 50. (A)

51. (C) \therefore Students who study mathematics

$= 35$

Students who study mathematics and chemistry both

$= 20$

\therefore Students who study only mathematics

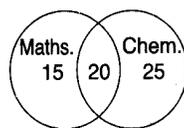
$= 35 - 20 = 15$

Let x students study only chemistry.

Then, $60 = 15 + 20 + x$

$\therefore x = 25$

Short method



$\therefore n(M \cup C) = n(M) + n(C) - n(M \cap C)$

$\Rightarrow 60 = 35 + n(C) - 20$

$\therefore n(C) = 60 - 15$

$= 45$

\therefore Students who study only chemistry

$= 45 - 20$

$= 25$

52. (B) $\therefore R = 1$ and $D = 6$

$A = 2$ $I = 7$

$M = 3$ $N = 5$

$A = 2$ $E = 4$

$N = 5$ $S = 8$

$H = 9$

$\therefore H = 9$

$A = 2$

$M = 3$

$A = 2$

$M = 3$

Hence, HAMAM will be written as 92323.

53. (B) J. Mertin-del-Potro of Argentina beat Roger Federer of Switzerland and clinched the U.S. Open Men's Singles title 2009.

54. (B) As per question,

\therefore Work of 4 days of A alone + work of 5 days of B alone

$$= \frac{4}{10} + \frac{5}{15}$$

$$= \frac{11}{15}$$

Rest work $= 1 - \frac{11}{15}$
 $= \frac{4}{15}$

C completed the rest work alone in 8 days

\therefore Work of 1 day of C alone

$$= \frac{4}{15} \times \frac{1}{8}$$

$$= \frac{1}{30}$$

\therefore Work of 1 day jointly of

$$(A + B + C) = \frac{1}{10} + \frac{1}{15} + \frac{1}{30}$$

$$= \frac{3 + 2 + 1}{30}$$

$$= \frac{1}{5}$$

Hence, (A + B + C) will jointly complete the work in 5 days

55. (A) 56. (D)

57. (A) The highest peak of Andaman Nicobar island is Saddle Peak. Its height is 730 metres (2395 feet).

58. (B) Let the present age of A is 4x and that of B is 5x.

$$\therefore \frac{(4x + 5)}{(5x + 5)} = \frac{5}{6}$$

$\Rightarrow 25x + 25 = 24x + 30$

$\Rightarrow (25 - 24)x = 30 - 25$

$\therefore x = 5$

\therefore Present age of A = 4x

$= 4 \times 5$

$= 20 \text{ yrs}$

59. (D)

60. (D) Given expression

$$= 8x^2 - 18x + 9$$

$$= 8x^2 - 12x - 6x + 9$$

$$= 4x(2x - 3) - 3(2x - 3)$$

$$= (2x - 3)(4x - 3)$$

61. (B)

62. (D) Time interval since mid-day till midnight = 12 hrs

\therefore Within every hour the pointer of minute forms right angles twice with the pointer of hour.

\therefore Total circumstances of formation of right angles

$= 12 \times 2$

$= 24 \text{ times}$

63. (C) As per question,
Part of the tank filled up by first pipe in an hour

$$= \frac{1}{3}$$

Part of the tank filled up by second pipe in an hour

$$= \frac{1}{\frac{15}{4}} = \frac{4}{15}$$

Third pipe can empty the whole tank in an hour.

Let 3 O'clock the whole tank is emptied in x hrs. Then,

$$\therefore \frac{(2+x)}{3} + \frac{(1+x)}{\left(\frac{15}{4}\right)} - \frac{x}{1} = 0$$

$$\Rightarrow \frac{(2+x)}{3} + \frac{4(1+x)}{15} - \frac{x}{1} = 0$$

$$\Rightarrow \frac{5(2+x) + 4(1+x) - 15x}{15} = 0$$

$$\Rightarrow 10 + 4 + 5x + 4x - 15x = 0$$

$$\therefore x = \frac{14}{6} = \frac{7}{3}$$

$$= 2\frac{1}{3} \text{ hrs}$$

$$= 2 \text{ hrs } 20 \text{ min.}$$

Hence, the whole tank will be emptied starting from 3 p.m.

$$= 3 \text{ p.m.} + 2 \text{ hrs } 20 \text{ min}$$

$$= \text{At } 5 : 20 \text{ p.m.}$$

64. (B) 65. (D)

66. (*) 5% of the total project cost will be paid to Sikkim Government as a compensation for the loss accrued due to deforestation. Hence all the alternatives are wrong.

67. (A) 68. (D) 69. (A) 70. (A) 71. (A)
72. (D) 73. (B) 74. (B) 75. (B) 76. (C)
77. (C) 78. (A) 79. (A) 80. (A) 81. (C)
82. (B) 83. (D) 84. (A) 85. (C) 86. (C)
87. (D) 88. (B) 89. (D) 90. (B) 91. (D)
92. (C) 93. (D) 94. (B) 95. (A) 96. (C)
97. (B) 98. (A) 99. (B) 100. (D)



Inspiring People