10 Practice Set

ARITHMETIC

1. A certain number is divided by 385 by division by factors. The quotient is 102, the first remainder is 4, the second is 6 and the third is 10. Find the number.
(a) 39654 (b) 32754
(c) 38554 (d) None of these

2. Two different numbers when divided by the same divisor, left remainder 11 and 21 respectively, and when their sum was divided by the same divisor, remainder was 4. What is the divisor?
(a) 36 (b) 28
(c) 14 (d) 9

3. A shopkeeper fixes the marked price of an item 20% above the cost price. He allows his customers a discount and makes a profit of 8%. Find the rate of discount.
(a) 8% (b) 9%
(c) 10% (d) 11%

4. Mr. Thomas invested an amount of ₹ 13,900 divided in two different schemes A and B at the simple interest rate of 14% p.a. and 11% p.a. respectively. If the total amount of simple interest earned in 2 years be ₹ 3508, what was the amount invested in Scheme B?
(a) ₹ 6400 (b) ₹ 6500
(c) ₹ 7200 (d) ₹ 7500

5. The difference between C. I. (Compound Interest) and S.I. (Simple Interest) on a sum of ₹ 4,000 for 2 years at 5% p.a. payable yearly is
(a) ₹ 20 (b) ₹ 10
(c) ₹ 50 (d) ₹ 60

6. A, B and C are partners. A receives 9/10 of the profit and B and C share the remaining profit equally. A's income is increased by ₹ 270 when the profit rises from 12 to 15%. Find the capital invested by B and C each
(a) ₹ 5000 (b) ₹ 1000
(c) ₹ 500 (d) ₹ 1500

7. A machine P can print one lakh books in 8 hours, machine Q can print the same number of books in 10 hours while machine R can print them in 12 hours. All the machines are started at 9 a.m. while machine P is closed at 11 a.m. and the remaining two machines complete the work. Approximately at what time will the work be finished?
(a) 11 : 30 am (b) 12 noon
(c) 12 : 30 pm (d) 1 pm

8. A man walks half of the journey at 4 km/h by cycle does one third of journey at 12 km/h and rides the remainder journey in a horse cart at 9 km/h, thus completing the whole journey in 6 hours and 12 minutes. The length of the journey is
(a) 36 km (b) 39 km
(c) 40 km (d) 28 km

9. If $x^2 + y^2 + 2x + 1 = 0$, then the value of $x^{31} + y^{35}$ is
(a) -1 (b) 0
(c) 1 (d) 2

10. If $2^x = 3^y = 6^{-z}$ then $\left(\frac{1}{x} \quad \frac{1}{y} \quad \frac{1}{z}\right)$, is equal to
(a) 0 (b) 1
(c) $\frac{3}{2}$ (d) $-\frac{1}{2}$

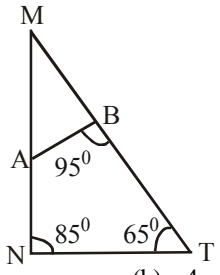
11. If $m \quad \frac{1}{m-2} \quad 4$ then, what is value of

$$(m-2)^2 + \frac{1}{(m-2)^2} \quad ?$$

(a) -2 (b) 0
(c) 2 (d) 4

12. O is the centre of the circle passing through the points A, B and C such that $\angle BAO = 30°$, $\angle BCO = 40°$ and $\angle AOC = x°$. What is the value of x ?
(a) 70° (b) 140°
(c) 210° (d) 280°

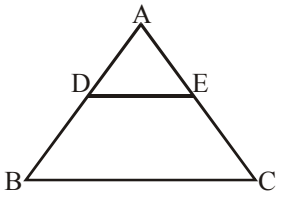
13. In the figure , if $\frac{NT}{AB} = \frac{9}{5}$ and if MB = 10, find MN.



(a) 5 (b) 4
(c) 28 (d) 18

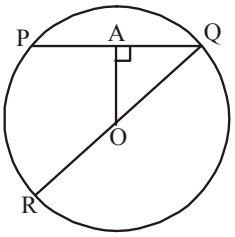
14. Two parallel chords of a circle of diameter 20 cm are 12 cm and 16 cm long. If the chords are in the same side of the centre, then the distance between them is
(a) 28 cm (b) 2 cm
(c) 4 cm (d) 8 cm

15. In ΔABC, $DE \parallel BC$ and $\frac{AD}{DB} \quad \frac{3}{5}$. If $AC = 5.6$ cm, find AE.



(a) 2.1 cm (b) 3.1 cm
(c) 1.2 cm (d) 2.3 cm

16. OA is perpendicular to the chord PQ of a circle with centre O. If QR is a diametre, AQ = 4 cm, OQ = 5 cm, then PR is equal to



(a) 6 cm (b) 4 cm.
(c) 8 cm (d) 10 cm

17. If the coordinates of the points A, B, C be (4, 4), (3, – 2) and (3, – 16) respectively, then the area of the triangle ABC is:
(a) 27 (b) 15
(c) 18 (d) 7

18. If $\sin\theta - \cos\theta = \frac{7}{13}$ and $0 < \theta < 90°$, then the value of $\sin\theta + \cos\theta$ is.

(a) $\frac{17}{13}$ (b) $\frac{13}{17}$

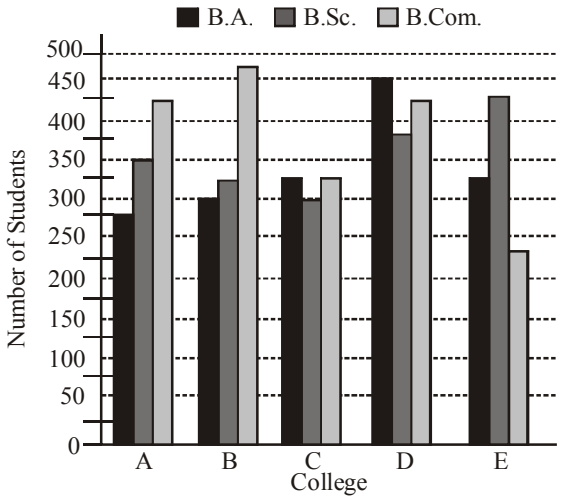
(c) $\frac{1}{13}$ (d) $\frac{1}{17}$

19. If $\frac{x\,\text{cosec}^2 30 \,.\, \sec^2 45}{8\cos^2 45 \,.\, \sin^2 60} = \tan^2 60° - \tan^2 30°$, then x = ?
(a) 1 (b) – 1
(c) 2 (d) 0

20. If θ & $2\theta - 45°$ are acute angles such that $\sin\theta = \cos(2\theta - 45°)$ then $\tan\theta$ is equal to
(a) 1 (b) – 1
(c) $\sqrt{3}$ (d) $\frac{1}{\sqrt{3}}$

DIRECTIONS (Q. 21-23) : *Study the following graph carefully to answer the questions that follow:*

Number of Students Enrolled in Three Different Disciplines in Five Different Colleges



21. What is the total number of students studying B.Sc in all Colleges together?
(a) 1825 (b) 1975
(c) 1650 (d) 1775

22. What is the respective ratio of total number of students studying B.Sc. in the colleges C and E together to those studying B.A. in the Colleges A and B together?
(a) 24 : 23 (b) 25 : 27
(c) 29 : 23 (d) 29 : 27

23. What is the respective ratio of total number of students studying B.Sc., B.A. and B.Com. in all the Colleges together?
(a) 71 : 67 : 75 (b) 67 : 71 : 75
(c) 71 : 68 : 75 (d) 75 : 71 : 68

24. A cylindrical bucket of height 36 cm and radius 21 cm is filled with sand. The bucket is emptied on the ground and a conical heap of sand is formed, the height of the heap being 12 cm. The radius of the heap at the base is :
(a) 63 cm (b) 53 cm
(c) 56 cm (d) 66 cm

25. A conical vessel, whose internal radius is 12 cm and height 50 cm, is full of liquid. The contents are emptied into a cylindrical vessel with internal radius 10 cm. Find the height to which the liquid rises in the cylindrical vessel.
(a) 18 cm (b) 22 cm
(c) 24 cm (d) None of these

26. Two numbers are in the ratio 17 : 45. One-third of the smaller is less than $\frac{1}{5}$ of the bigger by 15. The smaller number is
(a) $25\frac{1}{2}$ (b) $67\frac{1}{2}$
(c) $76\frac{1}{2}$ (d) $86\frac{1}{2}$

27. The value of $\sqrt{10\ \sqrt{25\ \sqrt{108\ \sqrt{154\ \sqrt{225}}}}}$ is :
(a) 4 (b) 6
(c) 8 (d) 10

28. Find the greatest number that will divide 55, 127 and 175 so as to leave the same remainder in each case.
(a) 26 (b) 24
(c) 23 (d) 29

29. The average age of a group of 16 persons is 28 yrs and 3 months. Two persons each 58 yrs old left the group. The average age of the remaining persons is
(a) 26 (b) 24
(c) 22 (d) 20

30. A milk man makes a profit of 20% on the sale of milk. If he were to add 10% water to the milk, by what %would his profit increase?
(a) 30 (b) $\frac{40}{3}$
(c) 22 (d) 10

31. If $\frac{a}{3}\ \frac{b}{4}\ \frac{c}{7}$, then $\frac{a\ b\ c}{c}$ is equal to:
(a) 7 (b) 2
(c) $\frac{1}{2}$ (d) $\frac{1}{7}$

32. A can do a piece of work in 10 days, while B alone can do it in 15 days. They work together for 5 days and the rest of the work is done by C in 2 days. If they get Rs 450 for the whole work, how should they divide the money ?
(a) Rs 225, Rs 150, Rs 75
(b) Rs 250, Rs 100, Rs 100
(c) Rs 200, Rs 150, Rs 100
(d) Rs 175, Rs 175, Rs 100

33. Without stoppages, a train travels certain distance with an average speed of 80 km/h, and with stoppages, it covers the same distance with an average speed of 60 km/h. How many minutes per hour the train stops ?
(a) 15 (b) 18
(c) 10 (d) None of these

34. A well 22.5 deep and of diameter 7 m has to be dug out. Find the cost of plastering its inner curved surface at ₹ 3 per sq. metre.
(a) ₹1465 (b) ₹1485
(c) ₹1475 (d) ₹1495

35. The difference between the selling price of a clock at a profit of 8% and 10% is ₹ 6. Find the cost price of the clock.
(a) ₹1200 (b) ₹600
(c) ₹400 (d) ₹300

36. A tank is filled in 5 hours by three pipes A, B and C. The pipe C is twice as fast as B and B is twice as fast as A. How much time will pipe A alone take to fill the tank ?
(a) 20 hrs (b) 25 hrs
(c) 35 hrs (d) Cannot be determind

37. A train 100 m long passes a bridge at the rate of 72 km/h per hour in 25 seconds. The length of the bridge is :
(a) 150 m (b) 400 m
(c) 300m (d) 200 m

38. If $x^2+y^2+z^2=xy+yz+zx$, $(x\neq 0)$, then the value of $\frac{4x+2y-3z}{2x}$ is
(a) 0 (b) 1
(c) $\frac{3}{2}$ (d) $\frac{1}{2}$

39. If $x+\frac{1}{x}\ \sqrt{3}$ then the value of $x^{18}+x^{12}+x^6+1$ is
(a) 0 (b) 1
(c) 2 (d) 3

40. If $\sin\theta+\sqrt{\sin\theta+\sqrt{\sin\theta+\sqrt{\sin\theta+....\infty}}}=\sin^4\alpha$, then $\sin\theta$ is equal to
(a) $\sec^2\alpha$ (b) $\tan^2\alpha$
(c) $\sec^2\alpha\tan^2\alpha$ (d) $\cos^2\alpha$

GENERAL INTELLIGENCE & REASONING

DIRECTIONS (Qs. 41 to 43) : *In each of the following questions, there are two words / set of letters / numbers to the left of the sign :: which are connected in some way. The same relationship obtains between the third words / set of letters / numbers and one of the four alternatives under it. Find the correct alternative in each question.*

41. Foresight : Anticipation :: Insomnia : ?
(a) Treatment (b) Disease
(c) Sleeplessness (d) Unrest

42. PAPER : SCTGW : : MOTHER : ?
(a) ORVLGW (b) PQVIGT
(c) PQXJJT (d) PQXKJV

43. 182 : ? : : 210 : 380
(a) 342 (b) 272
(c) 240 (d) 156

DIRECTIONS (Qs. 44 to 46) : *Find the odd word/ letters/number pair from the given alternatives.*

44. (a) Anxiety (b) Worry
(c) Inhibition (d) Curiosity

45. (a) PROQN (b) DECEG
(c) GIFHE (d) KMJLI

46. (a) 117 – 143 (b) 142 – 156
(c) 64 – 78 (d) 103 – 169

DIRECTIONS (Qs. 47 to 49) : *Complete the given series.*

47. ABD, DGK, HMS, MTB, SBL, ?
(a) ZAB (b) XKW
(c) ZKU (d) ZKW

48. 165, 195, 255, 285, 345, ?
(a) 375 (b) 390
(c) 420 (d) 435

49. 24, 60, 120, 210, ?
(a) 300 (b) 336
(c) 420 (d) 525

50. In a code, CORNER is written as GSVRIV. How can CENTRAL be written in that code?
(a) DFOUSBM (b) GIRXVEP
(c) GJRYVEP (d) GNFJKER

51. If LOVE is coded as 27 then how is COME coded as:-
(a) 38 (b) 18
(c) 28 (d) 8

52. A is B's sister. C is B's mother. D is C's father. E is D's mother. Then, how is A related to D?
(a) Grandmother (b) Grandfather
(c) Daughter (d) Granddaughter

53. M is to the East of D, F is to the South of D and K is to the West of F. M is in which direction with respect to K?
(a) South-West (b) North-West
(c) North-East (d) South-East

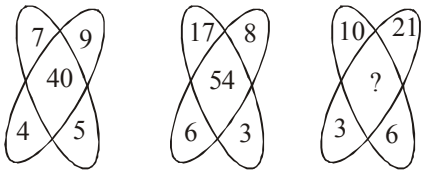
54. Ketan takes casual leave only on first working day of every month. The office has weekly offs on Saturday and Sunday. In a month of 30 days, the first working day happened to be Tuesday. What will be the day for his next casual leave?
(a) Wednesday (b) Thursday
(c) Friday (d) Monday

55. In a row of boys facing the North, A is sixteenth from the left end and C is sixteenth from the right end. B, who is fourth to the right of A, is fifth to the left of C in the row. How many boys are there in the row ?
(a) 39 (b) 40
(c) 41 (d) 42

56. Malay Pratap is on 13th position from the starting and on 17th position from the end in his class. He is on 8th position from the starting and on 13th position from the end among the students who passed. How many students failed?
(a) 7
(b) 8
(c) 9
(d) Cannot be determined

DIRECTIONS (Qs. 57 – 58): *In the following questions find the missing number*

57.
5 9 15
16 29 ?
49 89 147
(a) 45 (b) 48
(c) 51 (d) 54

58.


(a) 60 (b) 62
(c) 64 (d) 66

59. Which one of the given responses would be a meaningful order of the following ?

1. apartment 2. town
3. street 4. building
5. complex

(a) 1, 5, 4, 3, 2 (b) 4, 5, 3, 2, 1
(c) 2, 1, 3, 4, 5 (d) 1, 4, 5, 3, 2

DIRECTIONS (Q. 60) : *In question below are given two statements followed by two conclusions. You have to take the given statements to be true even if they seem to be at variance with commonly known facts. Read all the conclusions and then decide which of the given statements disregarding commonly know facts. Given Answer.*

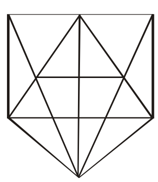
Give answer (a) If only conclusion I follows.
Give answer (b) if only conclusion II follows.
Give answer (c) if either I or II follows.
Give answer (d) if neither I nor II follows.

60. Statements:
Some books are pens.
No pen is pencil.
Conclusions:
I. Some books are pencils.
II. No book is pencil.

61. If '–' stand for addition, '+' stands for subtraction, '÷' stands for multiplication and '×' stands for division, then which one of the following equations is correct?

(a) $25 \times 5 \div 20 - 27 + 7 = 120$
(b) $25 + 5 \times 20 - 27 \div 7 = 128$
(c) $25 + 5 - 20 + 27 \times 7 = 95$
(d) $25 - 5 + 20 \times 27 \div 7 = 100$

62.

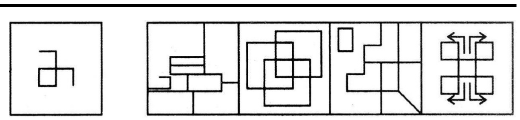


How many triangles are there ?

(a) 20 (b) 21
(c) 26 (d) 28

DIRECTIONS (Q. 63) : *In the following question, you are given a figure (X) followed by four alternative figures (a), (b), (c) and (d) such that fig. (X) is embeded in one of them. Trace out the alternative figure which contains fig. (X) as its part.*

63.



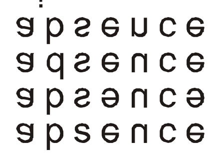
(X) (a) (b) (c) (d)

DIRECTIONS (Q. 64) : *In each of the following questions, choose the correct **water image** of the figure (X) from amongst the four alternatives (a), (b), (c), (d) given alongwith it.*

64. absence

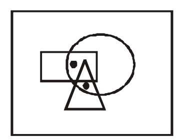
?

(a)
(b)
(c)
(d)

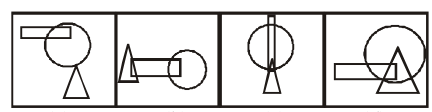


65. There are two dots placed in the question figure. Find out the answer figure which has the possibility of placing the dots satisfying the same condition as in the question figure.

Questions Figure



Answer Figure



(a) (b) (c) (d)

DIRECTIONS (Qs. 66-67): *In each question below are three statements followed by three conclusions numbered I, II and III. You have to take the three given statements to be true even if they seem to be at variance from commo,mnly known facts and then decide which of the answers (a), (b), (c), (d) and (e) is the correct answer and indicate it on the answer sheet.*

66. Statements: All flats are buildings.
All buildings are bungalows.
All bungalows are apartments.
Conclusions: **I.** Some apartments are flats.
II. All flats are bungalows.
III. Some bungalows are flats.

(a) None follows
(b) Only I and II follow
(c) Only II and III follow
(d) All I, II and III follow

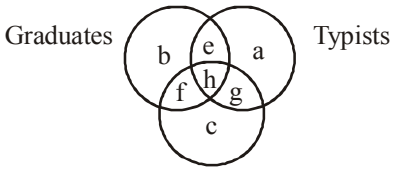
67. Statements: Some spectacles are lenses.
Some lenses are frames.
All frames are metals.
Conclusions: **I.** Some lenses are metals
II. Some metals are spectacles.
III. Some frames are spectacles.

(a) Only III follows
(b) Only I follows
(c) Only I and either II or III follow
(d) Only I and II follow

68. How many even numbers are there in the following sequence of numbers which are immediately preceded by an odd number but immediately followed by an even number?
5 1 4 7 3 9 8 5 7 2 6 3 1 5 8 6 3 8 5 2 3 4 3 4 9 6
(a) One (b) Three
(c) Four (d) Two

69. In the following question four words are given, out of which three are alike in some manner and fourth one is different. Choose out the odd one.
(a) Circle (b) Ellipse
(c) Sphere (d) Cube

DIRECTIONS (Q. 70-71): *Below is given a figure made of three circles intersecting one another. These circles represents graduates, typists and Government employees. The intersecting regions have been denoted by a, b, c, e, f, g and h, respectively. Study the diagram carefully and answer the questions that follow.*



70. Which of the following letters represents the typists who are only graduates ?
(a) e (b) h
(c) g (d) a

71. Which of the following letters represents the typists who are government employees but not graduates?
(a) e (b) g
(c) f (d) h

72. In a certain code, a number 13479 is written as AQFJL and 2568 is written as DMPN. How is 396824 written in that code?
(a) QLPNMJ (b) QLPNMF
(c) QLPMNF (d) QLPNDF

73. In a certain code OVER is written as $#%*. and VIST is written as #+×–. How is SORE written in that code?
(a) ×$*% (b) %×$*
(c) ×*$% (d) ×%*$

74. A boy goes to see a film and finds a man who is his relative. The man is the husband of the sister of his mother. How is the man related to the boy?
(a) Brother (b) Nephew
(c) Uncle (d) Father

DIRECTIONS (Qs. 75-77) : *Read the following information carefully to answer the given questions.*

V, U and T are sitting around a circle. A, B and C are also sitting around the same circle but two of them are not facing centre (they are facing the direction opposite to centre). Y is second to the left of C. U is second to the right of A. B is third to the left of T. C is second to the right of T. A is seated next to V.

75. Which of the following are not facing centre?
(a) BA (b) CA
(c) BC (d) Cannot be determined

76. Which of the following is the position of T in respect of B?
(a) Third to the right
(b) Second to the right
(c) Third to the left
(d) Third to the left or right

77. What is the position of V in respect of C?
(a) Second to the right
(b) Third to the left
(c) Fourth to the right
(d) Fourth to the left

78. Which of the following has the same relationship as that of 'PS' : 'TW'?
(a) JM : RQ (b) AD : DI
(c) AD : EH (d) FC : ZE

79. In the following question three out of four alternatives contain letters of the alphabet placed in a particular form. Find the one that does not belong to the group.
(a) HMNG (b) VQRU
(c) KDPJ (d) TUVS

80. When Amir saw Manjeet, he recalled that he is son of the father of the mother of his daughter. Manjeet is Amir's:
(a) Brother-in-law (b) Brother
(c) Cousin (d) Uncle

GENERAL AWARENESS

81. In context of Mauryan period 'Gudhapurushas' referred to –
(a) Detectives (b) Blacksmith
(c) Army commander (d) Chariot rider

82. Which among the following parts of a plant is involved in gaseous exchange?
(a) Stomata (b) Lenticels
(c) Vacuoles (d) Stomata & Lenticels

83. Who among the following led the agitation against the Partition of Bengal (1905)? (1905)
(a) Surendranath Banerjee
(b) C.R. Das
(c) Ashutosh Mukharjee
(d) Rabindra Nath Tagore

84. Graphite is used in nuclear reactors for –
(a) reducing the speed of fast neutrons
(b) cooling the reactor
(c) absorbing neutrons
(d) None of the above

85. The Republic Day parade, held every year, is organized by which of the following ministries?
(a) Union Home Ministry
(b) Union Ministry of Defence
(c) Union Ministry of Finance
(d) Union Ministry of Information and Broadcasting

86. Which of the following articles can not be suspended upon the proclamation of the National Emergency?
(a) Article 20 and 21
(b) All Fundamental Rights
(c) All Fundamental Rights and Directive Principles of State Policy
(d) None of the above

87. What would be the effect on an economy if money supply is increased more than market expectations because of decision on part of the Central Bank?
(a) Balance of Payment increases
(b) Growth in Import
(c) Hyperinflation
(d) Stagflation

88. How many members are nominated by the governor in the Legislative Council of the State?
(a) 1/3rd of the total membership
(b) 1/6th of the total membership
(c) 1/12th of the total membership
(d) 12 members

89. Which of the following book is centred on "Environment"?
(a) The Late, Great Planet Earth
(b) Silent Spring
(c) Here I stand
(d) And then One Day

90. Pandit Jawaharlal Nehru drafted the resolution on Fundamental Rights an Economic Programme at which session of Indian National Congress?
(a) Lahore Session (b) Bombay Session
(c) Calcutta Session (d) Karachi Session

91. If an insect that feeds on feces sits on the food you are going to eat, you are most likely to be infected by which disease?
(a) Tuberculosis (b) Cholera
(c) Typhoid (d) Hepatitis B

92. Which of the following is not an antibiotics?
(a) Penicilin (b) Ampicilin
(c) Streptomycin (d) Aspirin

93. In which north east state of India Rongbang dare waterfall is situated?
(a) Assam (b) Meghalaya
(c) Manipur (d) Mizoram

94. The purpose of 'selective credit control' in hands of Reserve Bank of India is to –
(a) Diversify credit to sensitive commodities.
(b) Diversify credit to selected sectors.
(c) Regulate credit in sensitive commodities.
(d) Regulate credit in priority sectors.

95. Mitosis is a type of cell division in which –
(a) The chromosomes maintain their original number.
(b) The chromosome number is reduced to half.
(c) The Chromosome number is doubled.
(d) The chromosome number is reduced to one fourth.

96. WiMax stands for – Wimax
(a) Worldwide interoperability for Microwave Access
(b) Wireless Maximum
(c) Wireless international Microwave Access
(d) Worldwide Microwave Access

97. Ginger is an example of –
(a) Modified Node (b) Modified Root
(c) Modified Stem (d) Tap Root

98. Which of the following is not the mission of ISRO?
(a) SURYA
(b) Mars Orbiter Mission
(c) YOUTHSAT
(d) ADITYA-1

99. The first death anniversary day of Sri Rajiv Gandhi was observed as the —
(a) National Integration Day
(b) Peace and love Day
(c) Secularism Day
(d) Anti-terrorism Day

100. What is the ratio of money held by the public in currency to that they held in deposit ?
(a) The currency deposit ratio
(b) The reserve deposit ratioSS
(c) Cash reserve ratio
(d) Cash deposit ratio

101. Before X-ray examination (coloured X-ray) of the stomach, patients are given suitable salt of barium because.
(a) barium is a good absorber of X-rays and helps stomach to appear clearly
(b) barium salts are white in colour and this helps stomach to appear clearly
(c) barium allows X-rays to pass through the stomach
(d) barium salts are easily available

102. If the length of a simple pendulum is halved then its period of oscillation is –
(a) doubled
(b) halved
(c) increased by a factor $\sqrt{2}$
(d) decreased by a factor $\sqrt{2}$

103. Kalinga Prize is given in which of the following fields ?
(a) Arts (b) Medicine
(c) Creative writing (d) Science

104. Who was appointed as the head of New Health Emergencies Programme by World Health Organisation (WHO) in June 2016?
(a) Peter Salama (b) Samantha Power
(c) Sacha Llorenti (d) John Ashe

105. Which state Government launched Kalinga Sikha Sathi Yojana (KSSY)?
(a) Madhya Pradesh (b) Maharashtra
(c) Odisha (d) Kerala

106. Two different files can have the same name if .....
(a) they are in different folders
(b) they are on different drives
(c) they are on the same drive
(d) both (a) and (b)

107. A device that is connected to the motherboard is .....
(a) called an external device
(b) called an adjunct device
(c) called a peripheral device
(d) must connect using ribbon cable

108. The first computers were programmed using .....
(a) assembly language (b) machine language
(c) spaghetti code (d) source code

109. Documentation of computer programs is important so that .....
(a) users can learn how to use the program
(b) other programmers can know how to maintain the program
(c) the programmer can see why the code is written that way while hunting for source of error
(d) All of the above

110. Provide the means to move the pointer on the screen and give information to the computer by clicking its buttons .....
(a) scanner (b) mouse
(c) keyboard (d) program

111. Read the Following Railway Headquarters and Identify which is False ?
(a) South-Central Railway - Secunderabad
(b) Central railway - Bhopal
(c) South Railway - Chennai
(d) North Railway - New Delhi

112. First Indian train was started ?
(a) From Calcutta to Delhi
(b) From Mumbai to Thane
(c) From Mumbai to Surat
(d) From Mumbai to Madras

113. Where is Asia's biggest Container Depot located?
(a) mughal sarai (b) Gorakhpur
(c) Delhi (d) kolkata

114. Which is the longest train in India?
(a) jansadharan exp (b) shivganga express
(c) duronto (d) prayagraj express

115. Which is the slowest train in India?
(a) Nilgri Express (b) vivek express
(c) shram shakyti exp (d) mahamana express

116. Name the application launched by Reliance communication for international calling.
(a) RCT Abroad (b) RSI India
(c) RGC India (d) JIO Global

117. Where was the 17th annual Latin Grammy Awards held ?
(a) Florida (b) Las Vegas
(c) Mexico (d) New Jersey

118. Scientists has genetically modified photosynthesis process to increase crop yield by
(a) 11 Percent (b) 12 Percent
(c) 15 Percent (d) 17 Percent

119. Which player has been sentenced 8-year ban By NADA?
(a) Dharambir Singh (b) Narsingh Yadav
(c) Rahul Bhatnagar (d) Mr. M. Syamlal

120. The 6th edition of 'Kathakar: International Storytellers Festival' was held in _____
(a) Mumbai (b) Hyderabad
(c) Kolkata (d) New Delhi

Hints & Explanations

1. (a) Let the number be z. Now $385 = 5 \times 7 \times 11$

5	z	Remainders
7	y	4
11	x	6
	102	10

$x = 11 \times 102 + 10 = 1132$
$y = 7x + 6 = 7 \times 1132 + 6 = 7930$
$z = 5y + 4 = 5 \times 7930 + 4 = 39654$

2. (b) Divisor = [Sum of remainders] – [Remainder when sum is divided]
$= 11 + 21 - 4 = 28$

3. (c) Let C.P. = ₹ 100. Then M.P. = ₹ 120 and S.P. = ₹ 108

$\%$ discount $= \left(\frac{12}{120} \times 100\right)\% \quad 10\%$

4. (a) Let the sum invested in Scheme A be ₹ x and that in Scheme B be ₹ (13900 – x). Then,

$\left(\frac{x \times 14 \times 2}{100}\right) \quad \left[\frac{(13900 - x) \times 11 \times 2}{100}\right] \quad 3508$
$\Rightarrow 28x - 22x = 350800 - (13900 \times 22)$
$\Rightarrow 6x = 45000$
$\Rightarrow x = 7500.$
So, sum invested in Scheme B = ₹ (13900 – 7500) = ₹ 6400.

5. (b) Required difference $= \frac{PR^2}{(100)^2}$

$\Rightarrow \frac{4000 \times 5 \times 5}{100 \times 100} = ₹10$

6. (c) Let the profit = x

Profit of $A \quad \frac{9x}{10}$, Remaining profit $\quad \frac{x}{10}$

Profit of $B \quad \frac{x}{20}$

Profit of $C \quad \frac{x}{20}$

Ratio of profit $\quad \frac{9}{10} : \frac{1}{20} : \frac{1}{20}$
$= 18 : 1 : 1$
A's income is increased by ₹ 270 . When profit rises 3%

Investment of $A = \frac{270}{3} \times 100 \quad ₹9000.$
If investment of A, B and C = 18x, x and x
$18x = 9000$
$x = 500$
B's investment = ₹ 500.
C's investment = ₹ 500.

7. (d) (P + Q + R)'s 1 hour's work $= \left(\frac{1}{8} \quad \frac{1}{10} \quad \frac{1}{12}\right) \quad \frac{37}{120}.$
Work done by P, Q and R in 2 hours $= \left(\frac{37}{120} \times 2\right) \quad \frac{37}{60}.$

Remaining work $= \left(1 - \frac{37}{60}\right) \quad \frac{23}{60}.$
(Q + R)'s 1 hour's work
$= \left(\frac{1}{10} \quad \frac{1}{12}\right) \quad \frac{11}{60}.$

Now, $\frac{11}{60}$ work is done by Q and R in 1 hour.

So, $\frac{23}{60}$ work will be done by Q and R in

$\left(\frac{60}{11} \times \frac{23}{60}\right) \quad \frac{23}{11}$ hours $\approx$ 2 hours.
So, the work will be finished approximately 2 hours after 11 a.m., i.e., around 1 p.m.

8. (a) Let the length of the journey = x km.
$\therefore$ Journey rides by horse cart
$= x\left(1 - \frac{1}{2} - \frac{1}{3}\right) \quad \frac{1}{6}x$ km.
Then, total time taken to complete journey

$\frac{31}{5}$ hr

$\Rightarrow t_1 \quad t_2 \quad t_3 \quad \frac{31}{5}$

$\Rightarrow \frac{x}{2} \times \frac{1}{4} + \frac{x}{3} \times \frac{1}{12} \quad \frac{x}{6 \times 9} \quad \frac{31}{5}$

$\Rightarrow x = \frac{31}{5} \times \frac{216}{37} = 36.2\text{km} \approx 36\text{km}$

9. (a) $x^2+y^2+2x+1=0$
$\Rightarrow \quad x^2+2x+1+y^2=0$
$\Rightarrow \quad (x+1)^2+y^2=0$
$\Rightarrow \quad x+1=0 \Rightarrow -1$ and $y=0$
$\therefore \quad x^{31}+y^{35}=-1$

10. (a) $2^x=3^y=6^{-z}=k$

$\Rightarrow 2=k^{\frac{1}{x}}; 3=k^{\frac{1}{y}}; 6=k^{-\frac{1}{z}}$
$\because 2\times 3=6$

$\Rightarrow k^{\frac{1}{x}} \times k^{\frac{1}{y}}=k^{-\frac{1}{z}} \Rightarrow k^{\frac{1}{x}\ \frac{1}{y}}=k^{-\frac{1}{z}}$

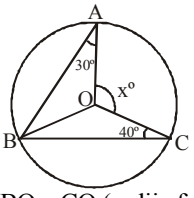
$\Rightarrow \frac{1}{x}\ \frac{1}{y}=-\frac{1}{z} \Rightarrow \frac{1}{x}\ \frac{1}{y}\ \frac{1}{z}=0$

11. (c) $m\ \frac{1}{m-2}\ 4$
$m^2-6m+9=0$
$(m-3)(m-3)=0$
$m=3$
$m-2=1$

Now $(m-2)^2+\frac{1}{m-2^{\ 2}}$

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

12. (b) In ΔAOB
$AO=BO$ (radii of circles)
$\therefore \angle ABO=\angle BAO=30^\circ$
In ΔBOC



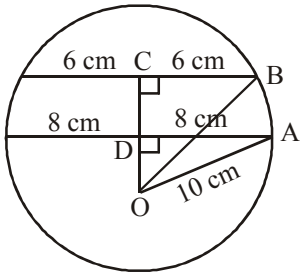
$BO=CO$ (radii of circles)
$\therefore \angle BCO=\angle OBC=40^\circ$
$\angle ABC=\angle ABO+\angle OBC$
$\angle ABC=30^\circ+40^\circ=70^\circ$
$2\times\angle ABC=\angle AOC \Rightarrow x^\circ=140$

13. (d) $\angle MBA=180^\circ-95^\circ=85^\circ$
$\angle$ AMB = $\angle$ TMN ...(Same angles with different names)
$\therefore$ Δ MBA – Δ MNT .....(AA test for similarity)

$\frac{MB}{MN}=\frac{AB}{NT}$ .....(proportional sides)

$\frac{10}{MN}=\frac{5}{9}$ $\quad \therefore$ $MN=\frac{90}{5}=18.$

14. (b)



In ΔADO,
$OD=\sqrt{(AO)^2-AD^2}$
$=\sqrt{100cm^2-64cm^2}=6$ cm
In ΔBCO,
$OC=\sqrt{OB^2-CB^2}$
$=\sqrt{100cm^2-36cm^2}=8$ cm
Distance between chords = OC – OD = 2cm

15. (a) In ΔABC, $DE \| BC$
By applying Basic Proportionality theorem, $\frac{AD}{DB}\ \ \frac{AE}{EC}$

But $\frac{AD}{DB}\ \ \frac{3}{5}$ (Given)

$\therefore \frac{AE}{EC}\ \ \frac{3}{5}$ or $\frac{AE}{EC\ \ AE}\ \ \frac{3}{5\ \ 3}$ or

$\frac{AE}{AC}\ \ \frac{3}{8}$

or $\frac{AE}{5.6}\ \ \frac{3}{8} \Rightarrow 8AE=3\times 5.6 \Rightarrow AE=3\times 5.6/8$
$\therefore AE=2.1$ cm.

16. (a) $AO=\sqrt{OQ^2-AQ^2}=\sqrt{5^2-4^2}=\sqrt{9}=3$
Now, from similar Δs QAO and QOR
$OR=2OA=2\times 3=6$ cm.

17. (d) $\frac{1}{2}[4-(2\ \ 16)\ \ 3(-16-4)\ \ 3(4\ \ 2)]$

$=\frac{1}{2}[56-60+18]=7$

18. (a) $(\sin\theta+\cos\theta)^2+(\sin\theta-\cos\theta)^2$
$=(\sin^2\theta+\cos^2\theta)+2\sin\theta.\cos\theta+(\sin^2\theta+\cos^2\theta)-2\sin\theta.\cos\theta.$
$=1+1=2$
So, $(\sin\theta+\cos\theta)^2+(\sin\theta-\cos\theta)^2=2$

or, $(\sin\theta+\cos\theta)^2+\left(\frac{7}{13}\right)^2$ 2

or, $(\sin\theta-\cos\theta)^2=2-\frac{49}{169}$ $\frac{289}{169}$

$\sin\theta+\cos\theta=\sqrt{\left(\frac{17}{13}\right)^2}$ $\frac{17}{13}$.

19. (a) $\frac{x\times2^2.(\sqrt{2})^2}{8\times\left(\frac{1}{\sqrt{2}}\right)^2\times\left(\frac{\sqrt{3}}{2}\right)^2}=(\sqrt{3})^2-\left(\frac{1}{\sqrt{3}}\right)^2$

or, $\frac{x\times4\times2}{8\times\frac{1}{2}\times\frac{3}{4}}=3-\frac{1}{3}\Rightarrow\frac{8x}{3}$ $\frac{9-1}{3}$

or, $\frac{8}{3}x$ $\frac{8}{3}$

$\boxed{x\ 1}$

20. (a) $\sin\theta=\cos(2\theta-45°)$
or, $\cos(90°-\theta)=\cos(2\theta-45°)$
$\Rightarrow 90°-\theta=2\theta-45°$
$\Rightarrow \theta=45°$
$\therefore \tan\theta=\tan45°=1$

21. (d) Total number of students studying B.Sc. in all the colleges together
$=350+325+300+375+425$
$=1775$

22. (c) Total number of students studying B.Sc. in colleges C and E
$=300+425=725$
Total number of students studying B.A. in colleges A and B
$=275+300=575$
$\therefore$ Required ratio $=725:575$
$=29:23$

23. (a) Total number of students studying in different streams in all the colleges:
B.Sc. $\rightarrow 1775$
B.A. $\rightarrow 275+300+325+450+325=1675$
B.Com. $\rightarrow 425+475+325+425+225=1875$
$\therefore$ Required ratio
$=1775:1675:1875$
$=71:67:75$

24. (a) Volume of the bucket = volume of the sand emptied
Volume of sand $=\pi(21)^2\times36$
Let r be the radius of the conical heap.
Then, $\frac{1}{3}\pi r^2\times12$ $\pi\ 21^2\times36$
or $r^2=(21)^2\times9$ or $r=21\times3=63$

25. (c) Volume of the liquid in the cylindrical vessel
= Volume of the conical vessel
$=\left(\frac{1}{3}\times\frac{22}{7}\times12\times12\times50\right)\text{cm}^3$
$=\left(\frac{22\times4\times12\times50}{7}\right)\text{cm}^3$.
Let the height of the liquid in the vessel be h.
Then, $\frac{22}{7}\times10\times10\times h$ $\frac{22\times4\times12\times50}{7}$
or $h=\left(\frac{4\times12\times50}{10\times10}\right)$ 24 cm.

26. (c) Let the numbers be 17x and 45x respectively.
According to the question.
$\frac{1}{5}$ of $45x-\frac{1}{3}$ of $17x=15$
$\Rightarrow 9x-\frac{17x}{3}=15$
$\Rightarrow \frac{27x-17x}{3}=15\Rightarrow10x=15\times3$
$\Rightarrow x=\frac{15\times3}{10}$ $\frac{9}{2}$
$\therefore$ The required number
$=17x=\frac{17\times9}{2}$ $\frac{153}{2}$ $76\frac{1}{2}$

27. (a) Given exp. $\sqrt{10\ \sqrt{25\ \sqrt{108\ \sqrt{154\ 15}}}}$
$=\sqrt{10\ \sqrt{25\ \sqrt{108\ \sqrt{169}}}}$
$=\sqrt{10\ \sqrt{25\ \sqrt{108\ 13}}}=\sqrt{10\ \sqrt{25\ \sqrt{121}}}$
$=\sqrt{10\ \sqrt{25\ 11}}=\sqrt{10\ \sqrt{36}}=\sqrt{10\ 6}=\sqrt{16}=4$.

28. (b) Let x be the remainder, then the numbers $(55-x)$, $(127-x)$ and $(175-x)$ are exactly divisible by the required number.
Now, we know that if two numbers are divisible by a certain number, then their difference is also divisible by the number.
Hence the numbers $(127-x)-(55-x)$, $(175-x)-(127-x)$ and $(175-x)-(55-x)$ or, 72, 48 and 120 are divisible by the required number. HCF of 48, 72 and 120 = 24, therefore the required number = 24.

29. (b) $\frac{16\times 28\frac{1}{4}-2\times 58}{14}$ 24

30. (b) Let profit per litre = ₹ 20
So, C.P. / litre = ₹ 100
S.P. / litre = ₹ 120
On adding 10% water to the milk

C.P. per $\frac{9}{10}$ litre ₹Rs 100

S.P. per $\frac{9}{10}$ litre ₹ 120

S.P. per litre ₹ $\frac{120\times 10}{9}$ ₹ $\frac{400}{3}$

$\Rightarrow$ Profit / litre $=\frac{400}{3}-100$ 33.33

% by which profit increases = 33.33 – 20 = 13.3

31. (b) Let $\frac{a}{3}$ $\frac{b}{4}$ $\frac{c}{7}$ k.
$a = 3k, b = 4k, c = 7k$
$\therefore$ $\frac{a\ b\ c}{c}\Rightarrow\frac{3k\ \ 4k\ \ 7k}{7k}$ $\frac{14k}{7k}$ $\frac{2}{1}$ or 2 : 1

32. (a) Work done by A and B in 5 days = $\left(\frac{1}{10}\ \ \frac{1}{15}\right)\times 5$ $\frac{5}{6}$

Work remaining = $1-\frac{5}{6}$ $\frac{1}{6}$

$\therefore$ C alone can do the work in $6\times 2 = 12$ days
Ratio of their share work

$=\frac{5}{10}:\frac{5}{15}:\frac{2}{12}$ 3 : 2 : 1

Share of wages = Rs 225, Rs 150, Rs 75.

33. (a) Due to stoppages, it covers 20 km less .

Time taken to cover 20km $=\frac{20}{80}$h $\frac{1}{4}$h

$=\frac{1}{4}\times 60\,\text{min} = 15\,\text{min}$

34. (b) Area of the inner curved surface of the well dug

$=[2\pi\times 3.5\times 22.5] = 2\times\frac{22}{7}\times 3.5\times 22.5$

$= 44\times 0.5\times 22.5 = 495$ sq. m.

$\therefore$ Total cost $= 495\times 3 =$ ₹ 1485.

35. (d) Let C. P. = Rs x. Then
$S.P_1 - S.P_2 =$ ₹ 6

$\frac{(100\ \ 10)x}{100}-\frac{(100\ \ 8)x}{100}$ 6

$\Rightarrow 110x - 108x = 600 \Rightarrow 2x = 600 \Rightarrow x =$ ₹ 300

36. (c) Suppose pipe A alone takes x hours to fill the tank.

Then, pipes B and C will take $\frac{x}{2}$ and $\frac{x}{4}$ hours respectively to fill the tank.

$\therefore \frac{1}{x}\ \ \frac{2}{x}\ \ \frac{4}{x}\ \ \frac{1}{5}\Rightarrow\frac{7}{x}=\frac{1}{5}\Rightarrow x$ 35 hrs.

37. (b) Let the length of the bridge be x m.

Now, $(x+100) = 72\times 25\times\frac{5}{18}$ 500

$\Rightarrow x = 500 - 100 = 400$ m

38. (c) $x^2+y^2+z^2 = xy+yz+zx$
Multiply both sieds by 2.
$\therefore$ $2(x^2+y^2+z^2)$
$= 2(xy+yz+zx)$
$\Rightarrow 2x^2+2y^2+2z^2-2xy-2yz-2zx = 0$
$\Rightarrow (x-y)^2+(y-z)^2+(z-x)^2 = 0$
$\Rightarrow x-y=0\Rightarrow x=y$
$y-z=0\Rightarrow y=z$
$z-x=0\Rightarrow z=x$

$\therefore$ $\frac{4x+2y-3z}{2x}$ $=\frac{4+2-3}{2}$ $\frac{3}{2}$

39. (a) $x+\frac{1}{x}=\sqrt{3}$
Cubing both sides,

$x^3+\frac{1}{x^3}$ $3\left(x\ \ \frac{1}{x}\right)$ $\sqrt{3}^{\ 3}$

$\Rightarrow x^3+\frac{1}{x^3}$ $3\sqrt{3}$ $3\sqrt{3}\Rightarrow x^3+\frac{1}{x^3}=0$

Now, $x^{18}+x^{12}+x^6+1$
$= x^{12}(x^6+1)+1(x^6+1) = (x^{12}+1)(x^6+1)$

$= (x^{12}+1).x^3\left(x^3\ \ \frac{1}{x^3}\right)=0$

40. (c) $\sin\theta+\sqrt{\sin\theta+\sqrt{\sin\theta+\sqrt{\sin\theta+\ldots\infty}}}$

$= \sec^4\alpha = y^2$ (say) ...(i)

Then, $y = \sqrt{\sin\theta + \sqrt{\sin\theta + \sqrt{\sin\theta + ...\infty}}}$

Squaring on both sides, we get

$y^2 = \sin\theta + y$

$\Rightarrow y^2 - y = \sin\theta$ or $y(y-1) = \sin\theta$

$\Rightarrow \sec^2\alpha(\sec^2\alpha - 1) = \sin\theta$

[from Eq. (i), $y = \sec^2\alpha$]

$\Rightarrow \sin\theta = \sec^2\alpha \tan^2\alpha$

41. (c) The words in each pair are synonyms.

42. (c)

P	A	P	E	R
+3 ↓	+2 ↓	+4 ↓	+2 ↓	+5 ↓
S	C	T	G	W

Similarly,

M	O	T	H	E	R
+3 ↓	+2 ↓	+4 ↓	+2 ↓	+5 ↓	+2 ↓
P	Q	X	J	J	T

43. (a) $210 = (15)^2 - 15$
$380 = (20)^2 - 20$] $15 + 5 = 20$

$182 = (14)^2 - 14$
$(19)^2 - 19 = 342$] $14 + 5$

44. (d)

45. (b) Pattern is–

$P \xrightarrow{+2} R \xrightarrow{-3} O \xrightarrow{+2} Q \xrightarrow{-3} N$

So that, DECEG is out.

46. (a) Only 117-143 is divisible by 13. Therefore, it is odd one out.

47. (d)

+5	+6	+7	+8	+9	
A B D	D G K	H M S	M T B	S B L	Z K W
+3	+4	+5	+6	+7	
+7	+8	+9	+10	+11	

48. (d) Each number is 15 multiplied by a prime number i.e. $15 \times 11, 15 \times 13, 15 \times 17, 15 \times 19, 15 \times 23, ...$

So, missing term $= 15 \times 29 = 435$.

49. (b)

24	60	120	210	336
+36	+60	+90	+126	
+24	+30	+36		
+6	+6			

50. (b)

C	O	R	N	E	R
+4 ↓	+4 ↓	+4 ↓	+4 ↓	+4 ↓	+4 ↓
G	S	V	R	I	V

Coded as: G S V R I V

Similarly,

C	E	N	T	R	A	L
+4 ↓	+4 ↓	+4 ↓	+4 ↓	+4 ↓	+4 ↓	+4 ↓
G	I	R	X	V	E	P

51. (b)

L	O	V	E
12	+ 15	+ 22	+ 5 = 54

$\frac{54}{2}$ 27

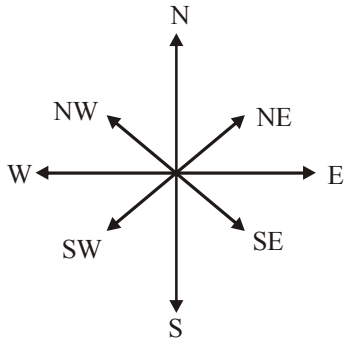
Similarly,

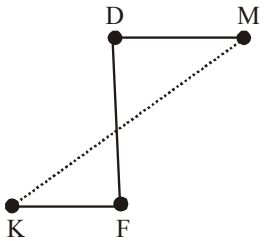
C	O	M	E
3	+ 15	+ 13	+ 5 = 36

$\frac{36}{2}$ 18

52. (d) A is the sister of B and B is the son/daughter of C. So, A is the daughter of C.
Also, D is the father of C.
Thus, A is the granddaughter of D.

53. (c)



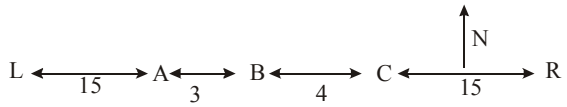


M is to the North-East of K.

54. (b) If the first working day happened to be Tuesday then 8th, 15th, 22nd and 29th of the month will be Tuesday. Hence, the last day of the month will be Wednesday (since,

number of days in the month is 30). Thus, the next casual leave will be on Thursday.

55. (b)



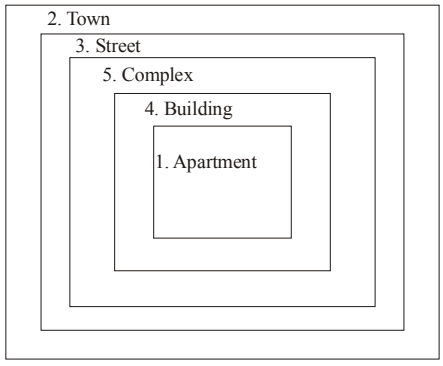
Clearly, according to the given conditions, there are 15 boys to the left of A , as well as to the right of C. Also, B lies between A and C such that there are 3 boys between A and B and 4 boys between B and C. So, number of boys in the row
$= (15 + 1 + 3 + 1 + 4 + 1 + 15) = 40.$

56. (c) Total students
= [Malay's place from starting + Malay's place from end] –1
$= [13 + 17] - 1 = 29$
Number of passed students
= [Malay's place from starting + Malay's place from end] –1
$= [8 + 13] - 1 = 20$
$\therefore$ Number of failed students $= 29 - 20 = 9$

57. (b) $5 \times 3 + 1 = 16$; $9 \times 3 + 2 = 29$;
$16 \times 3 + 1 = 49$; $29 \times 3 + 2 = 89$;
$15 \times 3 + 3 = 48$; $48 \times 3 + 3 = 147$.

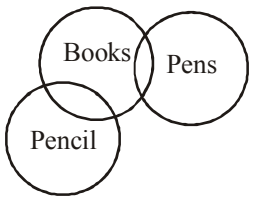
58. (b) $(7 + 9 + 5 + 4) \times 2 - 10 = 40$
$(17 + 8 + 3 + 6) \times 2 - 14 = 54$
$(10 + 21 + 6 + 3) \times 2 - 18 = 62$

59. (d)



60. (c)

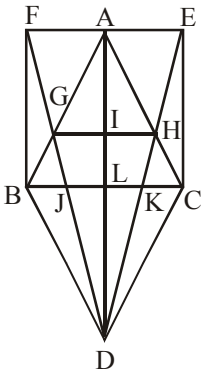
or



Conclusions:
I. False
II. False
Hence, either I, II follows

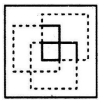
61. (a) Solve by options, we can check all the options one by one.
$25 \div 5 \times 20 + 27 - 7 \Rightarrow 5 \times 20 + 27 - 7$
$\Rightarrow 100 + 27 - 7$
$120 = 120$

62. (d)



$\Delta FDE, \Delta ACD, \Delta ABD,$
$\Delta FBD, \Delta ABC, \Delta BCD,$
$\Delta BKD, \Delta BLD, \Delta BJD,$
$\Delta JCD, \Delta JKD, \Delta LDJ, \Delta LCD,$
$\Delta LKD, \Delta HDC, \Delta KDC, \Delta EDC,$
$\Delta HKC, \Delta EKC, \Delta AEC, \Delta EHC,$
$\Delta AEH, \Delta AGH, \Delta AIH, \Delta AGI.$
$\Delta AFB, \Delta AGF, \Delta FBG.$
$\therefore$ Total 28 triangles.

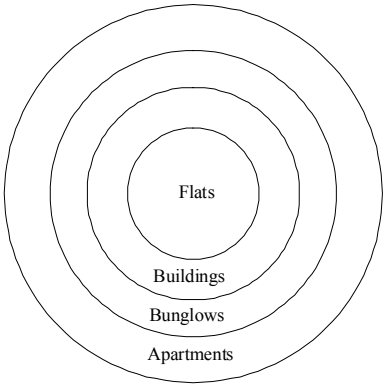
63. (b)



64. (a) The water image of 'a' is 'ɐ', 'b' is 'ɒ', 'S' is 'ƨ', 'e' is 'ɘ', 'n' is 'u', 'c' is 'ɔ' and 'e' is 'ɘ'.

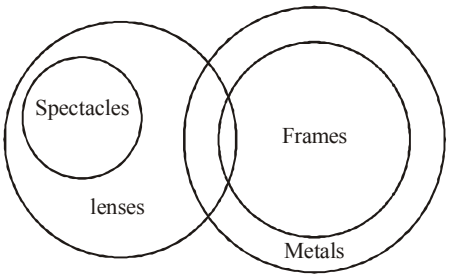
65. (b) 1 dot in rect and circle. One dot in train n circle, so only 4th figure can have these 2 dots

66. (d)



Hence conclusions I. ✓ II. ✓ III. ✓

67. (b)



Hence, conclusions I. ✓ II. × III. ×

68. (d) 5 1 4 7 3 9 8 5 7 [2] 6 3 1 5
[8] 6 3 8 5 2 3 4 3 4 9 6

69. (d) Except cube, all other have flat surface.

70. (a) Letter e represents the typists who are only graduates but not Government employees.

71. (b) Letter g represent the typists who are only Government employees but not graduates

72. (d) Given

1	3	4	7	9	2	5	6	8
A	Q	F	J	L	D	M	P	N

From the above table, 396824 is coded as:

Thus,

3	9	6	8	2	4
Q	L	P	N	D	F

73. (a) Given,

O	V	E	R	V	I	S	T
$	#	%	*	#	+	×	–

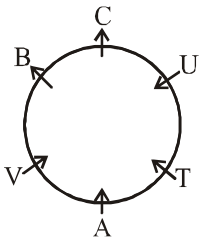
From the above table, SORE is coded as :

S	O	R	E
×	$	*	%

74. (c) The sister of one's mother is one's maternal aunt. Hence, the man is the husband of the boy's maternal aunt.

(Qs. 75-77):

Sitting Arrangement:



75. (c) B and C are not facing centre.

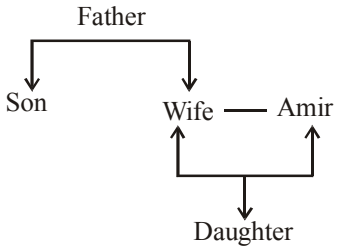
76. (d) The position of T in respect of B is third to the left or right.

77. (c) The position of V in respect of C is fourth to the right.

78. (c) S is the 3rd letter after P and
W is the 3rd letter after T. Similarly
D & H are the 3rd letters after A and E respectively.

79. (c) Clearly the 2 middle alphabets follow next letter sequence, MN, QR and UV. So (c) is odd.

80. (a)



Amir's daughter mother i.e. Amir's wife
Amir's wife's father's son (Manjeet) i.e. brother of Amir's wife hence Manjeet is Amir's brother in law.

81. (a) 82. (d) 83. (a) 84. (a) 85. (b)
86. (a) 87. (c) 88. (b) 89. (b) 90. (d)
91. (c) 92. (d) 93. (b) 94. (c) 95. (c)
96. (a) 97. (c) 98. (a) 99. (d) 100. (a)
101. (a) 102. (d) 103. (d) 104. (a) 105. (c)
106. (d) 107. (d) 108. (b) 109. (d) 110. (b)
111. (b) 112. (b) 113. (c) 114. (c) 115. (a)
116. (c) 117. (b) 118. (c)

119. (a) Dharambir Singh a Haryana sprinter, who was recently barred from representing the country in the Rio Olympics at the last minute for failing a dope test, has been sentenced a ban of eight years by the National Anti-Doping Agency (NADA).

120. (d)