Date : 03/11/2019

Test Booklet Code

A

RAJASTHAN

Aakash
Medical | IIT-JEE | Foundations
(Divisions of Aakash Educational Services Limited)

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Answers & Solutions

for

NTSE (Stage-I) 2019-20

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before you open the question booklet.

1. Use blue/black ballpoint pen only. There is no negative marking.
2. Part I : MAT : 1 - 100 questions

   Part II : SAT : 1 - 100 questions
3. This test booklet contains 200 questions of one mark each. All the questions are compulsory.
4. Answer each question by darkening the one correct alternative among the four choices on the OMR SHEET with blue/black ballpoint pen.

   Example :

	Q. No.	Alternatives
Correct way :	1	① ② ● ④
	Q. No.	Alternatives
Wrong way :	1	⊗ ② ③ ④

   Student must darkening the right oval only after ensuring correct answer on OMR Sheet.
5. Students are not allowed to scratch / alter / change out an answer once marked on OMR Sheet, by using white fluid / eraser / blade / tearing / wearing or in any other form.
6. Separate sheet has been provided for rough work in this test booklet.
7. Please handover the OMR Sheet to the invigilator before leaving the Examination Hall.
8. Darken completely the ovals of your answer on OMR Sheet in the time limit allotted for that particular paper.
9. Your OMR Sheet will be evaluated through electronic scanning process. Incomplete and incorrect entries may render your OMR Sheet invalid.
10. Use of electronic gadgets, calculator, mobile etc, is strictly prohibited.

PART-I : MENTAL ABILITY TEST (MAT)

Instruction : In each of the Question Nos. 1 to 8 a letter series is given with one term missing shown by question mark (?). This term is one of the four alternatives given under it. Find the correct alternative.

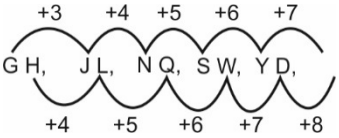
1. B, D, F, I, L, P, ? .
   (1) R (2) S
   (3) T (4) U

Answer (3)

Sol. $\underset{+2}{B}, \underset{+2}{D}, \underset{+3}{F}, \underset{+3}{I}, \underset{+4}{L}, \underset{+4}{P}, ?$

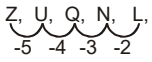
2. GH, JL, NQ, SW, YD, ? .
   (1) EJ
   (2) FJ
   (3) EL
   (4) FL

Answer (4)

Sol. 

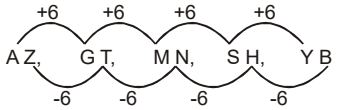
3. Z, U, Q, ?, L.
   (1) I (2) K
   (3) M (4) N

Answer (4)

Sol. 

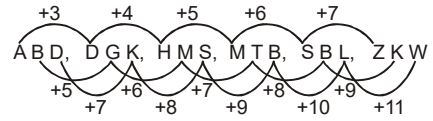
4. AZ, GT, MN, ?, YB.
   (1) JH (2) SH
   (3) SK (4) TS

Answer (2)

Sol. 

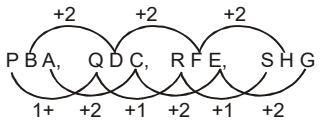
5. ABD, DGK, HMS, MTB, SBL, ? .
   (1) XKW (2) ZAB
   (3) ZKU (4) ZKW

Answer (4)

Sol. 

6. PBA, QDC, RFE, ? .
   (1) SHG (2) OAB
   (3) TJI (4) ULK

Answer (1)

Sol. 

7. PERPENDICULAR, ERPENDICULA, RPENDICUL, ? .
   (1) PENDICUL (2) PENDIC
   (3) ENDIC (4) PENDICU

Answer (4)

Sol. In each step one letter is removed from starting and End.

8. ST, ND, RD, TH, ? .
   (1) TH (2) VW
   (3) RW (4) ST

Answer (1)

Sol. FIRST, SECOND, THIRD, FOURTH, FIFTH

Instruction : In each of the Question Nos. 9 to 16 a number series is given with one term missing shown by question mark (?). This term is one of the four alternatives given under it. Find the correct alternative.

9. 5, 16, 51, 158, ? .
   (1) 1452 (2) 483
   (3) 481 (4) 1454

Answer (3)

Sol. 5 × 3 + 1 = 16
16 × 3 + 3 = 51
51 × 3 + 5 = 158
158 × 3 + 7 = 481

10. 198, 194, 185, 169, ? .
    (1) 92 (2) 136
    (3) 144 (4) 112

Answer (3)

Sol. 198 – 4 = 194
194 – 9 = 185
185 – 16 = 169
169 – 25 = 144

11. 11, 29, 55, ?, 131.
(1) 110 (2) 81
(3) 89 (4) 78

Answer (3)

Sol. 11, 29, 55, 89, 131,
+18 +26 +34 +42
+8 +8 +8

12. 589654237, 89654237, 8965423, 965423, ?.
(1) 58965 (2) 65423
(3) 89654 (4) 96542

Answer (4)

Sol. 96542

Removing one number alternatively from starting and last.

13. 1, 1, 4, 8, 9, 27, 16, ?.
(1) 32 (2) 64
(3) 81 (4) 256

Answer (2)

Sol. $1^2 = 1, \quad 3^2 = 9$

$1^3 = 1, \quad 3^3 = 27$

$2^2 = 4, \quad 4^2 = 16$

$2^3 = 8, \quad 4^3 = 64$

14. 4, 9, 25, ?, 121, 169, 289, 361.
(1) 49 (2) 64
(3) 81 (4) 87

Answer (1)

Sol. Sequence of prime numbers.

15. 980, 392, 156.8, ?, 25.088, 10.0352.
(1) 65.04 (2) 60.28
(3) 62.72 (4) 63.85

Answer (3)

Sol. Each term is divided by 2.5.

16. 3, 10, 101, ?.
(1) 10101
(2) 10201
(3) 10202
(4) 11012

Answer (3)

Sol. $3^2 + 1 = 10$

$10^2 + 1 = 101$

$101^2 + 1 = 10202$

Instruction : Question Nos. 17 to 19 have two statements and two conclusions I and II. You have to assume the given statements as true even if it seems to vary from commonly known facts. Read all the conclusions carefully and decide which of the given conclusions logically follow(s) from the two given statements even disregarding commonly known facts.

17. **Statements :** (i) : Most of the 64 number buses go to my office.
(ii) : This is 64 number bus.
Conclusions: (I) : This bus goes to my office.
(II) : This bus does not go to my office.
(1) Only conclusion I follows.
(2) Only conclusion II follows.
(3) Both conclusions I and II follow.
(4) Neither conclusion I nor II follows.

Answer (4)

Sol. Neither Conclusion I nor II follows.

18. **Statements :** (i) : Some Indians are educated.
(ii) : Educated persons like small families.
Conclusions: (I) : All small families are educated.
(II) : Some Indians like small families.
(1) Only conclusion I follows.
(2) Only conclusion II follows.
(3) Both Conclusion I and II follow.
(4) Neither conclusion I nor Ii follows.

Answer (2)

Sol. Only conclusion II follows

19. **Statements :** (i) : Vitamin B-complex is best for health.
(ii) : Fruits contain Vitamin B-complex.
Conclusions: (I) : We should grow fruits.
(II) : Fruits are good for health.
(1) Only conclusion I follows.
(2) Only conclusion II follows.
(3) Both conclusions I and II follow.
(4) Neither conclusion I nor II follows.

Answer (2)

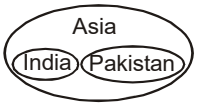
Sol. Only Conclusion II follows.

20. Which one of the following Venn diagrams correctly represents the relation between India, Pakistan and Asia?

(1)  (2) 

(3)  (4) 

Answer (2)

Sol. 

21. Which one of the following Venn diagrams correctly represents the relation between Police, Thief and Criminal?

(1) 

(2) 

(3) 

(4) 

Answer (1)

Sol. Police: Criminal: Thief

22. Which one of the following Venn diagrams correctly represents the relation between Rajasthan, Jaipur and Ajmer?

(1)  (2) 

(3)  (4) 

Answer (2)

Sol. Ajmer : Jaipur : Rajasthan

23. In a coded language, BRAIN is written as *%÷#× and TIER is written as $#+% ; then in the same coded language, RENT will be written as

(1) %×#$ (2) %#×$

(3) %+×$ (4) +×%$

Answer (3)

Sol. % + × $

24. In a coded language, TILE is written as 7235 and DEAL is written as 9543; then in the same coded language, DIET will be written as

(1) 9257 (2) 9527

(3) 9725 (4) 9275

Answer (1)

Sol. 9257

25. In a coded language, ZEBRA is written as 2652181; then in the same coded language, COBRA will be written as

(1) 3152181 (2) 1182153

(3) 31822151 (4) 302181

Answer (1)

Sol. 3152181

Positions of letters

26. In a coded language, E is written as 5 and HOTEL is written as 12; then in the same coded language, LAMB will be written as

(1) 28 (2) 26

(3) 7 (4) 10

Answer (3)

Sol. $\frac{\text{Sum of Positions}}{\text{no of letters}} = \frac{28}{4} = 7$

27. How many triangles are there in the figure given below?

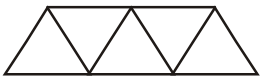
(1) 10 (2) 8

(3) 11 (4) 12

Answer (1)

Sol. 10

28. How many parallelograms are there in the following figure?



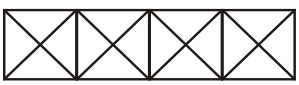
(1) 6 (2) 3

(3) 4 (4) 5

Answer (1)

Sol. 6

29. How many hexagons are there in the following figure?



(1) 1 (2) 2

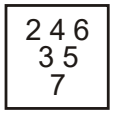
(3) 3 (4) 4

Answer (3)

Sol. 3

Instruction : In Question Nos. 30 to 33, find the correct mirror image of the given figure, when mirror is placed on right side of the figure.

30. Question Image



Answer-Image

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

Answer (3)

31. Question Image

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

Answer (4)

32. P R A Y E R
(1) ꟻ Я A Y Ǝ Я
(2) Я Ǝ Y A Я ꟻ
(3) Я Ǝ ꟻ A Ǝ Я
(4) ꟻ Я A Y Ǝ Я

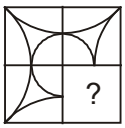
Answer (2)

33. 1 2 6 9 8
(1) ι 2 6 9 8
(2) ι ς 6 9 8
(3) 8 9 6 ς ι
(4) 1 2 9 6 8

Answer (3)

34. Which of the answer-figures will complete the matrix figure?

Question Image :



Answer Image :

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

Answer (3)

Sol. 

35. How many numbers from 1 to 50 are there which are prime?
(1) 10
(2) 20
(3) 15
(4) 18

Answer (3)

Sol. There are 15 Prime numbers from 1 to 50.

36. If it was Sunday on 1st January, 2006 then what was the day on 1st January, 2007?
(1) Sunday (2) Monday
(3) Tuesday (4) Saturday

Answer (2)

Sol. Monday

Instruction : In each of the Question Nos. 37 to 42, three alternatives are alike in a certain way but the rest one is different. Select the odd one.

37. (1) Bengaluru (2) Nagpur
(3) Bhopal (4) Ranchi

Answer (2)

Sol. Rest all are Capitals of States

38. (1) Green (2) Pink
(3) Indigo (4) Violet

Answer (2)

Sol. Rest all are primary color.

39. (1) September (2) April
(3) November (4) January

Answer (4)

Sol. Rest all Months have 30 days.

40. (1) Tomato (2) Potato
(3) Carrot (4) Onion

Answer (1)

Sol. Tomato is a fruit

41. (1) Rectangle (2) Square
(3) Triangle (4) Rhombus

Answer (3)

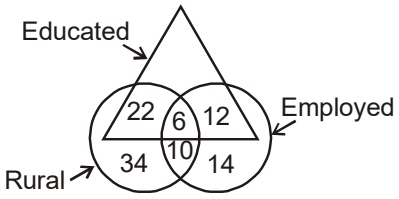
Sol. Rest all have four sides.

42. (1) 23 (2) 51
(3) 63 (4) 15

Answer (1)

Sol. Rest all divisible by 3.

43. How many educated people are employed ?



(1) 18 (2) 26
(3) 24 (4) 20

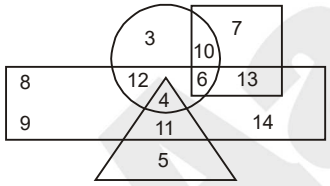
Answer (1)

Sol. 12 + 6 = 18

Instruction : The following questions are based on the diagram given below. Study the diagram carefully and answer the questions based upon it.

In the diagram

(i) Rectangle represents males
(ii) Triangle represents educated
(iii) Circle represents urban, and
(iv) Square represents civil servants.



44. How many among the following are educated males, who are not an urban resident?

(1) 10 (2) 4
(3) 11 (4) 9

Answer (3)

Sol. 11

45. How many among the following are neither civil servant nor educated but are urban and not a male?

(1) 2 (2) 3
(3) 6 (4) 10

Answer (2)

Sol. 3

46. How many among the following are female, urban resident and also a civil servant ?

(1) 6 (2) 7
(3) 10 (4) 14

Answer (3)

Sol. 10

47. How many among the following are educated male who hail from urban area?

(1) 4 (2) 2
(3) 5 (4) 11

Answer (1)

Sol. 4

48. How many among the following are only a civil servant but neither male nor urban oriented and uneducated ?

(1) 10 (2) 8
(3) 7 (4) 9

Answer (3)

Sol. 7

49. Arrange the following in a meaningful sequence :

1. Probation 2. Interview
3. Selection 4. Appointment
5. Advertisement 6. Application

(1) 5, 6, 2, 3, 4, 1 (2) 5, 6, 3, 2, 4, 1
(3) 5, 6, 4, 2, 3, 1 (4) 6, 5, 4, 2, 3, 1

Answer (1)

Sol. 5, 6, 2, 3, 4, 1

50. Arrange the following in a meaningful sequence :

1. Jaipur 2. Universe
3. Rajasthan 4. India
5. Asia

(1) 1, 2, 3, 4, 5 (2) 1, 3, 4, 5, 2
(3) 1, 4, 3, 5, 2 (4) 1, 3, 5, 2, 4

Answer (2)

Sol. 1, 3, 4, 5, 2

51. As Kandla is related to Gujarat, in the same way Kochin is related to which of the following?

(1) Karanataka (2) Goa
(3) Chennai (4) Kerala

Answer (4)

Sol. Kerala

52. As India is related to New Delhi, in the same way Pakistan is related to which of the following ?

(1) Rawalpindi (2) Peshawar
(3) Lahore (4) Islamabad

Answer (4)

53. As rupee is related to India, in the same way yen is related to which of the following?

(1) Turkey (2) Bangladesh

(3) Japan (4) Pakistan

Answer (3)

Sol. Yen is the currency of Japan

54. If A > B, B > C and C > D, then which of the following conclusions is definitely wrong?

(1) A > C (2) A > D

(3) B > D (4) D > A

Answer (4)

Sol. A > B > C > D

Instruction : In each of the Question Nos. 55 to 59, choose the correct alternative assuming α stands for '='; β stands for '>' ; γ for '<' and δ for '$\neq$'.

55. If 6x α 5y and 2y β 3z, then

(1) 2x β 3z (2) 4x β 3z

(3) 2x γ z (4) 4x α 3z

Answer (2)

Sol. $6x = 5y$

$y = \frac{6}{5}x$

$2y > 3z$

$2 \times \frac{6}{5}x > 3z$

$2.4\,x > 3z$

56. If ax γ by, bx α cz and b^2 α ac, then

(1) ax β cy (2) ay α cz

(3) y γ z (4) y β z

Answer (4)

Sol. $b^2 = ac$

$bx = cz$

$ax < by$

$a(bx) = (cz)a$

$abx = acz < b^2y$

$z < y$

57. If abxy α c^2z, bx β ay and b^2 α ac, then

(1) ax^2 β cz

(2) a^2x^2 β cz

(3) b^2x β c^2z

(4) bx^2 β c^2z

Answer (1)

Sol. $abxy = c^2z$ ____ (1)

$bx < ay$ ____ (2)

$b^2 = ac$ ____ (3)

eq. (2) × bx

$b^2x^2 > aybx$

$b^2x^2 > c^2z$ _____(4)

in eq. (4) $b^2 = ac$

$acx^2 > c^2z$

$ax^2 > cz$

58. If bcy γ ax, cy α bz and a^2 γ bc then

(1) cx α abz (2) cx γ abz

(3) cx δ abz (4) c^2x γ a^2z

Answer (3)

Sol.

$bcy < ax$ _____(1)

$cy = bz$ _____(2)

$a^2 < bc$ _____(3)

eq. (1) × c

$bc^2y < acx$

$y = b/c$

$b^2cz < acx$_____(4)

$a^2 < bc$

$a^2b < b^2c$

$a^2bz < b^2cz$_____(5)

from eq. (4) & (5)

$a^2bz < b^2cz < acx$

$abz < cx$

59. If α^2x α byz , czx α b^2y and c^2z α axy, then

(1) abc α xyz (2) abc β xyz

(3) abc δ xyz (4) abc γ xyz

Answer (1)

Sol. $a^2x = by^2$ $czx = b^2y$ $c^2z = axy$

$\frac{a^2}{b} = \frac{yz}{x}$ $\frac{b^2}{c} = \frac{zx}{y}$ $\frac{c^2}{a} = \frac{xy}{z}$

(1) (2) (3)

(1) × (2) × (3)

abc = xyz

Instruction : Read the information given below to answer the questions that follow :

(i) A $ B means A is mother of B.

(ii) A $\neq$ B means A is father of B.

(iii) A @ B means A is husband of B.

(iv) A % B means A is daughter of B.

60. If P @ Q $ M ≠ T, then what relationship is of P with T?

(1) Maternal grandfather
(2) Maternal grandmother
(3) Paternal grandfather
(4) Paternal grandmother

Answer (3)

Sol. P Husband of Q
↓ Mother of
M → Father → T

61. Which of the following expressions indicates that 'R is the sister of H' ?

(1) H $ D @ F ≠ R (2) R % D @ F $ H
(3) R $ D @ F ≠ H (4) H % D @ F $ R

Answer (2)

Sol. R daughter of D
↓ Husband of
F → Mother of → H

62. If G $ M @ K, then how is K related to G ?

(1) Mother-in-law (2) Daughter
(3) Daughter-in-law (4) None of these

Answer (3)

Sol. G → Mother of → M
↓ Husband of
K

63. Which of the following expressions indicates H is the brother of N ?

(1) H ≠ R $ D $ N (2) N % F @D $ H ≠ R
(3) N % F @ D $ H (4) N % F @ D % H

Answer (2)

Sol. N → Daughter of → F → Husband of → D → Mother of → H → Father of → P
F ⇢ D : Husband - wife
N ⇢ H : Siblings

64. If 2x + y = 35 and 3x + 4y = 65, then $\frac{x}{y}$

(1) 30 (2) 2
(3) 5 (4) 3

Answer (4)

65. If 4P = $(47)^2 - (43)^2$, then P = ?

(1) 360 (2) 90
(3) 4^2 (4) None of these

Answer (2)

66. Value of $\frac{(3.572)^3 + (2.428)^3}{(3.572)^2 - 3.572 \times 2.428 + (2.428)^2}$ is

(1) 17.12 (2) 7
(3) 6 (4) None of these

Answer (3)

Sol. $\frac{a^3 + b^3}{a^2 - ab + b^2} = (a + b)$

= (3.572 + 2.428)

= 6

67. The surface area of a cube is 150 sq. cm. What is the length of its diagonal (in cm)?

(1) $\frac{5}{2}$ (2) $\frac{5\sqrt{3}}{2}$
(3) $5\sqrt{2}$ (4) $5\sqrt{3}$

Answer (4)

Sol. $6a^2 = 150$

A = 5 cm

Diagonal length = $\sqrt{3}a$

$= \sqrt{3} \times 5$

$= 5\sqrt{3}$ cm

68. The average of three numbers is 20. If two of the numbers are 16 and 22, then the third is

(1) 18
(2) 20
(3) 19
(4) 22

Answer (4)

Sol. $\frac{a + b + c}{3} = 20$

$\frac{11 + 22 + c}{2} = 20$

c = 60 – 38

c = 22

69. Of which number is 10608049 a square?

(1) 4135 (2) 3009

(3) 13263 (4) 3257

Answer (4)

70. Identify the missing term (?) :

6	7	42	13
13	3	39	16
4	?	28	11

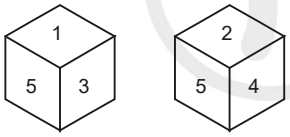
(1) 1 (2) 0

(3) 5 (4) 7

Answer (4)

Sol. $c_1 \times c_2 = c_3$, $c_1 + c_2 = c_4$

71. The two positions of a single die are given below. Which digit will be at the face opposite to the face having digit 4 ?

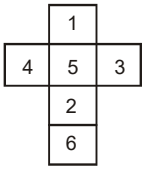


(1) 1 (2) 2

(3) 3 (4) 6

Answer (3)

Sol.



72. How many smaller cubes of 1 cm side can be formed with a solid cube of 3 cm side?

(1) 3 (2) 6

(3) 9 (4) 27

Answer (4)

Sol. no. of cube = $\frac{3\times3\times3}{1\times1\times1} = 27$

73. How many times the hour hand and the minute hand of a clock are at right angle in a day?

(1) 24 (2) 48

(3) 22 (4) 44

Answer (4)

74. If 1 + 4 = 9, 2 + 8 = 18 and 3 + 6 = 15, then 7 + 8 =

(1) 32 (2) 41

(3) 23 (4) 30

Answer (3)

Sol. Girl A + B = C

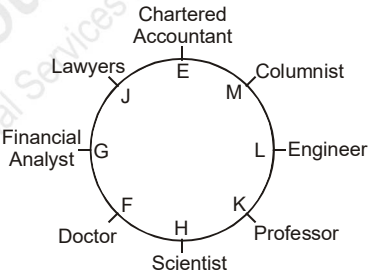
Rule C = 2B + A

C = 2 × 8 + 7 = 23

Instruction : Study the following information carefully and answer the questions given below :

Eight people E, F, G, H, J, K, L and M are sitting around a circular table facing the centre. Each of them is of a different profession : Chartered Accountant, Columnist, Doctor, Engineer, Financial Analyst, Lawyer, Professor and Scientist but no necessarily in the same order. F is sitting second to the left of K. The Scientist is an immediate neighbour of K. There are only three people between the Scientist and E. Only one person is sitting between the Engineer and E. The Columnist is to the immediate right of the Engineer. M is second to the right of K. H is the Scientist. G and J are immediate neighbours of each other. Neither G nor J is an Engineer. The Financial Analyst is to the immediate left of F. The lawyer is second to the right of the Columnist. The Professor is an immediate neighbour of the Engineer. G is second to the right of the Chartered Accountant.

Solution Direction (75 to 79)



75. Who is sitting second to the right of E?

(1) Lawyer (2) G

(3) Engineer (4) F

Answer (2)

76. Who amongst the following is the Professor?

(1) F (2) L

(3) M (4) K

Answer (4)

77. Three of the following four are alike in a certain way based on the given arrangement and hence form a group. Which of the following does not belong to the group?

(1) Chartered Accountant – H

(2) Doctor – M

(3) Engineer – J

(4) Financial Analyst – L

Answer (3)

78. What is the position of L with respect to the Scientist?
(1) Third to the left (2) Second to the right
(3) Second to the left (4) Third to the right

Answer (2)

Sol. **L** is second to the right of scientist.

79. Which of the following statement(s) is/are true according to the given arrangement?
(1) The Lawyer is second to the left of the Doctor
(2) E is an immediate neighbour of the Financial Analyst
(3) H sits exactly between F and the Financial Analyst
(4) Only four people sit between the Columnist and F.

Answer (1)

80. If 381A is divisible by 9 then the value of the smallest natural number A is
(1) 5 (2) 6
(3) 7 (4) 9

Answer (2)

Sol. Sum of digit is multiple of a

81. The average of first five multiples of 3 is
(1) 3 (2) 9
(3) 12 (4) 15

Answer (2)

Sol. $\frac{3+6+9+12+15}{5}=9$

82. If $81^{y}=\frac{1}{27^{x}}$, then the value of x in terms of y is
(1) $\frac{3y}{4}$ (2) $-\frac{3y}{4}$
(3) $\frac{4y}{3}$ (4) $-\frac{4y}{3}$

Answer (4)

Sol. $3^{4y}=3^{-3x}$

$4y = -3x$

$x=\frac{-4y}{3}$

83. If $\frac{10a^2+ab}{3ab-b^2}=\frac{10}{1}$, then a : b is
(1) 2 : 3 (2) 2 : 5
(3) 3 : 4 (4) 3 : 7

Answer (2)

Sol. $\frac{10\left(\frac{a}{b}\right)+1}{3-\left(\frac{b}{a}\right)}=\frac{10}{1}$

$\frac{a}{b}=t, \frac{10t+1}{3-\frac{1}{t}}=10$

$10t^2 - 29t + 10 = 0$

$t=\frac{5}{2},\frac{2}{5}$

84. $\sqrt{5+3\sqrt{x}}=3$, then the value of x is
(1) 125 (2) 64
(3) 27 (4) 9

Answer (2)

Sol. $3\sqrt{x}=9-5 \Rightarrow x=(4)^3$

= 64

85. The Least Common Multiple (LCM) of the two numbers is 12 times their Highest Common Factor (HCF). The sum of HCF and LCM is 403. If one number is 93, then the other is
(1) 134 (2) 128
(3) 124 (4) None of these

Answer (3)

Sol. LCM = 12 HCF

LCM + HCF = 403

LCM × HCF = 93× b

B = 124

86. If one integer is greater than another integer by 3 and the difference of their cubes is 117, then what would be the sum of those two integers?
(1) 7 (2) 8
(3) 9 (4) 11

Answer (1)

Sol. a –b = 3

$a^3 - b^3 = 117$

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

ab = 10

$a + b = \sqrt{(a-b)^2+4ab}$

a + b = 7

87. How many four digit numbers can be formed using 7, 5, 0, 2 only once in a number?

(1) 4

(2) 12

(3) 9

(4) 18

Answer (4)

Sol. 3 × 3 × 2 × 1 = 18

88. The greatest four digit even number that can be formed using the digits 7, 0, 6, 5 without repeating the digits is

(1) 6570

(2) 7560

(3) 7650

(4) 7065

Answer (3)

89. A person covers half of his journey at 30 km/hr and the remaining half at 20 km/hr. The average speed for the whole journey is

(1) 24 km/hr

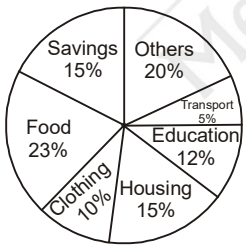
(2) 28 km/hr

(3) 32 km/hr

(4) None of these

Answer (1)

Instruction : The pie-chart represented below shows the spending by a family on various items during the year 1999. Study the pie-chart carefully and answer the following questions :



90. If the total amount spent during the year 1999 was Rs. 46,000, then the amount (in rupees) spent on food was

(1) 2,000

(2) 10,580

(3) 23,000

(4) 2,300

Answer (2)

Sol. Total = 4600

Food Share = 23%

Amount spent = 46000 × 23 / 100 = 10580

91. If the total amount spent during the year 1999 was Rs. 46,000 then how much money (in rupees) was spent on clothing and housing together?

(1) 11,500 (2) 1,150

(3) 10,000 (4) 15,000

Answer (1)

Sol. Total = 46000

Clothing = 10% Housing = 15%

Clothing + Housing = 25%

Amount on both = 46000 × 25 /100 = 11500

92. If the total expenditure of the family for the year 1999 was Rs. 46,000, then the savings (in rupees) of the family was

(1) 1,500 (2) 15,000

(3) 6,900 (4) 3,067

Answer (3)

Sol. Total = 46000

Saving = 15%

Amount = 46000 × 15 /100 = 6900

93. According to the pie-chart, the maximum amount was spent on which item?

(1) Food

(2) Housing

(3) Clothing

(4) Others

Answer (1)

Sol. Food share on 23% which is greater than every other item.

94. The ratio of the total amount of money spent on housing to the total amount of money spent on education was

(1) 5 : 2 (2) 2 : 5

(3) 4 : 5 (4) 5 : 4

Answer (4)

Sol. $\frac{\text{Amount on Housing}}{\text{Amount on Education}} = \frac{15}{12} = \frac{5}{4}$

95. The sum of three numbers is 98. If the ratio between first and second be 2 : 3 and that between second and third be 5 : 8, then the second number is

(1) 30 (2) 20

(3) 58 (4) 48

Answer (1)

Sol. $x + y + z = 98$ $\quad \frac{x}{y}=\frac{2}{3} \quad \frac{y}{z}=\frac{5}{8}$

$\frac{2}{3}y + y + \frac{8}{5} = 98 \quad x=\frac{2}{3}y \quad z=\frac{8}{5}y$

$\frac{10y+15y+25y}{15}=98$

$y=\frac{98\times15}{49} \quad y = 30$

Instruction : In each of the following questions, there is a certain relationship between two given numbers on left side of (: :) and one number is given on the right side of (: :) while another number is to be found from the given alternatives, having the same relationship with the number as the numbers of the given pair bear. Choose the correct alternative.

96. 21 : 3 : : 574 : ?

(1) 23 (2) 82

(3) 97 (4) 113

Answer (2)

Sol. $\frac{21}{7}=3$

$\frac{574}{7}=82$

97. 42 : 20 : : 64 : ?

(1) 31 (2) 32

(3) 33 (4) 34

Answer (1)

Sol. $\frac{42}{2}-1=20$

$\frac{64}{2}-1=31$

98. 3 : 11 : : 7 : ?

(1) 22 (2) 29

(3) 18 (4) 51

Answer (4)

Sol. $3^2+2=11$

$7^2+2=51$

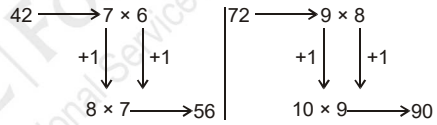
99. 42 : 56 : : 72 : ?

(1) 81 (2) 90

(3) 92 (4) 100

Answer (2)

Sol.



100. 9 : 80 : : 100 : ?

(1) 901 (2) 1009

(3) 9889 (4) 9999

Answer (4)

Sol. $9 : 80 \Rightarrow a^2-1=80$

$100 : ? \Rightarrow 100^2-1=10000-1$

$=9999$

PART-II : SCHOLASTIC APTITUDE TEST (SAT)

Instruction : In each of the Question Nos. 1 to 8 a letter series is given with one term missing shown by question mark (?). This term is one of the four alternatives given under it. Find the correct alternative.

1. If work, force and time are represented by *A*, *B* and C respectively then the term will $\left(\frac{A}{BC}\right)$ will present

(1) displacement (2) velocity
(3) acceleration (4) momentum

Answer (2)

Sol. $= \frac{A}{BC} = \frac{\text{Work}}{\text{Force} \times \text{Time}} = \frac{F \times s}{F \times t} = \frac{s}{t}$ = Velocity

2. The initial velocity of a particle is 10 m/s. It is moving with an acceleration of 4 m/s^2. The distance covered by the particle after 2s is

(1) 6 m (2) 18 m
(3) 22 m (4) 28 m

Answer (4)

Sol. $s = ut + \frac{1}{2}at^2$

$s = 10 \times \frac{1}{2} \times 4 \times (2)^2$

S = 28 m

$10 \times 2 + \frac{1}{2} \times 4 \times (2)^2$

3. Unit of universal gravitational constant is

(1) N-m^2/kg (2) N-m^2/kg^2
(3) N-kg^2/m^2 (4) N-m/kg^2

Answer (2)

Sol. $F = \frac{GM_1M_2}{r^2} \Rightarrow F = \frac{Fr^2}{M_1M_2}$ so, N m^2/kg^2

4. If the speed of wave is 350 m/s and its wavelength is 100 cm then the frequency of the wave will be

(1) 35 Hz (2) 350 Hz
(3) 700 Hz (4) 3500 Hz

Answer (2)

Sol. $v = 350$ m/sec, $\lambda = 1$m

$\nu = \frac{v}{\lambda} = \frac{350}{1}$ = 350 Hz

5. The wave having compression and rarefaction is known as

(1) Transverse wave (2) Longitudinal wave
(3) Light wave (4) Ultraviolet wave

Answer (2)

Sol. Longitudinal Wave

6. If the distance between two masses is doubled then the gravitational force between them will be

(1) one-fourth
(2) half
(3) double
(4) four times

Answer (1)

Sol. $F_2 = \frac{GMm}{4d^2}$ so, $F_2 = \frac{1}{4}F$

7. Focal length of a lens is 25 cm. In dioptre power of lens will be

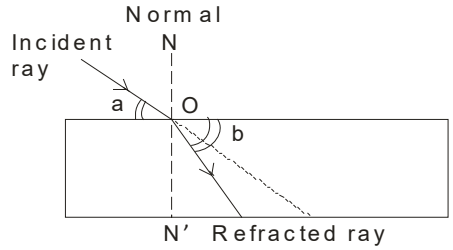
(1) 0.04
(2) 0.4
(3) 4
(4) 2.5

Answer (3)

Sol. f = 25 cm = 0.25 m

$P = \frac{1}{f} = \frac{1}{0.25} = 4D$

8. In the given ray diagram correct relation for Snell's law is



(1) $\frac{\sin a}{\sin b} = \text{constant}$

(2) $\frac{\sin b}{\sin a} = \text{constant}$

(3) $\frac{\sin(90 - a)}{\sin(90 - b)} = \text{constant}$

(4) $\frac{\sin(90 - a)}{\sin b} = \text{constant}$

Answer (3)

Sol. $\frac{\sin(90 - a)}{\sin(90 - b)} = \text{Constant}$

9. Which term does not represent electric power?

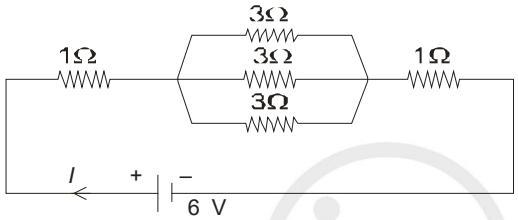
(1) $P = \frac{V}{I}$ (2) $P = VI$

(3) $P = I^2R$ (4) $P = \frac{V^2}{R}$

Answer (1)

Sol. $P = \frac{V^2}{R} = VI = I^2R$

10. In the given circuit the value of current I will be



(1) $\frac{6}{11}$A (2) $\frac{6}{5}$A

(3) 2 A (4) 1 A

Answer (3)

Sol. $R_{eq} = 3$, So, $i = \frac{V}{R} = \frac{6}{3}$ = 2 Amp.

11. Unit of magnetic flux is

(1) volt (2) weber

(3) hertz (4) ohm-metre

Answer (2)

Sol. SI unit of flux = weber

12. Spring constant of a spring is $K = 6 \times 10^3$ N/m. Work done to stretch it 10^{-2} m from mean position is

(1) 0.003 J (2) 0.03 J

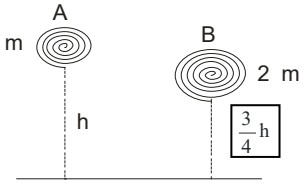
(3) 0.3 J (4) 3 J

Answer (3)

Sol. Work done by spring = $\frac{1}{2}kx^2$

= $\frac{1}{2} \times 6 \times 10^3 \times 10^{-4}$ = 0.3 J

13. Ratio of potential energies of body A and body B will be



(1) $\frac{U_A}{U_B} = \frac{2}{3}$ (2) $\frac{U_A}{U_B} = \frac{3}{2}$

(3) $\frac{U_A}{U_B} = \frac{1}{3}$ (4) $\frac{U_A}{U_B} = \frac{3}{4}$

Answer (1)

Sol. $U_A = mgh$, $U_B = 2m \times g \times \frac{3}{4}h = \frac{3}{2}mgh$

$\frac{U_A}{U_B} = \frac{mgh}{\frac{3}{2}mgh} = \frac{2}{3}$

14. Example of an element among the following is

(1) Water (2) Ammonia

(3) Salt (4) Iron

Answer (4)

Sol. Iron

15. Atomicity of oxygen in ozone molecule is

(1) 1 (2) 2

(3) 3 (4) 4

Answer (3)

Sol. Atomicity [O_3 = 3 atoms (Homonuclear triatomic molecule)]

16. Number of moles present in 0.36 g of water is

(1) 0.1 (2) 0.2

(3) 0.01 (4) 0.02

Answer (4)

Sol. Moles = $\frac{\text{Given Weight}}{\text{Molecular Weight}} = \frac{0.36}{18} = 0.02$

17. Radioactive isotope used in the treatment of cancer disease is

(1) Iodine-131 (2) Cobalt-60

(3) Sodium-24 (4) Chlorine-37

Answer (2)

Sol. Cobalt-60

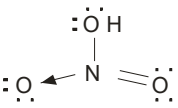
18. The number of coordinate covalent bonds in the structure of nitric acid is

(1) 0 (2) 1

(3) 2 (4) 3

Answer (2)

Sol. HNO_3



19. The pair of valencies exhibited by tin (Sn) is

(1) 1, 4

(2) 1, 2

(3) 2, 3

(4) 2, 4

Answer (4)

Sol. Sn^{+2} & Sn^{+4}

20. The conjugate bases of Bronsted acids H_2O and HCl are respectively
(1) OH^-, Cl^- (2) H_3O^+, Cl^-
(3) H_3O^+, Cl^+ (4) OH^-, Cl^+

Answer (1)

Sol. OH^- & Cl^-

21. The chemical formula of 'Plaster of Paris' is
(1) $CaSO_4.\frac{1}{2}H_2O$ (2) $CaSO_4.2H_2O$
(3) $CaSO_4.H_2O$ (4) $CaSO_4.\frac{3}{2}H_2O$

Answer (1)

Sol. $CaSO_4.\frac{1}{2}H_2O$

22. The oxidation reaction in the following chemical changes is
(1) $Cl + e^- \rightarrow Cl^-$
(2) $Mg^{+2} + 2e^- \rightarrow Mg$
(3) $MnO_4^- + e^- \rightarrow MnO_4^{-2}$
(4) $Fe^{+2} \rightarrow Fe^{+3} + e^-$

Answer (4)

Sol. $Fe^{+2} \longrightarrow Fe^{+3} + e^-$

23. $N_2(g) + 3H_2(g) \xrightarrow{Fe\,|\,Mo} 2NH_3(g)$
(1) Catalyst promoter
(2) Catalyst poison (inhibitor)
(3) Bio-catalyst
(4) Auto-catalyst

Answer (1)

Sol. M_0 is catalyst promoter

24. Element having highest electronegativity in the periodic table is
(1) F (2) Cl
(3) Br (4) I

Answer (1)

Sol. f is highest in electronegativity in periodic table.

25. The molecular formula of 'Freon-12' is
(1) $CFCl_3$
(2) CF_2Cl_2
(3) $C_2F_2Cl_4$
(4) $C_2F_3Cl_3$

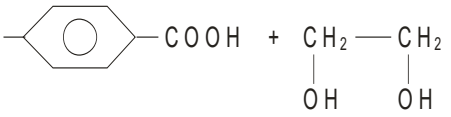
Answer (2)

Sol. The molecular formula of 'Freon-12' is CF_2Cl_2

26. The monomer units of terylene polymer are
(1) Terephthalic acid and ethylene glycol
(2) Adipic acid and ethylene glycol
(3) Terephthalic acid and hexamethylene diamine
(4) Adipic acid and hexamethylene diamine

Answer (1)

Sol.



Terephthalic acid Ethylene Glycol

27. The habitat related with presence of sunken stomata in leaves is
(1) Hydrophytic (2) Mesophytic
(3) Xerophytic (4) Cryophytic

Answer (3)

Sol. Sunken stomata protects the escaping water vapours from air currents. Present in plants in arid environments.

28. Micronutrient element is
(1) Nitrogen (2) Zinc
(3) Magnesium (4) Potassium

Answer (2)

Sol. Micronutrients include boron (B), Copper (Cu), Iron (Fe), Manganese (Mn), Zinc (Zn), Molybednum (Mo), Nickel (Ni) and chloride (Cl)

29. Coralloid root is found in
(1) Cycas (2) Pinus
(3) Marsilia (4) Azolla

Answer (1)

Sol. Coralloid roots contain symbiotic cyanobacteria which fix nitrogen. Found in plants like Cycas.

30. The root of which plant is used as medicine?
(1) Curcuma longa
(2) Aloe vera
(3) Rauwolfia serpentina
(4) Papaver Somniferum

Answer (3)

Sol. *Rauwolfia serpentina* is the medicinal plant whose root is used in powder form in tablets or capsules.

31. Phenotypic ratio of F_2 generation in dihybrid cross is
(1) 3 : 1 (2) 9 : 3 : 3 : 1
(3) 1 : 2 : 1 (4) 2 : 1

Answer (2)

Sol. The phenotypic ratio of F_2 generation in dihybrid cross is 9 : 3 : 3 : 1

32. How many biodiversity hotspots are there in the world?
(1) 25 (2) 33
(3) 20 (4) 34

Answer (4)

Sol. Total 34 biodiversity hotspots in the world are identified which occur in tropical forests.

33. From which district of Rajasthan did Chipko movement begin?
(1) Jodhpur (2) Jaipur
(3) Ajmer (4) Jaisalmer

Answer (1)

Sol. Chipko movement was a non-violent movement aimed at protection and conservation of trees started from Jodhpur in Rajasthan.

34. The part of human brain, which controls involuntary actions is
(1) Cerebrum
(2) Cerebellum
(3) Medulla oblongata
(4) Optic lobe

Answer (3)

Sol. The medulla oblongata, a part of hind brain, controls all the involuntary actions of the body.

35. The disease caused by protein deficiency in food is
(1) Kwashiorkor (2) Scurvy
(3) Pellagra (4) Rickets

Answer (1)

Sol. Kwashiorkar is the condition of the body in which there is severe protein deficiency in food.

36. The parts of large intestine are
(1) Duodenum, Ileum, Colon
(2) Caecum, Colon, Rectum
(3) Duodenum, Jejunum, Ileum
(4) Jejunum, Ileum, Caecum

Answer (2)

Sol. The large intestine can be divided into Caecum, Colon and Rectum.

37. The hormone, not secreted by ovary is
(1) Testosterone (2) Estrogen
(3) Progesterone (4) Relaxin

Answer (1)

Sol. The ovary secretes estrogen, progesterone and relaxin whereas testosterone (male hormone) is secreted by testis.

38. Pseudocoelomate animals are
(1) Aschelminthes
(2) Annelids
(3) Arthropods
(4) Molluscs

Answer (1)

Sol. Pseudocoelomates animals include phylum Aschelminthes.

39. Protozoan diseases is
(1) AIDS
(2) Leprosy
(3) Jaundice
(4) Malaria

Answer (4)

Sol. Malaria is caused by the protozoan *Plasmodium* which occurs by the bite of female *Anopheles* mosquito.

40. The disease caused by deficiency of Vitamin K is
(1) Haemorrhage (2) Sterility
(3) Rickets (4) Scurvy

Answer (1)

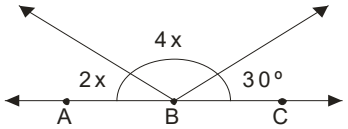
Sol. Vitamin K deficiency causes haemorrhage as it plays an important role in blood coagulation.

41. If one's digit and ten's digit of a number are a and b respectively, then the number will be
(1) $10b + a$ (2) $10a + b$
(3) $a + b$ (4) ab

Answer (1)

Sol. 10 × ten's digit + unit digit = 10b + a

42. If ABC is a straight line then value of x, in the given diagram will be



(1) 15° (2) 20°
(3) 25° (4) 30°

Answer (3)

Sol. 4x + 2x + 30° = 180°
6x = 150°
x = 25°

43. The sum of all interior angles of a Heptagon is
(1) 360° (2) 540°
(3) 720° (4) 900°

Answer (4)

Sol. (7 – 2) 180°
5 × 180° = 900°

44. If in a ΔABC, $AB = AC$ and $\angle A = 70^\circ$ then $\angle B$ is equal to
(1) 50° (2) 55°
(3) 60° (4) 65°

Answer (2)

Sol. $2x + 70^\circ = 180^\circ$
$2x = 110^\circ$
$x = 55^\circ$
$\angle B = 55^\circ$

45. If the perimeter of an equilateral triangle is 24 cm, then its area will be
(1) $16\sqrt{3}$ sq.cm (2) $32\sqrt{3}$ sq.cm
(3) $48\sqrt{3}$ sq.cm (4) $64\sqrt{3}$ sq.cm

Answer (1)

Sol. $3a = 24$ cm
$a = 8$ cm
area $= \frac{\sqrt{3}}{4}(8)^2$
$= \frac{\sqrt{3}}{4} \times 64 = 16\sqrt{3}$ cm^2

46. If the volume of a cuboid is 3000 cm^3 and area of its base is 150 cm^2, then the height of the cuboid is
(1) 10 cm (2) 15 cm
(3) 20 cm (4) 25 cm

Answer (3)

Sol. Volume $= l.b.h = 3000$ cm^3
Area of base $= l.b = 150$ cm^2
Height $= \frac{3000}{150} = 20$ cm

47. If $\sin\theta = \frac{4}{5}$ then the value of $\frac{4\tan\theta - 5\cos\theta}{\sec\theta + 4\cot\theta}$ will be
(1) $\frac{2}{3}$ (2) $\frac{1}{3}$
(3) $\frac{3}{4}$ (4) $\frac{1}{2}$

Answer (4)

Sol. $\frac{4\times\frac{4}{3} - 5\times\frac{3}{5}}{\frac{5}{3} + 4\times\frac{3}{4}} = \frac{\frac{16}{3} - 3}{\frac{5}{3} + 3} = \frac{1}{2}$

48. How much time the minute hand of a clock will take to describe an angle of $\frac{2\pi}{3}$ radians?
(1) 15 minutes (2) 20 minutes
(3) 10 minutes (4) 25 minutes

Answer (2)

Sol. $\frac{2\pi}{3} = 120^\circ$

Time $= \frac{120}{6} = 20$ min.

49. If Least Common Multiple (LCM) of a and 510 is 23460 and Highest Common Factor (HCF) of a and 510 is 2 then value of a is
(1) 92 (2) 910
(3) 52 (4) 500

Answer (1)

Sol. $\frac{\text{LCM} \times \text{HCF}}{510} = \frac{23460 \times 2}{510} = 92$

50. Discriminant of quadratic equation $2\sqrt{2}x^2 + 4x + \sqrt{2} = 0$ will be
(1) 0 (2) 1
(3) 2 (4) 3

Answer (1)

Sol. $D = b^2 - 4ac$
$= 16 - 4(2\sqrt{2})(\sqrt{2})$
$= 16 - 16 = 0$

51. How many multiples of 3 are there in between 20 and 200?
(1) 50
(2) 55
(3) 60
(4) 65

Answer (3)

Sol. $a_1 = 21$, $a_n = 198$, $d = 3$
$198 = 21 + (n - 1)(3)$
$177 = (n - 1)(3)$
$n = 60$

52. The value of $(\cos 0^\circ + \sin 45^\circ + \sin 30^\circ)(\sin 90^\circ - \cos 45^\circ + \cos 60^\circ)$ will be
(1) $\frac{4}{7}$ (2) $\frac{3}{2}$
(3) $\frac{5}{7}$ (4) $\frac{7}{4}$

Answer (4)

Sol. $\left(1 + \frac{1}{\sqrt{2}} + \frac{1}{2}\right)\left(1 - \frac{1}{\sqrt{2}} + \frac{1}{2}\right)$

$= \left(\frac{3+\sqrt{2}}{2}\right)\left(\frac{3-\sqrt{2}}{2}\right) = \frac{9-2}{4} = \frac{7}{4}$

53. If the ratio of the length of a vertical rod and the length of its shadow is 1 : 1 then angle of elevation of sun is

(1) 30°

(2) 45°

(3) 60°

(4) 90°

Answer (2)

Sol. $\tan\theta = \frac{1}{1}$

$\tan\theta = 1$

$\theta = 45°$

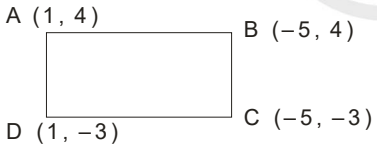
54. Quadrilateral formed by the vertices (1, 4), (–5, 4) (–5, –3) and (1, –3) will be

(1) Square (2) Rectangle

(3) Rhombus (4) None of these

Answer (2)

Sol.



AB = 6, BC = 7

CD = 6, AD = 7

(Rectangle)

55. The point of concurrence of three interior angle bisectors of a triangle is called

(1) Centre of gravity (2) Circumcentre

(3) Orthocentre (4) Incentre

Answer (4)

Sol. Incentre

56. The areas of two similar triangles are 36 cm^2 and 81 cm^2 respectively. If the median of smaller triangle is 12 cm then the corresponding median of the larger triangle is

(1) 12 cm (2) 18 cm

(3) 24 cm (4) 10 cm

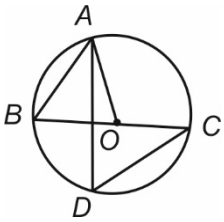
Answer (2)

Sol. (Ratio of medians of similar triangles)^2 = Ratio of their Areas

$\frac{12}{x} = \sqrt{\frac{36}{81}}$

x = 18 cm

57. In the given figure, BC is the diameter of a circle and $\angle BAO = 60°$ then $\angle ADC$ is equal to



(1) 30° (2) 45°

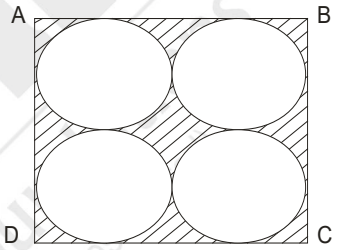
(3) 60° (4) 90°

Answer (3)

Sol. $\angle ABO = 60°$

$\angle ABO = \angle ADC = 60°$

58. Find the area of shaded portion in the figure given below, where $ABCD$ is a square of side 28 cm:



(1) 784 cm^2 (2) 616 cm^2

(3) 668 cm^2 (4) 168 cm^2

Answer (4)

Sol. $(28)^2 - 4\pi(7)^2$

$784 - 616 = 168\ cm^2$

59. The mean of first eight prime numbers is

(1) 9.625 (2) 8.375

(3) 9.375 (4) 8.534

Answer (1)

Sol. $\frac{2+3+5+7+11+13+17+19}{8}$

$= \frac{77}{8} = 9.625$

60. A die is thrown once. The probability of getting an even number on the die is

(1) $\frac{1}{6}$ (2) $\frac{1}{3}$

(3) $\frac{1}{2}$ (4) $\frac{2}{3}$

Answer (3)

Sol. $\frac{1}{2}$

61. Who of the following was not the courtier of Kanishka?
(1) Charaka
(2) Megasthenes
(3) Nagarjuna
(4) Ashwaghosha

Answer (2)

Sol. Megasthenes

62. Who was the writer of 'Mudrarakshasa'?
(1) Kalidasa
(2) Vishakhadatta
(3) Amar Singh
(4) Sudraka

Answer (2)

Sol. Vishakhadatta

63. The fourth Buddhist conference was organized during the reign of which ruler?
(1) Kanishka
(2) Rudradaman
(3) Ashoka
(4) Chandragupta Maurya

Answer (1)

Sol. Kanishka

64. Where is the 'Jantar-Mantar' situated?
(1) Sikar (2) Ajmer
(3) Jaipur (4) Bikaner

Answer (3)

Sol. Jaipur

65. Which one of the following incidents happened first?
(1) Non-Cooperation movement
(2) Quit India movement
(3) Simon Commission
(4) Personal Satyagraha

Answer (1)

Sol. Non-Cooperation Movement.

66. Which one of the following was not related to the Sikar Peasant Movement ?
(1) Chetram
(2) Tulchharam
(3) Tikuram
(4) Devlal

Answer (4)

Sol. Devlal

67. Match List-I with List-II and select the correct answer by choosing from the given codes :

List-I	List-II
(A) Flying Shuttle Loom	(i) Samuel Crompton
(B) Spinning Jenny	(ii) Richard Arkwright
(C) Water frame	(iii) James Hargreaves
(D) Mule	(iv) John Kay

Codes :

	A	B	C	D
(1)	i	ii	iii	iv
(2)	ii	iv	iii	i
(3)	iv	ii	iii	i
(4)	iv	iii	ii	i

Answer (4)

Sol. Flying shuttle loom – John Kang
Spinning Jenny – James Hargreaves
Water Frame – Richard Arkwright
Mule – Samuel Crompton

68. Which one of the following is not correctly matched?
(1) Ropar — Punjab
(2) Lothal — Haryana
(3) Rangpur — Gujarat
(4) Kalibanga — Rajasthan

Answer (2)

Sol. Lothal-Haryana.

69. Which ruler of Bharatpur is called 'The Plato of the Jat Caste' ?
(1) Rajaram (2) Surajmal
(3) Badan Singh (4) Chudaman

Answer (2)

Sol. Surajmal

70. After the end of First World War, Which treaty was made with Germany?
(1) Treaty of Versailles
(2) Treaty of Triyana
(3) Treaty of Newly
(4) Treaty of Berlin

Answer (1)

Sol. Treaty of versailles

71. Who was the publisher of 'Samvad Koumudi'?
(1) Bal Gangadhar Tilak
(2) Raja Rammohan Roy
(3) Dayanand Saraswati
(4) Mahatma Gandhi

Answer (2)

Sol. Raja Rammohan Roy

72. Which Prime Minister of India called multipurpose water projects as "The Temple of Modern India"?
(1) Pandit Jawaharlal Nehru
(2) Rajiv Gandhi
(3) Indira Gandhi
(4) Atal Bihari Vajpayee

Answer (1)

Sol. Pandit Jawaharlal Nehru

73. Rabi crop is
(1) Rice (2) Gram
(3) Maize (4) Soyabean

Answer (2)

Sol. Gram

74. Which one of the following is the copper mine situated in Rajasthan?
(1) Morija-Banol (2) Degana-Bhakri
(3) Zawar (4) Khetri-Singhana

Answer (4)

Sol. Khetri - Singhana

75. Match List-I with List-II and select the correct answer using the codes given below :

	List-I (Iron and Steel Industries)	**List-II** (State)
(A)	Durgapur	(i) Jharkhand
(B)	Rourkela	(ii) Chattisgarh
(C)	Bhilai	(iii) Orissa
(D)	Bokaro	(iv) West Bengal

Codes :

	A	B	C	D
(1)	(iv)	(iii)	(ii)	(i)
(2)	(iv)	(iii)	(i)	(ii)
(3)	(i)	(ii)	(iii)	(iv)
(4)	(ii)	(i)	(iii)	(iv)

Answer (1)

Sol. Durgapur – West Bengal (iv)
Rourkela **–** Orissa (iii)
Bhilai – Chattigarh (ii)
Bokaro – Jharkhand (i)

76. Which of the following is the highest population density district of Rajasthan?
(1) Jaipur (2) Bharatpur
(3) Alwar (4) Dausa

Answer (1)

Sol. Jaipur

77. "New Mangalore" seaport is located in which state of India?
(1) Karnataka (2) Tamil Nadu
(3) West Bengal (4) Maharashtra

Answer (1)

Sol. Karnataka

78. Which of the following is an atomic energy mineral?
(1) Coal (2) Petroleum
(3) Beryllium (4) Natural Gas

Answer (3)

Sol. Beryllium

79. Among the following the latitudinal extension of Rajasthan is
(1) 23º 3' East Latitude to 30º 12' East Latitude
(2) 23º 3' West Latitude to 30º 12' West Latitude
(3) 23º 3' North Latitude to 30º 12' North Latitude
(4) 23º 3' South Latitude to 30º 12' South Latitude.

Answer (3)

Sol. 23° 3′ North Latitude to 30°12′ North Latitude

80. Which of the following rivers falls in the Arabian Sea?
(1) Tapti (2) Krishna
(3) Kaveri (4) Mahanadi

Answer (1)

Sol. Tapti

81. What is 'Mavath'?
(1) Rainfall near the Malabar Coast in summer season
(2) Warm winds which blow in Rajasthan in sumer season
(3) Rainfall due to Mediterranean cyclones in winter season
(4) Cyclones of the Arabian sea

Answer (3)

Sol. Rainfall due to Mediterranean cyclones in winter season.

82. Which tree is known as 'Kalpa Vriksha' in Rajasthan?
(1) Rohira (2) Kair
(3) Bair (4) Khejari

Answer (4)

Sol. Khejari

83. Among the following who is a supporter of the Pluralistic Theory of Democracy?
(1) J.S. Mill
(2) T.H. Green
(3) Hobbes
(4) H.J. Laski

Answer (4)

Sol. H.J. Laski

84. Who decides whether a bill is a money bill or not?
(1) Prime Minister
(2) President
(3) Speaker of Lok Sabha
(4) Vice-President

Answer (3)

Sol. Speaker of Lok Sabha

85. Who has the right to declare a subject of the state list of national importance?
(1) Rajya Sabha
(2) Lok Sabha
(3) State Legislative Assembly
(4) State Legislative Council

Answer (1)

Sol. Rajya Sabha

86. At present how many high courts are there in India?
(1) 22
(2) 24
(3) 26
(4) 29

Answer (2)

Sol. 24

87. Which of the following are included in the State Government?
(1) Governor, Cabinet, Chief Minister
(2) Judiciary, Executive, Chief Minister
(3) State Legislature, Executive, Judiciary
(4) Cabinet, State Legislature, Governor

Answer (3)

Sol. State Legislature, Executive, Judiciary.

88. Under which Article of the Constitution each high court has been established as a court of records?
(1) Article 215 (2) Article 216
(3) Article 221 (4) Article 222

Answer (1)

Sol. Article 215

89. Which Fundamental Right is given by the Constitution of India to protect all fundamental rights?
(1) Right to Liberty
(2) Right to constitutional Remedies
(3) Right against Exploitation
(4) Right to Equality

Answer (2)

Sol. Right to constitutional Remedies.

90. The highest unit of Panchayati Raj system is
(1) Zilla Parishad (2) Panchayat Samiti
(3) Gram Panchayat (4) Gram Sabha

Answer (1)

Sol. Zilla Parishad.

91. When was the minimum age of 18 years for Franchise implemented in India?
(1) 1947 (2) 1955
(3) 1987 (4) 1989

Answer (4)

Sol. 1989

92. Which Indian politician played an important role to make Non-alignment as a movement?
(1) Pandit Jawaharlal Nehru
(2) Mahatma Gandhi
(3) Lal Bahadur Shastri
(4) Sardar Vallabhbhai Patel

Answer (1)

Sol. Pandit Jawaharlal Nehru

93. Match List-I with List-II and choose the correct code from the given codes :

List-I		**List-II**
(A) Permanent Chairman of the Constituent Assembly	(i)	B. N. Rao
(B) Legal Adviser of the Constituent Assembly	(ii)	Dr. Rajendra Prasad
(C) Chairman of the Drafting Committee	(iii)	Sachchidanand Sinha
(D) Temporary Chairman of the Constituent Assembly	(iv)	Dr. Bhim Rao Ambedkar

Codes :

	A	B	C	D
(1)	(i)	(ii)	(iii)	(iv)
(2)	(ii)	(i)	(iv)	(iii)
(3)	(iii)	(iv)	(i)	(ii)
(4)	(iv)	(iii)	(ii)	(i)

Answer (2)

Sol. Permanent chairman of constituent assembly
- Dr. Rajendra Prasad

Legal Adviser of constituent Assembly
- B.N Rao

Chairman of drafting committee
- Dr. B.R Ambedkar

Temporary chairman of constituent assembly
- Sachchidanand Sinha

94. The nation with capitalist economy is
(1) Russia (2) China
(3) Japan (4) Bulgaria

Answer (3)

Sol. Japan

95. The White Revolution is related to
(1) Production of eggs
(2) Production of milk
(3) Production of sugar
(4) Production of rice

Answer (2)

Sol. Production of Milk.

96. The institution calculating National Income in India is
(1) Central Statistical Organization
(2) Finance Commission
(3) Central Bank
(4) NITI Aayog

Answer (1)

Sol. Central Statistical organisation.

97. The World Trade Organization was established on
(1) 1st January, 1935
(2) 1st April, 1935
(3) 1st January, 1995
(4) 1st April, 1995

Answer (3)

Sol. 1st January, 1995

98. The reason of inflation in India is
(1) Rapid growth in agricultural production
(2) Rapid growth in industrial production
(3) Low level of public expenditure
(4) High level of public expenditure

Answer (4)

Sol. High Level of Public expenditure

99. The institutional source of credit is
(1) Money lender (2) Self help group
(3) Commercial bank (4) Trader

Answer (3)

Sol. Commercial Bank

100. In India, cases of goods more than one crore of rupees can be filed by the consumer in
(1) Block Forum
(2) District Forum
(3) State Commission
(4) National Consumer Protection Commission

Answer (4)

Sol. National Consumer Protection Commission

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