Date : 03/11/2019

Test Booklet Code

C

Odisha

Aakash

Medical | IIT-JEE | Foundations

(Divisions of Aakash Educational Services Limited)

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Questions & Answers

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 : 101 - 200 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	Ⓐ Ⓑ ● Ⓓ
	Q. No.	Alternatives
Wrong way :	1	Ⓧ Ⓑ Ⓒ Ⓓ

   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)

1. The number of times the digit 5 will appear while writing the integers from 1 to 1000 is

(A) 269 (B) 271

(C) 300 (D) 302

Answer (C)

2. An 8-digit number 4252746B leaves remainder 0 when divided by 3. How many values of B are possible ?

(A) 2 (B) 3

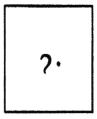
(C) 4 (D) 6

Answer (C)

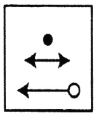
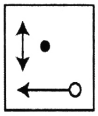
Direction for question numbers (3 to 5):

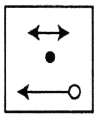
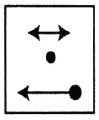
In each of the following questions three of the given four figures are similar on the basis of one characteristic and one is different. Find this different figure

3. (A)  (B) 

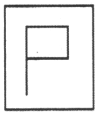
(C)  (D) 

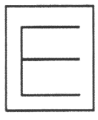
Answer (B)

4. (A)  (B) 

(C)  (D) 

Answer (D)

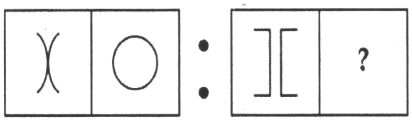
5. (A)  (B) 

(C)  (D) 

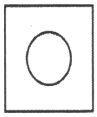
Answer (C)

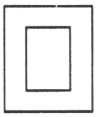
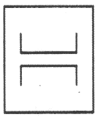
Direction for question numbers (6 to 8):

In each of the questions given below, there is a particular relationship between the first figure and the second figure of the question figure. This relation also exists between (A),(B),(C),(D). Find this option figure

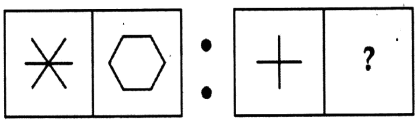
6. 

Answer figures :

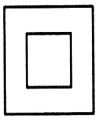
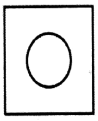
(A)  (B) 

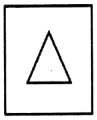
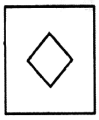
(C)  (D) 

Answer (C)

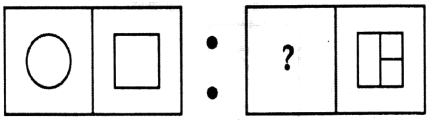
7. 

Answer figures :

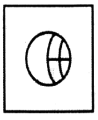
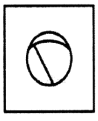
(A)  (B) 

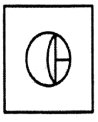
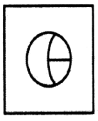
(C)  (D) 

Answer (D)

8. 

Answer figures :

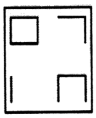
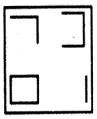
(A)  (B) 

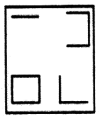
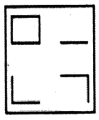
(C)  (D) 

Answer (D)

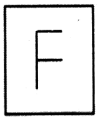
Direction for question numbers (9 to 11):

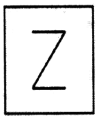
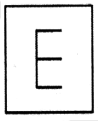
In each of the following question figures except one, all the figures have similar characteristics. The examinee has to find the figure which is different from the other figures

9. (A)  (B) 

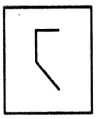
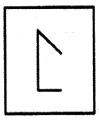
(C)  (D) 

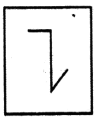
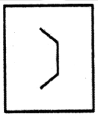
Answer (D)

10. (A)  (B) 

(C)  (D) 

Answer (D)

11. (A)  (B) 

(C)  (D) 

Answer (D)

Direction for question numbers (12 to 14):

From the given options find which is the correct water image of the word given in the question.

12. WEAK

(A) MƎAK (B) WƎAK

(C) WƎAK (D) MEAK

Answer (D)

13. DOCILE

(A) DOCIΓE (B) DOCIℸE

(C) DOↃIΓƎ (D) DOↃIΓE

Answer (A)

14. ELUDE

(A) EΓ∩DE (B) ƎΓ∩DE

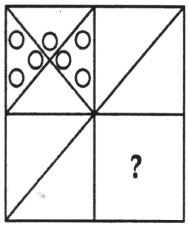
(C) ƎΓ∩DƎ (D) ƎΓUDE

Answer (A)

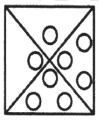
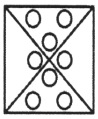
Direction for question numbers (15 to 17):

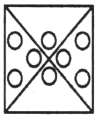
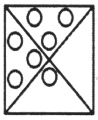
In each of the questions given below, a figure is given whose some part is missing. From the given answer figures, which option will complete the pattern ?

15. Question figure :



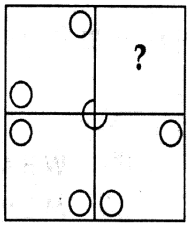
Answer figure :

(A)  (B) 

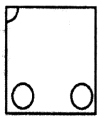
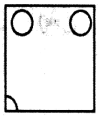
(C)  (D) 

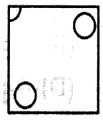
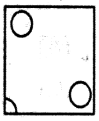
Answer (D/Grace)

16. Question figure :



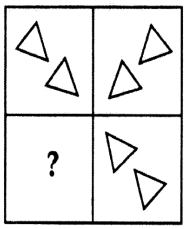
Answer figures :

(A)  (B) 

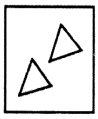
(C)  (D) 

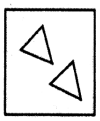
Answer (D)

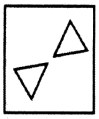
17. Question figure :

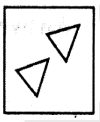


Answer figures :

(A) 

(B) 

(C) 

(D) 

Answer (D)

18. The sum of first five prime number is

(A) 11 (B) 18

(C) 26 (D) 28

Answer (D)

19. Radha remembers that her father's birthday is after 16th but before 21st of March, while her brother Mahesh remembers that his father's birthday is before 22nd but after 19th of March. On which date is the birthday of their father ?

(A) 19th

(B) 20th

(C) 21st

(D) Cannot be determined

Answer (B)

20. In the following question, only one number is wrong. Find out the wrong number

895,870,821,740,619,445,225

(A) 870 (B) 821

(C) 740 (D) 445

Answer (D)

21. Select the missing letters in the following question

m n o n o p q o p q r s .....

(A) m n o p q r (B) o q r s t u

(C) p q r s t u (D) q r s t u p

Answer (C)

22. How many prime factors does 30030 have ?

(A) Four (B) Five

(C) Six (D) None of the above

Answer (C)

23. Find the missing term in place of question mark (?) in the following series

C B _ _ D _ B A B C C B

_ _1 2 4 3 _ _ ????

a _ ab _ c _ b _ _ _ _

(A) 3,4,4,3 (B) 3,2,2,3

(C) 3,1,1,3 (D) 1,4,4,1

Answer (C)

Direction for question numbers (24 to 26):

Read the following information carefully and then answer the questions based on that

From amongst 5 doctors A,B,C,D and E,4 engineers G,H,K and L and 6 teachers M,N,O,P,Q and R, some teams are to be selected. Of these, A,B,G,H,O,P and Q are females and the rest are males. The formation of teams is subject to the following conditions

(I) Whenever there is a male doctor, there will be no female teacher

(II) Whenever there is a male engineer, there will be no female doctor

(III) There shall not be more than two male teachers in any team

24. If the team consists of 2 doctors, 3 female teachers and 2 engineers, the members of the team are

(A) CDOPQGH (B) ABOPQGH

(C) CDKLOPQ (D) DEGHOPQ

Answer (B)

25. If the team consists of 3 doctors, 2 male engineers and 2 teachers, the members of the team could be

(A) CDEKLMN (B) ABCKLMR

(C) CDEKLPR (D) BCDKLNR

Answer (A)

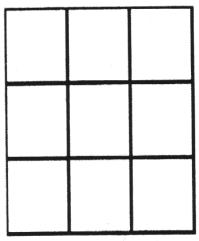
26. If the team consists of 2 doctors, 2 female teachers and 2 engineers, all the following teams are possible except

(A) OPGHAB (B) ABGHPQ

(C) ABGHOQ (D) ABKLPQ

Answer (D)

27. How many squares are there in the following figure ?



(A) 12 (B) 13

(C) 14 (D) 15

Answer (C)

28. When seen through a mirror, a watch shows 5:15. The correct time is

(A) 6:15 (B) 7:15

(C) 6:45 (D) 7:45

Answer (C)

29. In a school every student is assigned a unique identification number. A student is a football player if and only if the identification number is divisible by 4, whereas a student is a cricketer if and only if the identification number is divisible by 6. If every number from 1 to 100 is assigned to a student, then how many of them play cricket as well as football ?

(A) 4 (B) 8

(C) 10 (D) 12

Answer (B)

30. If a cube of 12 cm side is divided into smaller cubes of 3 cm side, then find the total number of smaller cubes

(A) 16 (B) 64

(C) 128 (D) 32

Answer (B)

31. A printer numbers the pages of a book starting with 1 and uses 3089 digits in all. How many pages does the book have ?

(A) 1040

(B) 1048

(C) 1049

(D) 1050

Answer (C)

32. Suppose you have sufficient amount of rupee currency in 3 denominations : ₹1, ₹10 and ₹50. In how many different ways can you pay a bill of ₹107 ?

(A) 16 (B) 17

(C) 18 (D) 19

Answer (C)

33. Number 136 is added to 5B7 and the sum obtained is 7A3, where A and B are integers. It is given that 7A3 is exactly divisible by 3. The only possible values of B is

(A) 2 (B) 5

(C) 7 (D) 8

Answer (D)

34. If the numerator of a fraction is increased by 240% and the denominator of the fraction is decreased by 50%, the resultant fraction is $2\frac{5}{6}$. What is the original fraction ?

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

(C) $\frac{5}{12}$ (D) $\frac{4}{11}$

Answer (C)

35. Which of the following statement is true ?

(A) LCM of two natural numbers is divisible by their HCF

(B) HCF+LCM of two numbers is equal to the product of two numbers

(C) Two prime numbers are co-prime numbers if their LCM is 1

(D) HCF of two numbers is the smaller common divisor of both numbers

Answer (A)

36. Hari and Prakash go for a swim after a gap of every 2 days and every 3 days respectively. If one 1st January both of them went for a swim together, when will they go together next ?

(A) 7th Jan

(B) 8th Jan

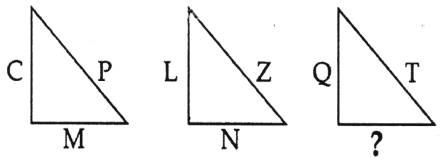
(C) 12th Jan

(D) 13th Jan

Answer (A)

Direction for question numbers (37 to 39):

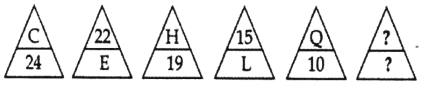
Which alternative will replace the question mark (?) ?

37. 

(A) O (B) C

(C) S (D) J

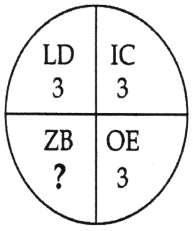
Answer (B)

38. 

(A) $\frac{15}{R}$ (B) $\frac{4}{W}$

(C) $\frac{S}{11}$ (D) $\frac{4}{X}$

Answer (B)

39. 

(A) 3 (B) 16

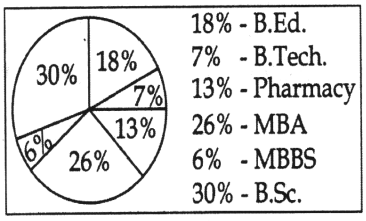
(C) 5 (D) 13

Answer (D)

Direction for question numbers (40 to 44):

Study the given Pie chart carefully and answer the questions.

Percentage distribution of students in different courses



Total number of students = 6500

40. How much more percentage of students are in MBA as compared to students in B.Ed.?

(A) 49% (B) 53%

(C) 41% (D) 44%

Answer (D)

41. What is the total number of students in B,Ed., Pharmacy and MBBS together ?

(A) 2465 (B) 2565

(C) 2405 (D) 2504

Answer (C)

42. Number of students in B.Sc. is approximately what percentage of the number of students in B.Ed. ?

(A) 167% (B) 162%

(C) 157% (D) 153%

Answer (A)

43. What is the respective ratio between the number of the students in Pharmacy and the number of the students in B.Tech. ?

(A) 11:13 (B) 13:6

(C) 13:7 (D) 6:13

Answer (C)

44. What is the value of half of the difference between the number of students in MBA and MBBS ?

(A) 800 (B) 1600

(C) 1300 (D) 650

Answer (D)

45. 10 November, 1981 was Tuesday. What was the day on 11 November, 1581 ?

(A) Tuesday

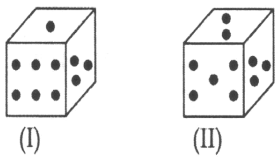
(B) Wednesday

(C) Friday

(D) Saturday

Answer (B)

46. Two position of a dice are given below :



What is number of dots in the surface opposite the surface having two dots ?

(A) 3 (B) 5

(C) 1 (D) 6

Answer (C)

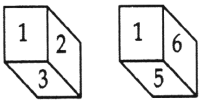
47. Which letter will be opposite to 'T' ?

(I) (II) (III)

(A) Q (B) U
(C) S (D) T

Answer (A)

48. Two forms of a dice are given below. If number '4' is placed on the top surface of this dice, then which number will come on the bottom surface ?



(I) (II)

(A) 1 (B) 2
(C) 5 (D) 6

Answer (A)

49. What day was on 1 January, 2000 ?

(A) Monday (B) Tuesday
(C) Sunday (D) None of these

Answer (D)

Direction for question numbers (50 to 53):

A cube of edge 6 cm is divided into small cubes of edge 1 cm. Before the division, the cube was painted red in colour. Find the number of cubes whose

50. One surface is red

(A) 216 (B) 64
(C) 96 (D) 48

Answer (C)

51. Two surfaces are red

(A) 12 (B) 24
(C) 48 (D) 64

Answer (C)

52. More than three surfaces are red

(A) 24 (B) 48
(C) 64 (D) 0

Answer (D)

53. No surfaces is red

(A) 48 (B) 64
(C) 96 (D) 216

Answer (B)

54. Village B is situated to the north of Village A, Village C is situated to the east of Village B, Village D is situated to the left of Village A. In which direction is Village D situated with respect to Village C ?

(A) West (B) South-east
(C) South (D) None of these

Answer (D)

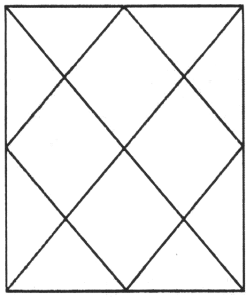
55. Replacement of which of the operations from the given options will balance the equation ?

$12 - 2 + 3 \times 4 \div 4 = 14$

(A) × and – (B) – and +
(C) – and ÷ (D) + and ×

Answer (C)

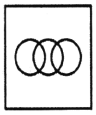
56. How many triangles are there in the figure given below ?

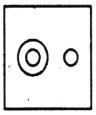


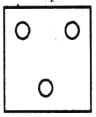
(A) 20 (B) 27
(C) 18 (D) 29

Answer (A)

57. Which one of the following diagrams best depicts the relationship among Earth, Sea and Sun ?

(A) 

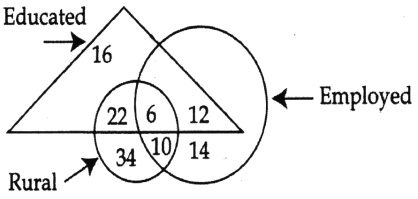
(B) 

(C) 

(D) 

Answer (B)

58. How many educated people are employed ?



(A) 18 (B) 26

(C) 24 (D) 16

Answer (A)

59. If the letters of English are numbered sequentially, then a meaningless word is hidden in the below given answers. Find that word

(A) 5,1,3,5,20,8,18

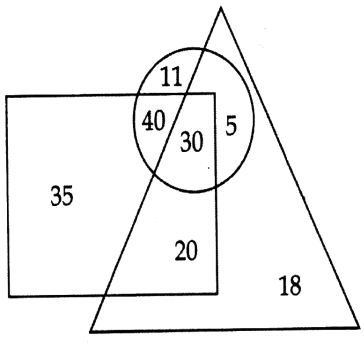
(B) 18,5,8,1,3,5,20

(C) 20,5,8,1,3,5,18

(D) 5,18,5,1,3,5,20

Answer (D)

60. If 'Singers' are denoted by 'Circle', 'Clerk' by 'Rectangle' and 'Males' by 'Triangle' and their proportionate numbers are depicted by the numbers given within the diagram in the area they are present. Find out how many persons are only 'Singers'?

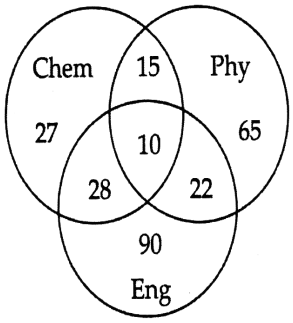


(A) 35 (B) 20

(C) 11 (D) 18

Answer (C)

61. In the diagram, the number of those candidates is given who passed in Chemistry, Physics and English. Total number of candidates who appeared for the examination was 600. Find the percentage of candidates who passed in at least two subjects



(A) 12.5 (B) 1.25

(C) 12.05 (D) 12

Answer (A)

62. How many faces are hidden in a cube ?

(A) 4 (B) 1

(C) 2 (D) 3

Answer (D)

63. A man is standing facing South. He turns 135° clockwise and then turns 225° anticlockwise. Find out in which direction is he facing ?

(A) East (B) West

(C) North (D) South

Answer (A)

64. A person covers a distance of first 120 metres at a speed of 4 m/sec, next 120 metres at 5m/sec and final distance of 120 metres at 6 m/sec, then during the complete journey. Find his average speed in km/hour

(A) $\frac{240}{37}$

(B) $\frac{648}{37}$

(C) $\frac{25}{3}$

(D) $\frac{100}{9}$

Answer (B)

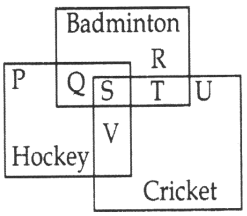
65. If X + Y means 'X is mother of Y'; X – Y means 'X is brother of Y'; X ÷ Y means 'X is father of Y'; X × Y means 'X is sister of Y'; then which of the following means "A is uncle of B" ?

(A) $A-M+N\div B$ (B) $B\div M+N\times A$

(C) $A+M-N\times B$ (D) $A-M\times N\div B$

Answer (D)

66. The given diagram represents those people who play hockey, cricket and badminton. See the diagram and find out those people who play all the three games



(A) T + U (B) Q + R
(C) P + Q + R (D) S

Answer (D)

67. Which of the following expressions will be true, if the expressions, R > O = A > S > T is definitely true ?

(A) O > T (B) S < R
(C) T > A (D) S = O

Answer (B)

68. In a class, number of boys is three times the number of girls. Which of the numbers given below cannot denote the total number of students in the class ?

(A) 48 (B) 44
(C) 46 (D) 40

Answer (C)

69. Average of 15 numbers is 68. Average of first 8 numbers is 63 and average of last 8 numbers is 70. Find out the eighth number

(A) 44 (B) 49
(C) 56 (D) 10

Answer (A)

70. Preeti is mother of Arun. Rahul is brother of Preeti. Neeta is mother of Seema. Neeta is sister of Rahul. What is the relation of Arun with Seema ?

(A) Brother (B) Nephew
(C) Cousin (brother) (D) Cousin (sister)

Answer (C)

71. Which year will have the same calendar as that of 2012 ?

(A) 2020 (B) 2040
(C) 2025 (D) 2031

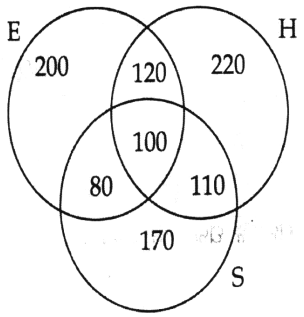
Answer (B)

72. Two clocks are set correctly at 10 am on Sunday. One clock loses 3 minutes in an hour while the other gains 2 minutes in an hour. By how many minutes do the two clocks differ at 4 pm on the same day?

(A) 25 min (B) 20 min
(C) 35 min (D) 30 min

Answer (D)

73. A result of a survey of 1000 persons with respect to their knowledge of Hindi (H), English (E) and Sanskrit (S) is given below



What is the ratio of those who know all the three languages to those who do not know Sanskrit ?

(A) $\frac{5}{27}$ (B) $\frac{10}{17}$
(C) $\frac{1}{10}$ (D) $\frac{1}{9}$

Answer (A)

74. If January 1 is a Friday, then what is the first day of the month of March in a leap year ?

(A) Tuesday (B) Wednesday
(C) Thursday (D) Friday

Answer (A)

75. In a code language, DEFENCE is written as CDEDMBD, then in the same language, NEED will be written as

(A) MDDC (B) ULDG
(C) MCCD (D) MCDC

Answer (A)

76. If in a code language, word LATE is written as 38, then the same language the word MAKE would be written as

(A) 25 (B) 26
(C) 27 (D) 30

Answer (D)

77. The distance between two towns is 800 km. A car starts from the first town with a speed of 30 km/hr. At the same time, another car starts from the second town with a speed of 50 km/hr. The distance in kilometre of the point where they meet from the first town is

(A) 200 (B) 300
(C) 400 (D) 500

Answer (B)

78. In the following question, what will come in place of question mark (?)

RAMO : SCPS : VXMJ : ?

(A) WPZN (B) WQZN
(C) WQPN (D) WZPN

Answer (D)

79. If 'dust' is 'air', 'air' is 'white', 'white' is 'yellow', 'yellow' is 'water' and 'water' is 'red', then where will be fish live ?

(A) Water (B) White
(C) Yellow (D) Red

Answer (D)

80. Choose the set from the given options which is similar to the given set.

Given set : (4,9,18)

(A) (8,14,22) (B) (10,15,25)
(C) (6,12,23) (D) (12,17,26)

Answer (D)

Direction for question numbers (81 to 83):

Find the odd one out from the given word/character/number

81. (A) 6 3 8 5 2 (B) 5 2 6 3 8
(C) 2 8 7 5 1 (D) 8 5 3 6 2

Answer (C)

82. (A) ROEHMT (B) FRTAEH
(C) LROBUA (D) THOREBR

Answer (D)

83. (A) Number
(B) Design
(C) Weight
(D) Shape

Answer (A)

84. If a clock rings one stroke at 1 O'clock, two strones at 2 O'clock, three strokes at 3 O'clock and so on, then how many strokes in all the clock will ring in one day ?

(A) 144 strokes (B) 136 strokes
(C) 156 strokes (D) 147 strokes

Answer (C)

85. What will come in place of question mark (?) in the series ?

150,152,149,153,148,154,?

(A) 155 (B) 152
(C) 147 (D) 149

Answer (C)

86. If the water reflection shows time as 6 hours 10 minutes, then the actual time will be

(A) 6 : 50 (B) 12 : 40
(C) 12 : 20 (D) 6 : 10

Answer (D)

87. Six friends A,B,C,D,E and F are sitting in a row facing east. C is between E and A. B is next right to E, but left of D. F is not on the right end. Who is on the left of A ?

(A) E (B) C
(C) D (D) F

Answer (D)

88. If 2 is deducted from all the odd digits and 3 is added to all the even digits in the number 3 6 7 5 2 4 9, then how many digits will appear twice in the new number formed ?

(A) None (B) 1
(C) 2 (D) 3

Answer (C)

89. If in 8 9 0 3 2 1 4 6 7 5, first digit is interchanged with sixth digit, second with the seventh and so on, then which digit will come seventh from right?

(A) 2 (B) 6
(C) 7 (D) 8

Answer (C)

90. What will come in place of question mark (?) in the following series ?

56,42,30,20,?,6

(A) 15 (B) 12
(C) 18 (D) 14

Answer (B)

91. How many times the hands of the clock meet in a day ?

(A) 22 (B) 21

(C) 2 (D) 24

Answer (A)

92. A,B,C,D and E are five rivers. A is smaller than B but longer than E, C is the longest and D is a little smaller than B and a little longer than A. Find the smallest river

(A) A (B) B

(C) C (D) E

Answer (D)

93. At 9 hours 30 minutes, find the angle between the hour hand and the minute hand

(A) 105° (B) 255°

(C) 125° (D) 105° and 255°

Answer (D)

94. With the help of the options given below, find the suitable number which will come in place of the question mark (?)

FED $\times$ 3 = 1629, BCD $\times$ 4 = 492, BEF $\times$ 1 = ?

(A) 451

(B) 145

(C) 514

(D) 415

Answer (B)

95. In the following number series, only one term is wrong. Find the wrong term

3 4 7 11 20 29 47 76

(A) 7 (B) 11

(C) 20 (D) 47

Answer (C)

96. In the following series of letters, which of the following options will come in place of question mark (?) ?

BXF, DVI, FTL, HRO, ?

(A) JOL (B) KPM

(C) KPL (D) JPR

Answer (D)

97. Study the given series carefully and find the option which is suitable in place of the omitted letters

_bc_ca_aba_c_ca

(A) abcba

(B) abbca

(C) ababb

(D) abcbb

Answer (D)

Direction for question numbers (98 to 100).

In each of the following question, one character is missing. Find the same on the basis of common given options

98. If 12 + 10 = 1205, 11 + 8 = 885, then 16 + 15 = ?

(A) 1025 (B) 130

(C) 2405 (D) 105

Answer (C)

99.

3A	5B	4C
45B	?	28A
15B	4A	7C

(A) 10C

(B) 15B

(C) 20C

(D) 30A

Answer (C)

100.

	4	5	
2	20	29	2
7	65	45	6
	?	3	

(A) 2

(B) 3

(C) 4

(D) 5

Answer (C)

PART-II : SCHOLASTIC APTITUDE TEST (SAT)

101. On which date, atom bomb was dropped on Hiroshima
(A) August 6, 1945 (B) August 20, 1945
(C) August 25, 1945 (D) August 30, 1945

Answer (A)

102. Which one was the first movement organised by Mahatma Gandhi in India
(A) Champaran Movement
(B) Kheda Movement
(C) Civil Disobedience Movement
(D) Quit India Movement

Answer (A)

103. At which place, the first conference of the Non-Aligned Nations was held ?
(A) Belgrade (B) Cairo
(C) Lusaka (D) Havana

Answer (A)

104. Who was the author of the "Mein Kampf" ?
(A) Napoleon (B) Hitler
(C) Mussolini (D) Lenin

Answer (B)

105. Which Round Table Conference was attained by Mahatma Gandhi ?
(A) First Round Table Conference
(B) Second Round Table Conference
(C) Third Round Table Conference
(D) None of these

Answer (B)

106. Which place of Odisha is known as 'Raktatirtha'?
(A) Iram (B) Dhamnagar
(C) Nimapada (D) Puri

Answer (A)

107. Who is the writer of 'Odia Bhagabata'?
(A) Kalidasa
(B) Jagannatha Dasa
(C) Upendra Bhanja
(D) Bhima Bhoi

Answer (B)

108. What was the immediate cause of the First World War ?
(A) Treaty of Paris
(B) Treaty of Berlin
(C) Policy of England
(D) Murder of Francis Ferdinand

Answer (D)

109. When did Mayurbhanj merge with Odisha?
(A) January 1, 1949 (B) March 1, 1949
(C) April 1, 1949 (D) June 1, 1949

Answer (A)

110. Which village of Puri district is famous for Patta Painting?
(A) Raghurajpur (B) Kadua
(C) Lataharan (D) Nimapada

Answer (A)

111. Under whose leadership, 'Khudai Khidmatgar' was formed ?
(A) Chittranjan Das
(B) Gopabandhu Das
(C) Bal Gangadhar Tilak
(D) Khan Abdul Gaffar Khan

Answer (D)

112. Who used the term 'Cold war' for the first time ?
(A) Ho Chi Minh (B) Mustafa Kemal
(C) Bernard Baruch (D) Lenin

Answer (C)

113. Which of the following hill ranges in India is different from the other three in terms of its origin as well as structure ?
(A) The Garo (B) The Khasi
(C) The Mizo (D) The North Cachar

Answer (C)

114. Which of the following sets of river valley projects in India is correctly arranged in North-South order?
(A) Koyna; Tungabhadra; Mettur; Periyar
(B) Koyna; Tungabhadra; Periyar; Mettur
(C) Periyar; Mettur; Tungabhadra; Koyna
(D) Tungabhadra; Koyna; Mettur; Periyar

Answer (A)

115. Which of the following soils is formed due to high temperature, high rainfall as well as high humidity?
(A) Black soil
(B) Lateritic soil
(C) Peaty and Marshy soil
(D) Red soil

Answer (B)

116. Which of the following pairs of places and the mineral extracted therein is incorrectly matched ?
(A) Kosamba – Mineral oil
(B) Khetri - Copper
(C) Musabani – Manganese
(D) Neyveli – Coal

Answer (C)

117. Which of the following industries in India is ideally suited to the co-operative sector ?
(A) Cotton textile (B) Fertiliser
(C) Petro-chemicals (D) Sugar

Answer (D)

118. What will be the temperature of a place (altitude: 2500 metres) if the sea level temperature in the same area is 27°C?
(A) 11°C (B) 16°C
(C) 27°C (D) 38°C

Answer (A)

119. Which among the following places does not receive precipitation during winter ?
(A) Chennai (B) Mangalore
(C) Shimla (D) Srinagar

Answer (B)

120. The latitudinal as well as longitudinal extent of the mainland India is approximately
(A) 28° (B) 29°
(C) 30° (D) 31°

Answer (C)

121. Which of the following oil seeds is cultivated in Northern India in the Kharif season but in Southern India in the Rabi season ?
(A) Groundnut (B) Mustard
(C) Sesamum (D) Sunflower

Answer (C)

122. Why no delta has been formed in the mouth of river Narmada ?
(A) The river flows through a rift valley
(B) The river mouth is affected by strong ocean currents and tides
(C) The sediment load carried by the river is low
(D) The stream is fast flowing due to a steep gradient

Answer (A&D)

123. The following local terms are used in the desert areas of Rajasthan in connection with 'rain water harvesting'. Identify the odd one out among them.
(A) Johad (B) Khadin
(C) Palar pani (D) Tanaka

Answer (C)

124. Which of the following group of trees is noticed in the Monsoon forests of India ?
(A) Acacia, Kikar, Silk cotton
(B) Birch, Juniper, Silver fir
(C) Ebony, Mahogany, Rubber
(D) Khair, Mahua, Kendu

Answer (D)

125. In which year World Trade Organisation was formed ?
(A) 1995 (B) 1998
(C) 1992 (D) 1996

Answer (A)

126. Which one of the followings does not promote national integration ?
(A) Secularism
(B) Social Justice
(C) Regional Disparity
(D) Economic Development

Answer (C)

127. In which year parliament enacted Right to Information Act ?
(A) 2005
(B) 1996
(C) 2002
(D) 2000

Answer (A)

128. Which one of the followings is not a permanent member of UN Security Council ?
(A) China (B) USA
(C) India (D) Soviet Russia

Answer (C)

129. How many Fundamental Duties are there in the Indian Constitution ?
(A) 06 (B) 10
(C) 08 (D) 12

Answer (B)

130. The responsibility of preparing the Electoral Roll in India lies with which of the followings ?
(A) Parliament
(B) Prime Minister's office
(C) Election Commission of India
(D) Supreme Court

Answer (C)

131. Which day is observed as the UN Day ?
(A) 24th November (B) 24th October
(C) 10th December (D) 26th January

Answer (B)

132. Which of the following is not a Fundamental Right under Indian Constitution now ?
(A) Right to Equality
(B) Right to Property
(C) Right to Freedom
(D) Right against exploitation

Answer (B)

133. Which of the following sources of energy is environment friendly ?
(A) Coal (B) Electricity
(C) Wind Energy (D) Natural Gas

Answer (C)

134. National Population Policy, 2000 targeted to achieve a stable population in India by the year
(A) 2020 (B) 2025
(C) 2030 (D) 2045

Answer (D)

135. Which kind of power accounts for the largest share of power generation in India ?
(A) Hydro-electricity (B) Thermal
(C) Nuclear (D) Solar

Answer (B)

136. A rise in the rate of economic growth due to a rising share of working age people in a population is called
(A) Demographic Pyramid
(B) Demographic Transition
(C) Demographic Dividend
(D) Dependency Ratio

Answer (C)

137. Which one of the following programmes was initiated with the main object of bridging the gap between irrigation potential created and potential utilised ?
(A) Watershed Development
(B) Command Area Development
(C) Comprehensive Crop Insurance Scheme
(D) Wasteland Development Programme

Answer (B)

138. The procurement prices are those
(A) At which government buys foodgrains for buffer stocks
(B) At which fair price shops sell foodgrains to the customers
(C) Price that provide minimum guarantee to the farmers
(D) Prices at which people buy food from market

Answer (A)

139. What should be the optimum area under forests in a country to maintain ecological balance ?
(A) 22% (B) 23%
(C) 26% (D) 33%

Answer (D)

140. Cropping pattern refers to
(A) Areas under a particular crop at a given point of time
(B) Ratio of area under one crop to another
(C) Relative distribution of cropped area under different crops at a given period of time
(D) Ratio of net sown area to total cropped area

Answer (C)

141. A closed loop lying in the xy plane caries a current and kept in a uniform magnetic field. The force acting on the loop is zero. Then magnetic field is in
(A) x direction (B) y direction
(C) z direction (D) any direction

Answer (D)

142. The reading of centigrade thermometer coincides with that of Fahrenheit thermometer in a liquid. The temperature of the liquid is

(A) -40°C (B) 0°C

(C) 100°C (D) 300°C

Answer (A)

143. In which mirror virtual image is magnified ?

(A) Plane mirror (B) Concave mirror

(C) Convex mirror (D) All of the above

Answer (B)

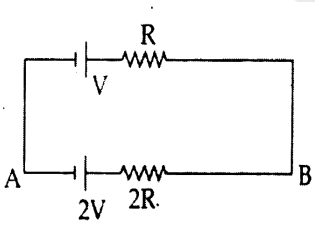
144. An electric bulb is designed to draw power P_0 at voltage V_0. At voltage V, if it draws power P, then

(A) $P = \frac{V_0}{V}P_0$ (B) $P = \frac{V_0}{V_0}P_0$

(C) $P = \left(\frac{V}{V_0}\right)^2 P_0$ (D) $P = \left(\frac{V_0}{V}\right)^2 P_0$

Answer (C)

145.



In the circuit shown, potential difference $P = \left(\frac{V_0}{V}\right)^2 P_0$ between A and B is

(A) $P = \left(\frac{V_0}{V}\right)^2 P_0$

(B) $-\frac{4}{3}$volt

(C) $+\frac{2}{3}$volt

(D) $-\frac{2}{3}$volt

Answer (B)

146. A block of wood floats in a bucket of water in a lift. Will the block sink if the lift accelerates upwards ?

(A) Yes

(B) No

(C) Depends upon the magnitude of acceleration

(D) None of the above

Answer (D)

147. Which of the following are true ?

(a) A convex lens always form a real image for a real object

(b) An air bubble inside water acts like a convex lens

(c) The real image formed by a lens is always inverted

(d) Focal length of a plane mirror is infinite

(A) (a), (c) (B) (c), (d)

(C) (b), (c) (D) (a), (d)

Answer (B)

148. Choose the correct statement"

(a) Speed of sound waves in air depends on its temperature

(b) Speed of light is independent of temperature

(c) Speed of sound wave is more in solid than in air

(d) Speed of light is more in air than in solid

(A) (a), (b)

(B) (a), (b), (c)

(C) (a), (d)

(D) (a), (b), (c), (d)

Answer (D)

149. 5 litres of kerosene oil weigh more in

(A) Summer season

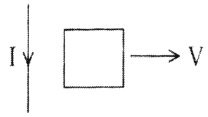
(B) Winter season

(C) Spring season

(D) None

Answer (B)

150.



A square metal loop is moving away from a current carrying straight conductor as shown in the figure. What is the direction of induced current across the loop ?

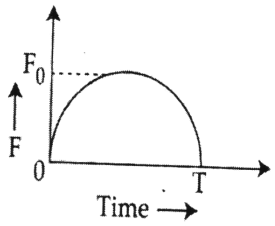
(A) Clockwise

(B) Anticlockwise

(C) No induced current

(D) May be clockwise or anticlockwise

Answer (A)

151. 

A particle having mass m initially at rest is acted upon by a variable force F for time interval T. The F ~ T graph is semicircular as shown in the figure. The velocity of the particle is u after time T. Then

(A) $u = \frac{\pi F_0^2}{2m}$ (B) $u = \frac{\pi T^2}{8m}$

(C) $u = \frac{\pi F_0 T}{4m}$ (D) $u = \frac{F_0 T}{2m}$

Answer (A/B/C)

152. If the length of the filament of a heater is reduced by 10%, the power of heater will

(A) Increase by about 9%

(B) Increase by about 11%

(C) Increase by about 19%

(D) Decrease by about 10%

Answer (B)

153. A ball is dropped from the top of a building at t=0. At a later time $t = t_0$ a second ball is thrown downward with initial speed u. The time at which two balls meet is given by

(A) $\frac{(u - gt_0)}{u} \cdot t_0$ (B) $\left(\frac{u - \frac{gt_0}{2}}{u - gt_0}\right) t_0$

(C) $\frac{t_0}{2}$ (D) $\left(\frac{u + gt_0}{u}\right) t_0$

Answer (B)

154. Which amount the following has highest melting point ?

$CaO, NaCl, CaCl_2, MgCl_2$

(A) $CaCl_2$

(B) $MgCl_2$

(C) CaO

(D) NaCl

Answer (C)

155. Electronic configuration of ions of two elements are $X^{3-}(2,8,8)$ and $Y^{-}(2,8,8)$. Which of the following may be the formula of their compound ?

(A) $XY; XY_3$ (B) $XY_3; X_2Y$

(C) $XY_3; XY_5$ (D) $X_3Y; XY_3$

Answer (C)

156. Which type of charge resides over the surface area of micelle formed by soap molecules ?

(A) +ve (B) –ve

(C) No charge (D) Both +ve and –ve

Answer (B)

157. 0.4 g NaOH in one litre solution has same molarity as what amount of NaCl dissolved in 500 mL of solution ?

(Na=23, Cl = 35.5)

(A) 2.925 g (B) 29.25g

(C) 0.2925 g (D) 0.5850 g

Answer (C)

158. Which chemicals are used in manufacture of Na_2CO_3 by Solvay's process ?

(A) NaOH, CO_2

(B) NaCl, CO_2, H_2O

(C) NaCl, CO_2, NH_3, H_2O

(D) None of these is correct

Answer (C)

159. Which of the following gases of group 18 is not found in atmosphere ?

(A) Helium

(B) Argon

(C) Radon

(D) Krypton

Answer (C)

160. Corrosion and rancidity are due to ____ and ____ respectively

(A) Oxidation; oxidation

(B) Oxidation; reduction

(C) Reduction; oxidation

(D) Reduction; reduction

Answer (A)

161. $C_4H_8O_2$ and C_4H_8O are the molecular formula of the organic compounds of which class ?
(A) Aldehyde and Ketone
(B) Carboxylic acid and Ester
(C) Ester and Aldehyde
(D) Esters and Ethers

Answer (C)

162. In which of the following number of oxygen atoms are maximum ?
(A) 0.25 mol $FeSO_4 \cdot 7H_2O$
(B) 0.20 mol H_2SO_4
(C) One mol HNO_3
(D) 0.5 mol $CuSO_4 \cdot 5H_2O$

Answer (D)

163. A green substance "X", when heated strongly produces a brown solid and gas "Y". The gas is passed into caustic soda and then the solution is treated with $BaCl_2$ to get a white solid "Z'. identify 'X', 'Y', 'Z' and choose the correct answer of their formula
(A) $FeSO_4 \cdot 7H_2O, SO_3, BaSO_4$
(B) $CuSO_4 \cdot 5H_2O, SO_2, Cu(OH)_2$
(C) $CuSO_4 \cdot 5H_2O$, $SO_3, BaSO_4$
(D) $FeSO_4 \cdot 7H_2O, SO_3, Fe(OH)_3$

Answer (A)

164. The metals which react with cold water, boiled water and steam to produce H_2 respectively are
(A) Na, Ca, Al (B) Na, Mg, Fe
(C) Na, Mg, Ca (D) Na, Ca, Fe

Answer (B)

165. Which of the following is correct ?
(A) Isotopes have different neutrons
(B) Isotones have different mass number
(C) Isobars have different neutrons
(D) All of these

Answer (D)

166. Formula of Sodium Zincate is
(A) Na_2ZnO_3 (B) Na_2ZnO_2
(C) Na_3ZnO_2 (D) $NaZnO_3$

Answer (B)

167. Which of the following is not a micronutrient used by plants ?
(A) Manganese (B) Chlorine
(C) Sodium (D) Magnesium

Answer (C/Grace)

168. Who coined the terms like Phenotype and Genotype for the first time?
(A) Gregor Mendel (B) W. Johannsen
(C) Carl Correns (D) De Vries

Answer (B)

169. In which subphase of meiosis-1, paired chromosomes look like rings ?
(A) Zygotene (B) Pechytene
(C) Diplotene (D) Diakinesis

Answer (C)

170. The type of Hepatitis transmitted by sexual contact is
(A) Hepatitis-A
(B) Hepatitis-B
(C) Hepatitis-C
(D) Hepatitis-D

Answer (B)

171. The maximum number of trophic levels that can exist in a pond ecosystem
(A) 3 (B) 4
(C) 5 (D) 7

Answer (C)

172. The nutrient present in milk in least amount is
(A) Iron (B) Calcium
(C) Potassium (D) Magnesium

Answer (A)

173. What phenotypic ratio will appear following a cross between AaBb and aabb?
(A) 3:1 (B) 1:2:1
(C) 1:1:1:1 (D) 9:3:3:1

Answer (C)

174. The total number of ova produced from 50 secondary oocytes are
(A) 50 (B) 100
(C) 200 (D) 250

Answer (A)

175. Tendril of pumpkin and spine of Bougainvillea are which type of organ ?

(A) Homologous organ

(B) Analogous organ

(C) Vestigial organ

(D) Connecting link

Answer (A)

176. The hormone associated with reabsorption of Sodium and secretion of Potassium in Kidney is

(A) Adrenalin (B) Aldosteron

(C) Prolactin (D) Thyroxine

Answer (B)

177. Riccia belongs to which group of plants ?

(A) Thallophyta (B) Bryophyta

(C) Pteridophyta (D) Gymnosperm

Answer (B)

178. In which chemical form the stored glucose in plants is transported to different parts through phloem ?

(A) Glucose (B) Fructose

(C) Sucrose (D) Starch

Answer (C)

179. Which of the followings is a critically endangered species in India ?

(A) Indian Cheetah

(B) Golden Langur of Assam

(C) One horned Rhino

(D) Great Indian Bustard

Answer (D)

180. The chemical nature of thromboplastin is

(A) Glycoprotein

(B) Phosphoprotein

(C) Lipoprotein

(D) Insoluble protein

Answer (C)

181. $\sqrt[4]{\sqrt[3]{2^2}}$ equals

(A) $2^{\frac{13}{12}}$ (B) $2^{\frac{1}{9}}$

(C) $2^{\frac{1}{6}}$ (D) $2^{\frac{1}{24}}$

Answer (C)

182. $\frac{\sin\theta}{1-\cos\theta}+\frac{\cos\theta}{1-\tan\theta}=?$

(A) $\cos\theta-\sin\theta$ (B) $\tan\theta+1$

(C) $\cos\theta+\sin\theta$ (D) $\cot\theta+1$

Answer (C)

183. One diagonal of a rhombus is 24 cm and its side is 13 cm. the area of rhombus is

(A) $115\,cm^2$ (B) $120\,cm^2$

(C) $125\ cm^2$ (D) $90\ cm^2$

Answer (B)

184. Product of $(1011)_2$ and $(101)_2$ is

(A) $(110111)_2$ (B) $(11011)_2$

(C) $(100111)_2$ (D) $(110110)_2$

Answer (A)

185. If the mean and mode of a data are 30 and 36 respectively, then its median is what ?

(A) 40 (B) 32

(C) 55.7 (D) 31.69

Answer (B)

186. If $\log_{10}a+\log_{10}b=\log_{10}(a+b)$ then :

(A) $a=\frac{b^2}{1-b}$ (B) $a=\frac{b}{1-b}$

(C) $a=\frac{b}{b-1}$ (D) $a=\frac{b}{1+b}$

Answer (C)

187. In what ratio does the lien $2x+y-4=0$ divides the line segment jointing (2, –2) and (3, 7) ?

(A) 9 : 2 internally (B) 9 : 2 externally

(C) 2 : 9 externally (D) 2 : 9 internally

Answer (D)

188. The sum of first 16 terms of an AP whose first and fourth terms are 5 and 20 respectively, is

(A) 600 (B) 765

(C) 680 (D) 690

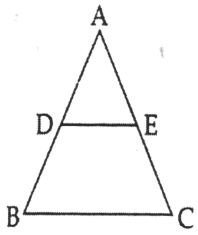
Answer (C)

189. What must be subtracted from 21, 35, 55, 106 so that the remainders are proportional ?

(A) 8 (B) 6

(C) 4 (D) 2

Answer (C)

190. 

In the given figure BC||DE, AE = 4 cm, DE = 6 cm and BC = 9 cm. The length of EC is

(A) 6 cm (B) 2 cm

(C) 4 cm (D) 3 cm

Answer (B)

191. What is the length of the diagonal of a cuboid having 30 cm long, 24 cm broad and 18 cm high ?

(A) 28 cm (B) $15\sqrt{2}$ cm

(C) $30\sqrt{2}$ cm (D) 60 cm

Answer (C)

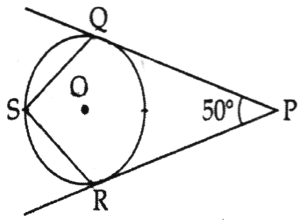
192. If $x + y = 3$ and $xy = 2$, then the value of $x^3 - y^3$ is

(A) 6 (B) 7

(C) 8 (D) 5

Answer (B)

193. In the given figure, O is the centre of the circle, PQ and PR are the tangents to the circle. The measure of $\angle QSR$ is



(A) 65° (B) 70°

(C) 75° (D) 60°

Answer (A)

194. If $\tan A = \frac{4}{3}$ and A is acute, then sinA=?

(A) $\frac{4}{5}$ (B) $\frac{5}{6}$

(C) $\frac{3}{5}$ (D) $\frac{1}{3}$

Answer (A)

195. If sum of the roots is 4 and sum of their squares is 9, the equation is

(A) $2x^2 - 8x - 7 = 0$

(B) $2x^2 + 8x - 7 = 0$

(C) $2x^2 - 8x + 7 = 0$

(D) $2x^2 + 8x + 7 = 0$

Answer (C)

196. The radii of two cylinders are in the ratio 2 : 3 and their heights are in the ratio 5 : 3. The ratio of their volumes is

(A) 27 : 20 (B) 20 : 27

(C) 14 : 19 (D) 19 : 14

Answer (B)

197. If $3^x - 3^{x-1} = 18$, then value of x^x is

(A) 30 (B) 27

(C) 18 (D) 15

Answer (B)

198. If $f(x) = \log\left(\frac{1+x}{1-x}\right)$, then $f\left(\frac{2x}{1+x^2}\right)$ is equal to

(A) $f(x)$ (B) $f(-x)$

(C) $f(2x)$ (D) $2f(x)$

Answer (D)

199. From a point, at a distance of 30 m from the foot of an electric pole the angle of elevation of the top of the pole was found to be 60°. Then the height of the pole in 'm' is

(A) 30 (B) $\frac{30}{\sqrt{3}}$

(C) 15 (D) $30\sqrt{3}$

Answer (D)

200. The ratio of the length of a side of an equilateral triangle and its height is

(A) $1:\sqrt{3}$ (B) $\sqrt{3}:2$

(C) $2:\sqrt{3}$ (D) $\sqrt{3}:1$

Answer (C)

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