Aakash

Medical | IIT-JEE | Foundations

(Divisions of Aakash Educational Services Pvt. Ltd.)

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Time : 3 Hours

Answers & Solutions

for

NTSE (Stage-I) 2017-18

Max. Marks : 200

INSTRUCTIONS TO CANDIDATES

1. Use blue/black ball point pen only. There is no negative marking.

2. This test booklet contains 200 questions of one mark each. All the questions are compulsory.

3. Part-I : MAT : 1 - 50 questions

   Part-II : Language : 51 - 100 questions

   Part-III : SAT : 101 - 200 questions

4. Answer each question by darkening the one correct alternative among the four choices on the OMR Sheet with blue/black ball point pen.

   Example :

Q. No.	Alternatives
1	① ② ● ④

   Correct way :

Q. No.	Alternatives
1	⊗ ⊘ ③ ④

   Wrong way :

   Student must darkening the right oval only after ensuring correct answer on OMR Sheet.

5. Disparity in mentioning (SC, ST & PH) in application form and OMR Sheet can make your candidature invalid.

6. 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.

7. Separate Sheet has been provided for rough work in this test booklet.

8. Please handover the OMR Sheet to the invigilator before leaving the Examination Hall.

   *Take all your question booklets with you.

9. Darken completely the ovals of your answers on OMR Sheet in the time limit allotted for that particular paper.

10. Your OMR Sheet will be evaluated through electronic scanning process. Incomplete and incorrect entries may render your OMR Sheet invalid.

11. Use of electronic gadgets, calculator, mobile etc., is strictly prohibited.

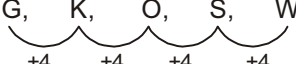# PART-I : MENTAL ABILITY TEST (MAT)

Direction : In each of the questions 1 to 4 a letter series is given with one term missing shown by question mark (?). This term is one of four alternatives given under it. Find the right alternative.

1.   G, K, O, S, _?_.

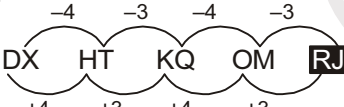   (1) U   (2) W

   (3) V   (4) X

Answer (2)

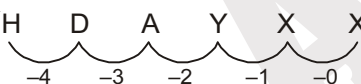**Sol.** G,   K,   O,   S,   W

   $+4$ $+4$ $+4$ $+4$

2.   DX, HT, KQ, OM, _?_.

   (1) SJ   (2) RK

   (3) QJ   (4) RJ

Answer (4)

Sol.

   -4 -3 -4 -3

   DX   HT   KQ   OM   **RJ**

   $+4$ $+3$ $+4$ $+3$

3.   H, D, A, Y, X, _?_.

   (1) X   (2) W

   (3) T   (4) V

Answer (1)

Sol. H   D   A   Y   X   X

   -4 -3 -2 -1 -0

4.   KLE, IND, GPC, _?_, CTA.

   (1) DRB   (2) BSE

   (3) ERB   (4) ECR

Answer (3)

Direction : In each of the questions 5 to 8 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 right alternative.

5.   4, 9, 25, _?_, 121, 169.

   (1) 36   (2) 49

   (3) 64   (4) 81

Answer (2)

6.   1, 3, 7, 13, 21, _?_, 43, 57.

   (1) 31   (2) 29

   (3) 30   (4) 32

Answer (1)

7.   5, 3, 10, 8, 17, 15, _?_, 24.

   (1) 25   (2) 23

   (3) 26   (4) 27

Answer (3)

8.   97, 77, 59, _?_, 29, 17.

   (1) 34   (2) 39

   (3) 37   (4) 43

Answer (4)

9.   In the given question there are two statements and they have two conclusion **I** and **II**. You have to take the given statements to be true even if they seem to vary to commonly known facts. Read the conclusions and decide which of the given conclusions logically follows from the two given statements even disregarding commonly known facts.

   Statements :   (i)   All women are intelligent.

                          (ii) Some women are educated.

   Conclusions : (I)   All educated women are intelligent.

                          (ii) All intelligent are women.

   (1) Only conclusion I is true

   (2) Only conclusion II is true

   (3) Both conclusions I and II are true

   (4) Neither conclusion I nor conclusion II is true

Answer (1)

Sol.   (W⊗E)   or   (W⊗E)

10.   In the given question, a statement is followed by two arguments **I** and **II**. You have to decide which of the following arguments is 'strong' or 'weak'.

   Statement: Continuous and comprehensive evaluation system should be implemented at school level.

   Arguments: (I) Yes, it helps in all-round development of the child.

                          (II) No, it puts more burden on teachers.

   (1) Arguments I and II both are strong

   (2) Arguments I and II both are weak

   (3) Arguments I is strong and II is weak

   (4) Argument I is weak and II is strong.

Answer (3)

11. In the question given below, a statement is followed by a reason. Choose correct option for them.
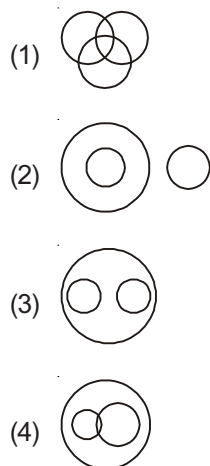
    Statement : Narmada river flows to west.

    Reason : Narmada river falls in the Bay of Bengal.

    (1) Statement and reason both are true

    (2) Statement is true but reason is false

    (3) Statement is false but reason it true

    (4) Statement and reason both are false.
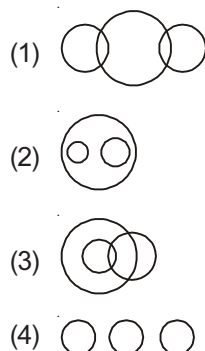
Answer (2)

12. Which of the following Venn diagrams correctly represents Bus, Car and Vehicle?

    (1)

    (2)

    (3)

    (4)

Answer (3)

13. Which of the following Venn diagrams correctly represents white colour, clothes and natural flowers?

    (1)

    (2)

    (3)

    (4)

Answer (1)

Direction : Out of 500 students, the following Venn diagram represents the number of students who got Distinction in Physics, Chemistry and Maths subjects. Answer Q. 14 and Q. 15 based on Venn diagram.
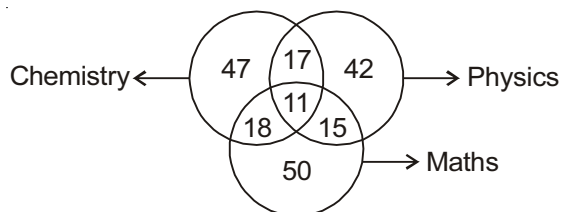
14. How many students got Distinction in both Physics and Maths subjects, when the students who got Distinction in Chemistry subject is not included?

    (1) 26

    (2) 15

    (3) 28

    (4) 24

Answer (2)

15. What is the percentage of students who got Distinction in all the three subjects?

    (1) 28%

    (2) 35%

    (3) 38%

    (4) 40%

Answer (+)

Direction : *In questions 16 and 17 three alternatives are alike in a certain way but the rest one is different. Find out the odd one and write correct answer.*

16. (1) Afghanistan

    (2) Kabul

    (3) Spain

    (4) Iraq

Answer (2)

17. (1) 1

    (2) 729

    (3) 144

    (4) 64

Answer (3)

18. 'A + B' means A is the son of B. 'A – B' means A is the wife of B. Then what does P + R – Q mean?

    (1) Q is the father of P

    (2) Q is the son of P

    (3) P is the father of Q

    (4) R is the son of Q

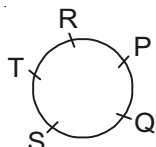**Answer (1)**

Sol. $R^{+} - Q^{-}$

$\quad\quad |$

$\quad P^{-}$

$\therefore$ Q is the father of P

19. P, Q, R, S and T are sitting around a circular table facing centre to the table. R is just the right to P and is second to the left of S. T is not between P and S. Who is second to the left of R?

    (1) Q
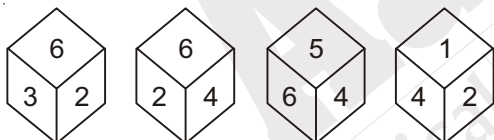
    (2) S

    (3) T

    (4) P

Answer (1)

Sol.

20. If '<' means '–', '>' means '+', '=' means '×' and '$' means '÷', then what will be the value of 27 > 81 $ 9 < 6?

    (1) 6

    (2) 36

    (3) 30

    (4) 54

Answer (3)

Sol. 27 + 81 ÷ 9 – 6 = 30

21. The four different positions of the dice are given below. Which number is on the face opposite to 6?

    (1) 1

    (2) 2

    (3) 3

    (4) 4

Answer (1)

22. All faces of a solid cube of edge 8 cm are coloured. It is divided equally in the cubes of edge 2cm. How many cubes will have all faces coloured?

    (1) 1

    (2) 0

    (3) 8

    (4) 4

Answer (2)

Sol. No. of cubes will have all face coloured = 0

23. In a coded language the word 'SOLID' is written as 'HLORW', then in the same code language 'GAS' will be written as

    (1) T H Z

    (2) T Y I

    (3) T Z H

    (4) Z H T

Answer (3)

24. If in a certain code I = 9 and GIRL = 46 then BOY = ?

    (1) 37

    (2) 39

    (3) 24

    (4) 42

Answer (4)

Sol. BOY
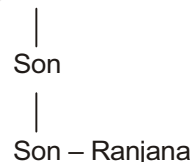
    2 + 15 + 25 = 42

25. If Ranjana is the sister of the son of Sohan's son, how is Ranjana related to Sohan?

    (1) Daughter

    (2) Sister

    (3) Granddaughter

    (4) Uncle

Answer (3)

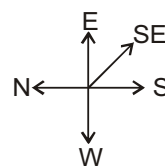**Sol.** Sohan

    |

    Son

    |

    Son – Ranjana

26. If North direction is called East and South direction is called West, then what will be called North-East direction?

    (1) North-East

    (2) East-South

    (3) West-South

    (4) North-West

Answer (2)

Sol. NE ⇒ SE

27. How many pairs of successive numbers have a difference of 2 in the following sequence?

6, 4, 1, 2, 2, 8, 7, 4, 2, 7, 5, 3, 8, 6, 2, 1, 7, 0, 4, 1, 3, 2, 8, 6
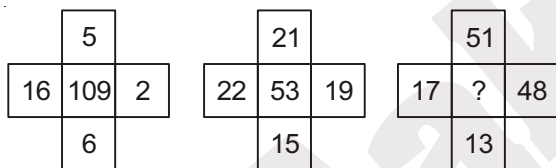
(1) 4

(2) 5

(3) 6

(4) 7

Answer (4)

Sol. 6, 4, 1, 2, 2, 8, 7, 4, 2, 7, 5, 3, 8, 6, 2, 1

7, 0, 4, 1, 3, 2, 8, 6

28. A — Medicine   B — Diagnosis   C — Doctor
    D — Fever   E — Recovery

(1) D C A B E

(2) D E C A B

(3) D C B A E

(4) C D B A E

Answer (3)

29. Find the missing number (?) from the given alternatives, when same rule is applied in all three situations.

	5				21				51	
16	109	2		22	53	19		17	?	48
	6				15				13	

(1) 7

(2) 25

(3) 49

(4) 129

Answer (2)

Sol.

	5				21				51	
16	109	2		22	53	19		17	?	48
	6				15				13	

$(16 - 6)^2 + (5 - 2)^2$ | $(22 - 15)^2 + 2^2$ | $(17 - 13)^2 + (51 - 48)^2$

$= 100 + 9$ | $= 49 + 4$ | $= 4^2 + 3^2$

$= 9$ | $= 53$ | $= 25$

30. As 'part' is related to 'whole', in the same way an 'Arc' is related to which of the following?

(1) Rectangle

(2) Circle

(3) Triangle

(4) Square

Answer (2)

Direction : In questions 31 to 34 there are two sets of figures. One set contains problem-figures while the other has answer-figures. There is a sequence according to which the problem-figures are arranged. You have to select an answer-figure which can be added in sequence with the problem-figures. Choose the correct figure.
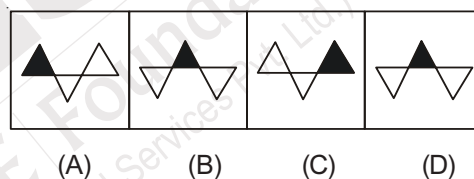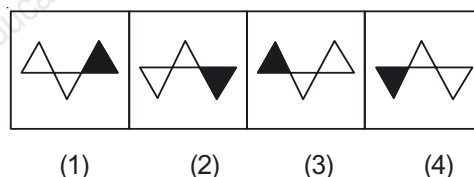
31. Problem figures
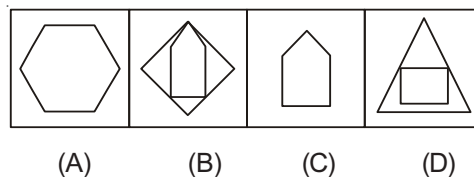
(A)   (B)   (C)   (D)

Answer figures
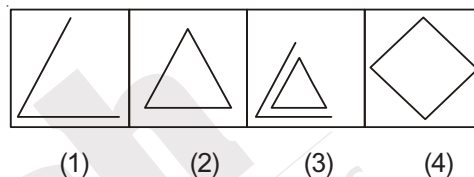
(1)   (2)   (3)   (4)
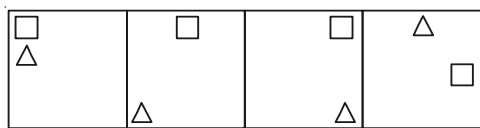
Answer (4)

32. Problem figures

(A)   (B)   (C)   (D)

Answer figures

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

Answer (3)

33. Problem figures
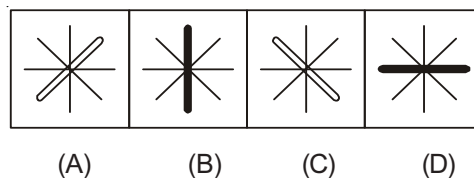
(A)   (B)   (C)   (D)

Answer figures
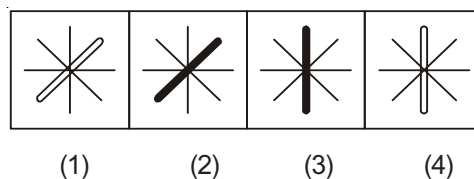
(1)   (2)   (3)   (4)
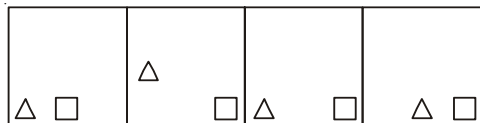
Answer (1)

34. Problem figures

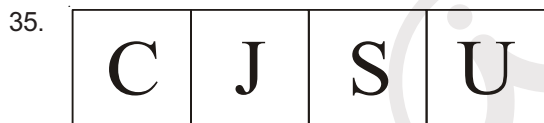(A)   (B)   (C)   (D)
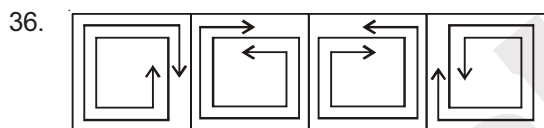
Answer figures

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

Answer (4)

Direction : In question 35 to 38 there are four figures given in each. One of these does not correlate with the rest of the figures. Select that odd figure.
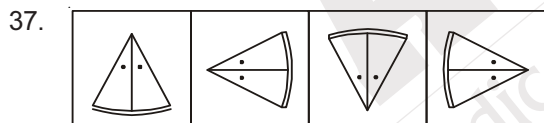
35.

C   J   S   U

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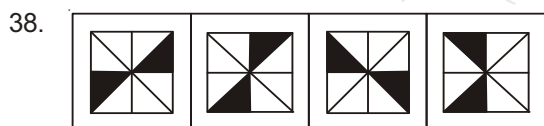
Answer (4)

36.

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

Answer (3)

Sol. All are clockwise but (3) is anticlockwise

37.

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

Answer (1)

38.
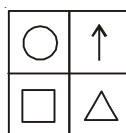

(1)   (2)   (3)   (4)

Answer (4)

Direction : In questions 39 and 40, find the correct mirror image of the given figure, when mirror is placed on right side of the figure.
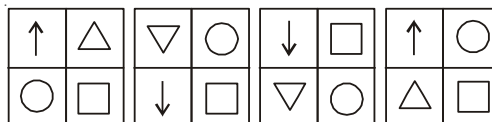
39. **STOP**

(1) ƧTOꟼ   (2) ꟼOTƧ
(3) ꟼTOꟼ   (4) ꟼOTꟻ

Answer (2)

40. Question image

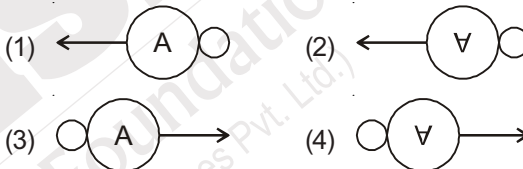Answer image

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

Answer (4)

Direction : In questions 41 and 42 select the correct water image of the given figure.

41. Question figure

Answer figures

(1)   (2)

(3)   (4)

Answer (2)
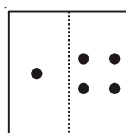
42. Question figure

X 7 W 4

Answer figures

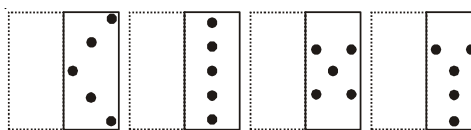(1) Ｘ Ⱡ Ｗ ᔭ   (2) Ｘ 7 Ｍ 4
(3) Ｘ Ⱡ Ｗ ᔭ   (4) Ｘ Ⱡ Ｗ ᔭ

Answer (1)

Direction : A square transparent sheet with a pattern is folded along the dotted line. Which of the following answer figures is formed after folding the transparent sheet?
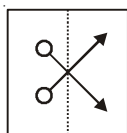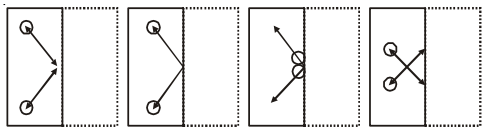
43. Transparent sheet

Answer figures

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

Answer (3)

44. Transparent sheet
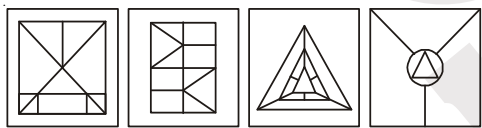

Answer figures

(1)　　(2)　　(3)　　(4)

Answer (2)

Direction : *In the following figures there is a question figure, which is embedded in one of the answer-figures. Trace out the correct figure.*
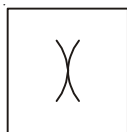
45. Question figure

Answer figures

(1)　　(2)　　(3)　　(4)

Answer (3)

46. Question figure

Answer figures
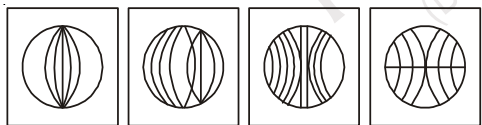
(1)　　(2)　　(3)　　(4)

Answer (4)

47. Which of the answer figures completes the given matrix figure?

(1)

(2)

(3)

(4)
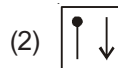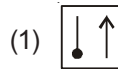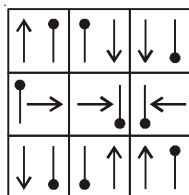
Answer (1)

48. If 20 * 3 = 180 and 4 * 5 = 100, then what is the value of 7 * 7* ?
    (1) 21
    (2) 49
    (3) 343
    (4) 7

Answer (3)

Sol. 20 × 9 = 180

　　　4 × 25 = 100

　　　7 × 49 = 343

49. Determine the number of squares in the following figure :
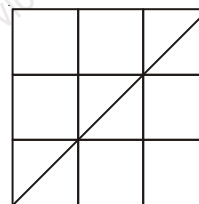
    (1) 14
    (2) 9
    (3) 10
    (4) 16

Answer (1)

50. How many cubes are laid on a plane as shown in the following figure?
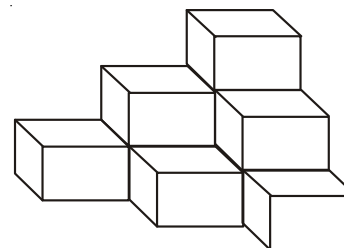
    (1) 14　　　　　　(2) 12
    (3) 10　　　　　　(4) 8

Answer (3)

PART-II : LANGUAGE TEST

Direction for Question No.51-55 : Read the passage and answer the questions based on it.

Of all the trees of southern Asia, the banyan is unique, not only for the manner of its growth, but for the area of shade it provides from the burning sun. Its close relationship with man has evolved over the years to make the banyan a popular meeting place, a focal point worship and a source of practical materials for commerce.

Known as the 'Strangler fig' because of its unusual manner of growth, the banyan is an epiphyte or air plant, that has its birth in the branches of a host tree and lives on airborne moisture and nutrients. Banyan seeds are deposited by bird, bats or monkeys in the rich soil collected in the crevices of host tree branches.

As the banyan grows, it sends aerial roots down the trunk of the supporting tree. In time, the roots that reach the ground choke the host tree by preventing its trunk from enlarging. The two best known species of banyans are : the Indian, one of the world's largest tropical tree; and the Chinese, a smaller with fewer aerial roots.

51. The banyan tree is unique for
    (1) It grows in southern Asia
    (2) It is a small tree
    (3) Its growth is unusual and it gives shade for big area
    (4) Its fruit is very big

Answer (3)

Sol. Hint : Line number 2 in passage

52. The banyan tree is a focal point of worship for
    (1) Birds   (2) Wild animals
    (3) Nature   (4) Man

Answer (4)

Sol. Hint : Line number 3

53. Owing to its unusual manner of growth, the banyan tree is called
    (1) A place of worship   (2) A place of rest
    (3) A strangler fig   (4) A tree of beauty

Answer (3)

Sol. Hint : 2nd paragraph Ist line

54. The two species of banyan trees are
    (1) The Indian and the Chinese
    (2) The shady and the big
    (3) The aerial and the land
    (4) The host and the guest

Answer (1)

Sol. Hint : 3rd paragraph last line

55. The aerial roots _____ the trunk of the host tree.
    (1) support   (2) grow
    (3) choke   (4) enlarge

Answer (3)

Sol. Hint : 3rd paragraph 2nd line

Choose the correct options to fill in the blanks

56. A doctor _____ the patients but God cures all.
    (1) treating
    (2) treated
    (3) treats
    (4) had treated

Answer (3)

Sol. Simple Present (cures → Hint)

57. While _____ basketball Sunil was badly hit.
    (1) play   (2) playing
    (3) played   (4) had played

Answer (2)

Sol. Past continuous (Hint → while)

58. _____ slow, this is school area.
    (1) Drive   (2) Is driving
    (3) Drove   (4) Driven

Answer (1)

Sol. Simple Present

59. 'Applaud' means
    (1) remark   (2) backbite
    (3) consent   (4) praise

Answer (4)

60. Find the odd one out.

    (1) advance   (2) promote

    (3) forward   (4) farther

Answer (4)

Sol. Farther means much far. The other three means to progress.

61. The new slogan _____ by our school teacher last year.

    (1) is given   (2) is being given

    (3) was given   (4) was being given

Answer (3)

Sol. Passive voice (Past simple)

    Hint : Last Year

62. The notorious band _____ today.

    (1) has been arrested

    (2) had been arrested

    (3) was been arrested

    (4) will have arrested

Answer (1)

Sol. Passive voice : Present Perfect

63. Let the picture _____

    (1) is hung   (2) being hung

    (3) be hung   (4) been hung

Answer (3)

Sol. If the sentence starts with 'let', it will have helping verb 'be' + v_3

64. Those cars _____ by robots years ago.

    (1) are being built   (2) are built

    (3) were built   (4) had built

Answer (3)

Sol. Passive voice : Simple Past

65. The sages said, "You will be winner".

    The sages said _____

    (1) if he would be winner

    (2) that he would be winner

    (3) that he will be winner

    (4) that they would be winner

Answer (2)

Sol. Will → would (Indirect sp.)

66. Sarla said to me,"I need your help today".

    Sarla told me _____

    (1) that she needed my help that day

    (2) that i needed her help that day

    (3) that she needed your help that day

    (4) that you needed my help now

Answer (1)

Sol. Need → needed; Today → that day (Indirect sp.)

67. The policeman said to my mother,"May I help you?"

    The policeman asked my mother _____

    (1) if she need his help

    (2) may he help you

    (3) that he might help her

    (4) if he might help her

Answer (4)

Sol. May → Might (Indirect). Question → If

68. The landlord commanded,"You _____ not enter my house again."

    (1) can

    (2) shall

    (3) may

    (4) could

Answer (2)

Sol. Shall is used for command or Promise

69. One _____ be punctual.

    (1) can   (2) may

    (3) should   (4) will

Answer (3)

Sol. Advice

70. The synonym of 'benevolent' is

    (1) honest   (2) holy

    (3) generous   (4) cruel

Answer (3)

71. The antonym of 'realistic' is

    (1) imaginary   (2) true

    (3) reliable   (4) authentic

Answer (1)

72. Gold and silver _____ precious metals.

    (1) is   (2) are

    (3) was   (4) am

Answer (2)

Sol. Two subjects joined with and verb → Plural

73. The wages of sin _____ death.

    (1) is   (2) are

    (3) were   (4) am

Answer (1)

Sol. wages → uncountable Noun

74. A rupee has _____ hundred paise.

    (1) the   (2) a

    (3) an   (4) any

Answer (2)

Sol. 'Hundred paise' is counted as a unit

75. Please give me _____ more tea.

    (1) few   (2) many

    (3) some   (4) any

Answer (3)

Sol. some → uncountable tea

76. "How _____ money do you need?" she asked the boy.

    (1) many   (2) some

    (3) any   (4) much

Answer (4)

Sol. much → uncountable Noun (money)

77. The correctly spelt word is

    (1) comepasion   (2) compassion

    (3) comepation   (4) compasion

Answer (2)

78. The correctly spelt word is

    (1) depandence   (2) deppandance

    (3) dependence   (4) dependance

Answer (3)

79. The Piper stepped _____ the street.

    (1) on   (2) in

    (3) into   (4) for

Answer (3)

Sol. Movement → into

80. The sailors sailed _____ the river

    (1) on   (2) down

    (3) below   (4) above

Answer (2)

Sol. street or river or stream → down/up

81. The mail train is due _____ 3 p.m.

    (1) on   (2) of

    (3) by   (4) in

Answer (3)

Sol. fixed preposition

82. The tiger is now confined _____ national parks.

    (1) to   (2) off

    (3) at   (4) of

Answer (1)

Sol. fixed preposition

83. He learnt to play physical games, _____ ?

    (1) did he

    (2) didn't you

    (3) doesn't he

    (4) didn't he

Answer (4)

Sol. simple past (Affirmative form)

84. I ain't interested in video games, _____

    (1) is you   (2) aren't you

    (3) am I   (4) are you

Answer (3)

Sol. am not (negative form)

85. Be just _____ fear not.

    (1) or   (2) but

    (3) and   (4) if

Answer (3)

Sol. Similar clauses

86. Catch me _____ you can.

    (1) or   (2) but

    (3) and   (4) if

Answer (4)

Sol. Condition in second clause

87. Nalini's grandfather dies _____ she was born.

    (1) but
    (2) before
    (3) and
    (4) so

Answer (2)

Sol. First action happened before second

88. The police caught the theif _____ looted travellers in the passenger trains.

    (1) which
    (2) whom
    (3) who
    (4) whose

Answer (3)

Sol. Who for person as subject

89. The king was happy _____ people gave him gifts.

    (1) where
    (2) when
    (3) whom
    (4) who

Answer (2)

90. She broke the glass _____ was very expensive.

    (1) what
    (2) how
    (3) who
    (4) that

Answer (4)

Sol. That for thing

Recorder the words to make sentences :

91. is / my / democracy / ideal / political

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

    (1) (a) (c) (b) (e) (d)   (2) (b) (e) (d) (a) (c)
    (3) (d) (b) (e) (a) (c)   (4) (a) (d) (e) (c) (b)

Answer (2)

Sol. My political ideal is democracy

92. Ideal / were / as an / couple / my parents /regarded

    (a)   (b)   (c)   (d)   (e)   (f)

    (1) (e) (b) (f) (c) (a) (d) (2) (c) (a) (d) (f) (e) (b)
    (3) (b) (d) (a)(e) (f) (c) (4) (e) (d) (f) (c) (a) (b)

Answer (1)

Sol. My parents were regarded as an ideal couple

93. The model / we / theoutlook / of / changed.

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

    (1) (b) (a) (e) (d) (c)
    (2) (d) (a) (e) (c) (b)
    (3) (b) (e) (c) (d) (a)
    (4) (a) (e) (c) (b) (d)

Answer (3)

Sol. We changed the outlook of the model

94. The correct suffix that goes with the word 'charger' is

    (1) - ment
    (2) - ity
    (3) - ish
    (4) - able

Answer (4)

Sol. Chargeable

95. The correct prefix that goes with the word 'legal' is

    (1) un-
    (2) in-
    (3) it-
    (4) im-

Answer (Bonus)

Sol. Illegal

For Question No. 96 and 97 choose the correct meaning of the given phrasal verbs

96. 'Call for'

    (1) shout
    (2) allow
    (3) require
    (4) give

Answer (3)

97. The company 'turned down' his application.

    (1) rejected
    (2) put on table
    (3) accepted
    (4) entered

Answer (1)

98. The correct example of homophones is

    (1) care - cure
    (2) liar - layer
    (3) except - accept
    (4) gold - glad

Answer (3)

Sol. Except and accept sounds the same but means different

99. A person who seeks to promote the welfare of others is

    (1) atheist
    (2) philanthropist
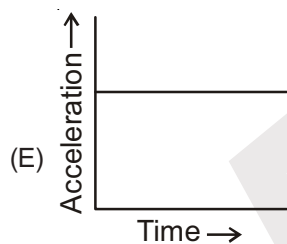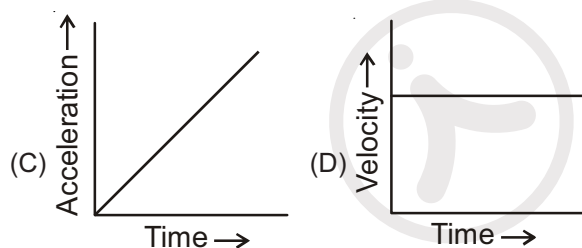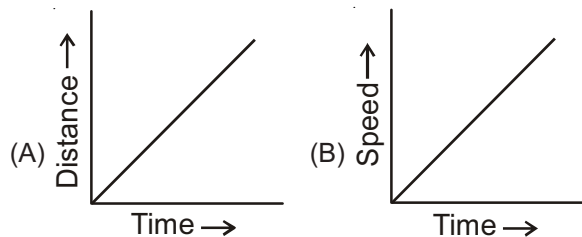   (3) fatalist
    (4) pessimist

Answer (2)

100. A poem consisting of fourteen iambic pentameter lines is

    (1) lyric
    (2) ballad
    (3) ode
    (4) sonnet

Answer (4)

PART-III : SCHOLASTIC APTITUDE TEST (SAT)

101. Consider the following five graphs (note the axis carefully). Which of the following represents motion at constant speed?

(1) D only
(2) D and E
(3) A, B and C
(4) A and D

Answer (4)

102. A bullet of mass 50 gm is horizontally fired with a velocity 100 ms^{-1} from a gun of mass 10 kg. What will be the recoil velocity of the gun?

(1) 100 ms^{-1}
(2) 500 ms^{-1}
(3) 0.5 ms^{-1}
(4) zero

Answer (3)

Sol. By law of conservation of momentum,

$m_1v_1 + m_2v_2 = m_1v_1 + m_2v_2$

$0 + 0 = (50 \times 10^{-3} \times 10^2) + (10 + v)$

$-10v = 5$

$v = \dfrac{-1}{2}$ m/s

103. A ball is shot vertically upward with a given initial velocity. It reaches a maximum, height of 100 m. If on a second shot, the initial velocity is doubled then the ball will reach a maximum height of

(1) 70.7 m
(2) 141.4 m
(3) 200 m
(4) 400 m

Answer (4)

Sol. $H \propto (u)^2$

$\dfrac{H}{H'} = \left(\dfrac{u}{2u}\right)^2$

$\Rightarrow \dfrac{H}{H'} = \dfrac{1}{4}$

$\Rightarrow \dfrac{100}{H'} = \dfrac{1}{4}$

$H' = 400\,m$

104. Let M denotes the mass of earth and let R denotes its radius. The ratio g/G at earth's surface is

(1) R^2 / M
(2) M / R^2
(3) M / R
(4) R / M

Answer (2)

Sol. $\dfrac{g}{G} = \dfrac{\left(\dfrac{GM}{R^2}\right)}{\left(\dfrac{G}{1}\right)} = \dfrac{M}{R^2}$

105. The unit 'hertz' is same as

(1) second
(2) second^{-1}
(3) metre
(4) metre^{-1}

Answer (2)

Sol. SI unit of frequency is hertz or (second)$^{-1}$

106. A sound wave has a frequency of 10 kHz and wavelength 3 mm. How much time will it take to travel 3 metre?

(1) 0.1 sec
(2) 1 sec
(3) 10 sec
(4) 0.01 sec

Answer (1)

Sol. $\upsilon = 10 \times 10^3$ Hz ; $\lambda = 3 \times 10^{-3}$ m

$v = \upsilon\lambda$

$v = 3 \times 10^{-3} \times 10 \times 10^3$

v = 30 m/s

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}} = \frac{3\,m}{30\,m/s}$$

$$= \frac{1}{10}\sec = 0.1\sec$$

107. The size of image formed by a concave mirror is same as the size of object. The position of the object will be

(1) at F

(2) between F and C

(3) at C

(4) between C and infinity

Answer (3)

108. A convex lens has focal length 30 cm. If an object is placed at a distance of 15 cm from it then the magnification produced by the lens is

(1) 6.66

(2) 0.5

(3) 1

(4) 2

Answer (4)

Sol. f = 30 cm, u = –15 cm, m = ?

By lens formula

$$\Rightarrow \frac{1}{v} - \frac{1}{u} = \frac{1}{f}$$

$$\Rightarrow \frac{1}{v} = \frac{1}{f} + \frac{1}{u}$$

$$\Rightarrow \frac{1}{v} = \frac{1}{(30)} + \frac{1}{(-15)}$$

$$\Rightarrow v = 30 \text{ cm}$$
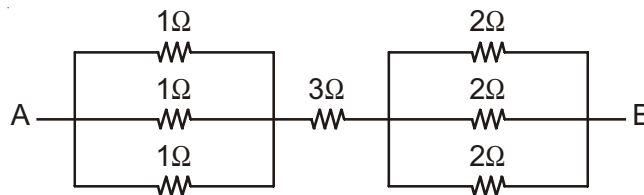
$$m = \frac{v}{u} = \frac{-30}{-15} = 2$$

109. The electrical resistivity of a conducting wire is K. If its length and area of cross-section are doubled then the new resistivity of the wire will be

(1) K

(2) $2K$

(3) $K/2$

(4) $K/4$

Answer (1)

Sol. Resistivity is independent of length and area of cross-section.

110. What is the equivalent resistance of the given circuit between points A and B?

(1) 10 Ω

(2) 4 Ω

(3) $\frac{14}{3}\,\Omega$

(4) $\frac{17}{6}\,\Omega$

Answer (2)

Sol. $R_{eq} = \frac{1}{3} + 3 + \frac{2}{3} = 4\,\Omega$

111. 4 bulbs rated 100 W each, operate for 6 hours per day. What is the cost of the energy consumed in 30 days at the rate of Rs. 5 / kWh?

(1) Rs. 360

(2) Rs. 90

(3) Rs. 120

(4) Rs. 400

Answer (1)

Sol.

Number of Devices	Device	Power (kW)	Time (hour)	Energy (kW hr)
4	Bulb	$\frac{100}{1000} \times 4$	6	$\frac{12}{5}$ kWhr

Energy in 1 day → $\frac{12}{5}$ kW hr

Energy in 30 day → $\frac{12}{5} \times 30 = 72$ kW hr

As 1 kW hr = Rs. 5/-

72 kW hr = Rs. 360/-

112. An electric current is passed through a straight wire. Magnetic compasses are placed at the points A and B. True statement is
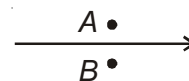
(1) their needles will not deflect

(2) only one of the needles will deflect

(3) both the needles will deflect in the same direction

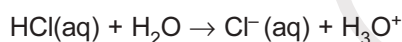(4) the needles will deflect in the opposite direction

Answer (4)

113. Which diagram below illustrates the path of a light ray as it travels from a given point X in air to another given point Y in glass?
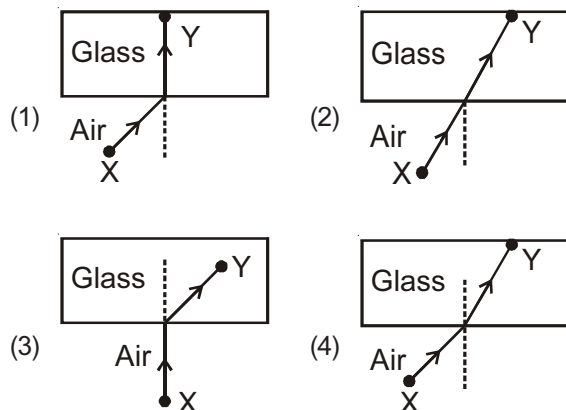
Answer (4)

Sol. Light travelling from air to glass bends towards normal.

114. Conjugate base of HCl in the following reaction is

$HCl(aq) + H_2O \rightarrow Cl^-(aq) + H_3O^+$

(1) H_3O^+ 　　　　(2) H_2O

(3) Cl^- 　　　　(4) HCl

Answer (3)

Sol. $HCl(aq) + H_2O \rightarrow Cl^-(aq) + H_3O^+$

According to Bronsted-Lowry theory, acid is proton (H^+) donor and base is proton acceptor.
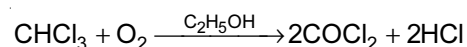
Cl^- is the conjugate base of HCl.

∴ HCl and Cl^- is a conjugate acid base pair.

115. The chemical formula of Plaster of Paris is

(1) $CaSO_4$ 　　　(2) $CaSO_4 \cdot 2H_2O$
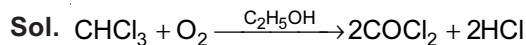
(3) $CaSO_4 \cdot \dfrac{1}{2}H_2O$ 　(4) $CaSO_4 \cdot H_2O$

Answer (3)

Sol. Formula of Plaster of Paris is $CaSO_4 \cdot \dfrac{1}{2}H_2O$ calcium sulphate hemihydrate.

116. Which type of catalyst is ethanol in the following reaction?

$CHCl_3 + O_2 \xrightarrow{C_2H_5OH} 2COCl_2 + 2HCl$

(1) Positive catalyst

(2) Negative catalyst

(3) Bio-catalyst

(4) Autocatalyst

Answer (2)

Sol. $CHCl_3 + O_2 \xrightarrow{C_2H_5OH} 2COCl_2 + 2HCl$

In this reaction ethanol is a negative catalyst as it reduces the rate of reaction.

117. Metalloid among the following is

(1) Lithium 　　　　(2) Sulphur

(3) Sodium 　　　　(4) Silicon

Answer (4)

Sol. Silicon is a metalloid.

118. The IUPAC name of $\begin{array}{c}CH_3 \\ CH_3\end{array}\!\!>\!C=CH_2$ is

(1) 1, 1-dimethyl-2-ethene

(2) 2-methyl-1-propene

(3) 2, 2-dimethyl ethene

(4) 2-methyl prop-2-ene

Answer (2)

Sol. $\begin{array}{c}\overset{③}{CH_3} \\ CH_3\end{array}\!\!>\!\overset{②}{C}=\overset{①}{CH_2}$

2-methyl-1-propene

119. The polymer formed by condensation of adipic acid and hexamethylene diamine is

(1) isoprene 　　　　(2) rayon

(3) terylene 　　　　(4) nylon-6, 6

Answer (4)

Sol.
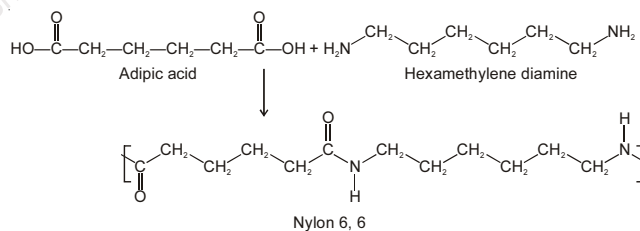
This is a polymerisation reaction.

120. The method for separation of mixture of common salt and ammonium chloride is

(1) fractional distillation

(2) sublimation

(3) chromatography

(4) crystallization

Answer (2)

Sol. Sodium chloride and ammonium chloride can be separated by sublimation as ammonium chloride undergo sublimation.

121. Number of molecules present in 14 gm of N_2 molecule is

(1) 6.022×10^{23} (2) 3.011×10^{23}

(3) 1.51×10^{23} (4) 6.022×10^{22}

Answer (2)

Sol. No. of molecules $= \dfrac{\text{Given mass}}{\text{Molar mass}} \times 6.02 \times 10^{23}$

$$= \dfrac{14}{28} \times 6.02 \times 10^{23}$$

$$= 3.01 \times 10^{23} \text{ molecules}$$

122. Which of the following element has an electronic configuration 2, 8, 6?

(1) Sulphur   (2) Oxygen

(3) Phosphorus   (4) Chlorine

Answer (1)

Sol. Atomic number of sulphur = 16

Electronic configuation = 2, 8, 6

123. Which of the following element shows variable valency?

(1) Na   (2) Mg

(3) Fe   (4) Zn

Answer (3)

Sol. Iron shows variable valency of +2 and +3.

124. Formula of aluminium carbonate is

(1) $Al_2(CO_3)_3$ (2) Al_2CO_3

(3) Al_2HCO_3 (4) $AlCO_3$
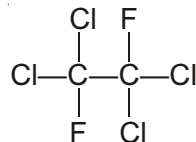
Answer (1)

Sol. Aluminium carbonate

Valency — $3 \underset{\text{Al}\diagdown \diagup \text{CO}_3}{\times} 2$ Formula– $Al_2(CO_3)_3$

125. Formula of Freon-112 is

(1) $C_2F_2Cl_4$

(2) CF_2Cl_2

(3) $CFCl_3$

(4) CCl_3F

Answer (1)

Sol.

```
     Cl  F
     |   |
Cl—C—C—Cl
     |   |
     F   Cl
```
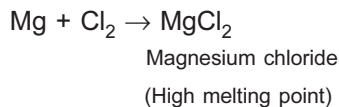
1, 1, 2, 2-Tetrachloro-1, 2-difluoroethane (CFC 112)

126. The element X reacting with chlorine forms a water soluble compound having high melting point. Element X is

(1) magnesium   (2) argon

(3) carbon   (4) neon

Answer (1)

Sol. Magnesium reacts with chlorine to form water soluble compound.

$$Mg + Cl_2 \rightarrow \underset{\substack{\text{Magnesium chloride}\\ \text{(High melting point)}}}{MgCl_2}$$

127. Which tissue is found in fibrous covering of coconut?

(1) Parenchyma   (2) Collenchyma

(3) Sclerenchyma   (4) Meristematic tissue

Answer (3)

Sol. Sclerenchyma is found in fibrous covering of coconut.

128. Nucleus of the cell was discovered by

(1) Robert Hooke   (2) Leeuwenhoek

(3) Robert Brown   (4) Virchow

Answer (3)

Sol. Nucleus of cell was discovered by Robert Brown.

129. Which of the following is a plant hormone?

(1) Insulin   (2) Thyroxine

(3) Cytokinin   (4) Oestrogen

Answer (3)

Sol. Cytokinin is the plant hormone.

130. Plant group more sensitive to the levels of sulphur dioxide in air is

(1) Thallophyta   (2) Lichen

(3) Pteridophyta   (4) Gymnosperm

Answer (2)

Sol. Lichen are sensitive to the level of sulphur dioxide in air.

131. Examples of perennial, evergreen and woody plants are

(1) Funaria, Marchantia

(2) Marsilea, Horse-tail

(3) Cycas, Pinus

(4) Ulothrix, Spirogyra

Answer (3)

Sol. Gymnosperms (*Cycas, Pinus*) are the perennial, evergreen and woody plants.

132. Turgidity of cell is maintained by

    (1) Vacuole   (2) Lysosome

    (3) Plastid   (4) Golgi body

Answer (1)

Sol. Turgidity of cell is maintained by vacuole.

133. The substance not essential for photosynthesis is

    (1) Sunlight   (2) Chlorophyll

    (3) Nitrogen   (4) Carbon dioxide

Answer (3)

Sol. Nitrogen is not essential for photosynthesis.

134. The nature of nerve impulse is

    (1) Chemical   (2) Magnetic

    (3) Electrochemical   (4) Electromagnetic

Answer (3)

Sol. The nature of nerve impulse is electrochemical.

135. The example of uricotelic animals is

    (1) Fishes   (2) Reptiles

    (3) Amphibians   (4) Mammals

Answer (2)

Sol. Reptiles are the animals which excrete uric acid. Hence known as uricotelic animals.

136. According to Mendel in monohybrid cross the genotypic ratio of F_2 generation is

    (1) 3 : 1   (2) 9 : 3 : 3 : 1

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

Answer (4)

Sol. The genotypic ratio of F_2 generation for monohybrid cross is 1 : 2 : 1.

137. Example of connective tissue is

    (1) Cartilage

    (2) Skeletal muscles

    (3) Skin of animals

    (4) Nerve cells

Answer (1)

Sol. Cartilage are the solid connective tissue.

138. The example of egg laying mammal is

    (1) Bat

    (2) Kangaroo

    (3) Pigeon

    (4) Echidna

Answer (4)

Sol. The egg laying mammal is *Echidna*.

139. Non-communicable disease is

    (1) Cancer   (2) AIDS

    (3) Amoebiasis   (4) Jaundice

Answer (1)

Sol. The non-communicable disease is cancer.

140. Animals of which phylum are pseudocoelomate?

    (1) Porifera   (2) Platyhelminthes

    (3) Aschelminthes   (4) Mollusca

Answer (3)

Sol. Aschelminthes are preudocoelomate.

141. If $\dfrac{3+2\sqrt{3}}{3-\sqrt{3}} = a + \sqrt{3}\,b$, then the value of $\sqrt{a+b}$ where a and b are rational number is

    (1) 5   (2) 8

    (3) 2   (4) 16

Answer (3)

Sol. $\dfrac{3+2\sqrt{3}}{3-\sqrt{3}} \times \dfrac{3+\sqrt{3}}{3+\sqrt{3}}$

$= \dfrac{(3+2\sqrt{3})(3+\sqrt{3})}{9-3}$

$= \dfrac{9+6\sqrt{3}+3\sqrt{3}+6}{6}$

$= \dfrac{15+9\sqrt{3}}{6}$

$= \dfrac{15}{6} + \dfrac{9}{6}$

$= \dfrac{5}{2} + \dfrac{3}{2}$

$a = \dfrac{5}{2}, b = \dfrac{3}{2}$

$\sqrt{a+b} = \sqrt{\dfrac{5}{2} + \dfrac{3}{2}}$

$= \sqrt{\dfrac{8}{2}} = \sqrt{4} = 2$

142. For which positive values of k and p, equations $2x^2 + px + 8 = 0$ and $p(x^2 + x) + k = 0$ have equal roots?

    (1) $k = 1, p = 4$ (2) $k = 2, p = 8$

    (3) $k = 4, p = 8$ (4) $k = 2, p = 4$

Answer (2)

Sol. $2x^2 + px + 8 = 0$

$D = 0$

$p^2 - 4 \times 2 \times 8 = 0$

$p^2 = 8 \times 8$

$\therefore \quad p = 8$

$p(x^2 + x) + k = 0$

$8(x^2 + x) + k = 0$

$\therefore \quad 8x^2 + 8x + k = 0$

$D = 0$

$\Rightarrow \quad 64 - 4 \times 8 \times k = 0$

$\therefore \quad k = \dfrac{8 \times 8}{4 \times 8} = 2$

143. If α, β are zeros of polynomial $x^2 - p(x + 1) - k$ such that $(\alpha + 1)(\beta + 1) = 6$, then value of k is

(1) 5

(2) –1

(3) –3

(4) –5

Answer (4)

Sol. $x^2 - p(x + 1) - k = 0$

$x^2 - px - p - k = 0$

$x^2 - px - (p + k) = 0$

$\alpha + \beta = p$

$\alpha\beta = -(p + k)$

$(\alpha + 1)(\beta + 1) = 6$

$\alpha\beta + (\beta + \alpha) + 1 = 6$

$-(p + k) + p + 1 = 6$

$-k + 1 = 6$

$\therefore \quad k = -5$

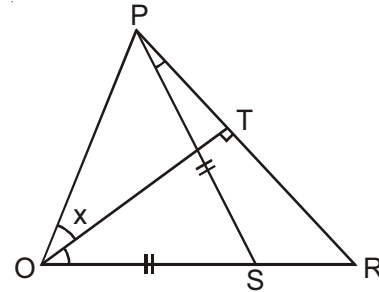144. Which is unit digit of $6^{18} - 5^{10}$?

(1) 5

(2) 8

(3) 1

(4) 9

Answer (3)

Sol. $\overset{\displaystyle 6^{18}}{\underset{\displaystyle 6}{\downarrow}} - \overset{\displaystyle 5^{10}}{\underset{\displaystyle 5}{\downarrow}} = \text{①}$

145. In the following figure $QT \perp PR$ and $QS = PS$. If $\angle TQR = 40°$ and $\angle RPS = 20°$ then value of x is
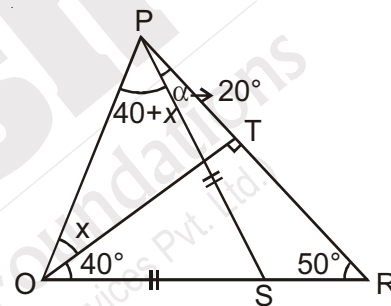
(1) 80°

(2) 25°

(3) 15°

(4) 35°

Answer (3)

Sol.

$40 + x + \alpha + x = 90°$, (where $\alpha = 20°$)

$60 + 2x = 90°$

$\therefore \quad x = 15°$

146. Which term of A.P. $20, 19\dfrac{1}{4}, 18\dfrac{1}{2}, \ldots$ is first negative term?

(1) 18th

(2) 15th

(3) 28th

(4) 27th

Answer (3)

Sol. $20, 19\dfrac{1}{4}, 18\dfrac{1}{2}, \ldots$

$T_n = 20 + (n - 1)\left(-\dfrac{3}{4}\right) < 0$

$= 20 + \dfrac{3}{4}(1 - n) < 0$

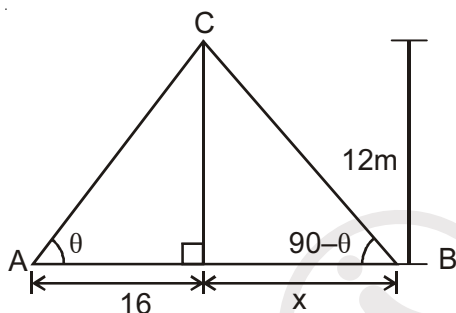or $\quad 80 + 3 - 3n < 0$

$\therefore \quad n > \dfrac{83}{3}$

$\therefore \quad n = 28s$

147. The angles of elevation of the top of a 12 m high tower from two points in opposite directions with it are complementary. If distance of one point from its base is 16 m, then distance of second point from tower's base is

(1) 24 m
(2) 9 m
(3) 12 m
(4) 18 m

Answer (2)

Sol.

$\tan\theta = \dfrac{12}{16}$

$\cot\theta = \dfrac{12}{x}$

$x = 12\tan\theta$

$= 12 \times \dfrac{12}{16} = 9$

148. If $m = \dfrac{\cos A}{\cos B}$ and $n = \dfrac{\cos A}{\sin B}$, then $(m^2 + n^2)\cos^2 B$ is equal to

(1) m^2
(2) n^2
(3) $m^2 + n^2$
(4) $m + n$

Answer (2)

Sol. $m = \dfrac{\cos A}{\cos B}$; $n = \dfrac{\cos A}{\sin B}$

$m^2 + n^2 = \left(\dfrac{\cos^2 A}{\cos^2 B} + \dfrac{\cos^2 A}{\sin^2 B}\right)\cos^2 B$

$= \cos^2 A\left[\dfrac{1}{\cos^2 B\sin^2 B}\right]\cos^2 B$
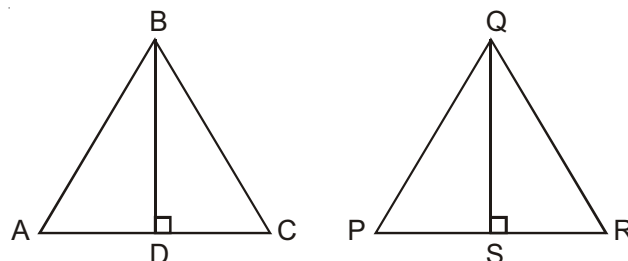
$= \dfrac{\cos^2 A}{\sin^2 B} = n^2$

149. If ratio of heightsss1 of two similar triangles is 4 : 9, then ratio between their areas is

(1) 2 : 3
(2) 3 : 2
(3) 81 : 16
(4) 16 : 81

Answer (4)

Sol. ∆ABC ~ ∆PQR

$\dfrac{ar(ABC)}{ar(PQR)} = \left(\dfrac{BD}{QS}\right)^2$

$= \left(\dfrac{4}{9}\right)^2 = \dfrac{16}{81}$

150. In a circle of 10 cm radius, two chrods $AB = AC = 12$ cm, then the length of the chord BC is

(1) 12 cm
(2) 9.6 cm
(3) 19.2 cm
(4) 7.2 cm

Answer (3)

Sol. $(10 - x)^2 + y^2 = 12^2$ ...(1)

$x^2 + y^2 = 10^2$ ...(2)

$x = 2.8$ cm ; $y = 9.6$ cm

$BC = 2y = 19.2$ cm
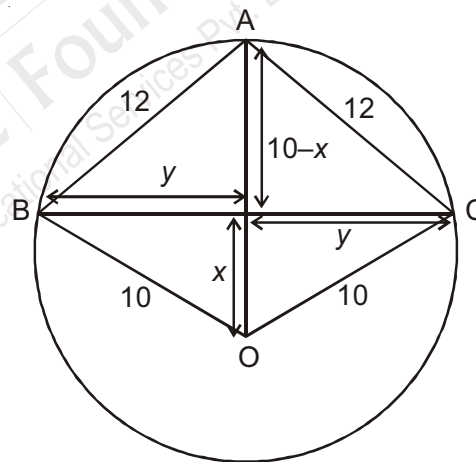
151. If mean of ten consecutive odd numbers is 120, then the mean of first five odd numbers among them is

(1) 113
(2) 115
(3) 114
(4) 116

Answer (2)

Sol. $n+1$, $n+3$, $n+5$, ... → 10 consecutive odd number.

$120 = \dfrac{10n + 100}{10} \Rightarrow 120 = n + 10$

$n = 110$

$= \dfrac{(n+1)+(n+3)+(n+5)+(n+7)+(n+9)}{5}$

$= \dfrac{5n + 25}{5} = n + 5 = 115$

152. Find the area of shaded region, where side of square *ABCD* is 10 cm and two arcs drawn from two opposite vertices of the square.

(1) $\dfrac{200}{7}$ sq. unit   (2) $\dfrac{400}{7}$ sq. unit

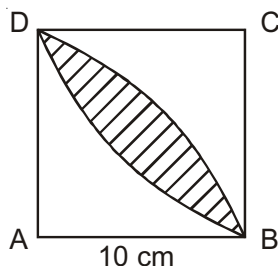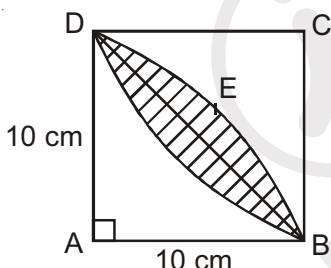(3) $\dfrac{600}{7}$ sq. unit   (4) $\dfrac{100}{7}$ sq. unit

Answer (2)

Sol.

$AD = AB = r$ (say)

Area of shaded portion

$= 2 \times ar(\text{segment } DBED)$

$= 2 \times \dfrac{AB^2}{2}\left[\dfrac{\pi \times \theta}{180} - \sin\theta\right]$

$= 2 \times \dfrac{10 \times 10}{2}\left[\dfrac{\pi \times 90}{180} - \sin 90°\right]$

$= 100\left[\dfrac{\pi}{2} - 1\right]$

$= 100\left[\dfrac{22}{14} - 1\right]$

$= 100\left[\dfrac{11-7}{7}\right] = \dfrac{400}{7}$ cm^2

153. Find the capacity of a glass which is in the shape of frustum of height 14 cm and diameters of both circular ends are 4 cm and 2 cm.

(1) $\dfrac{308}{3}$ cm^3 (2) $\dfrac{298}{21}$ cm^3

(3) 112 cm^2 (4) $\dfrac{298}{21}$ cm^2

Answer (1)

Sol. $r_1 = 1$ cm; $r_2 = 2$ cm, $h = 14$ cm
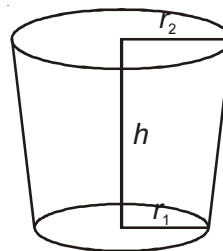
∴   Capacity = Volume

$= \dfrac{\pi h}{3}\left[r_1^2 + r_2^2 + r_1 r_2\right]$

$= \dfrac{22}{7} \times \dfrac{14}{3}[1 + 4 + 1 \times 2]$

$= \dfrac{44}{3}[7] = \dfrac{308}{3}$ cm^2

154. If a point $P\left(\dfrac{23}{5}, \dfrac{33}{5}\right)$, divides line *AB* joining two points *A*(3, 5) and *B*(*x*, *y*) is internally in ratio of 2 : 3, then the values of *x* and *y* will be

(1) $x = 4, y = 7$

(2) $x = 5, y = 9$

(3) $x = 7, y = 9$

(4) $x = 7, y = 8$

Answer (3)

Sol.
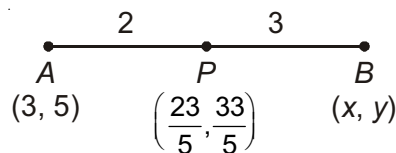
$\dfrac{23}{5} = \dfrac{3 \times 3 + 2 \times x}{5}$

or $23 - 9 = 2x$

$x = \dfrac{14}{2} = 7$

$\dfrac{33}{5} = \dfrac{3 \times 5 + 2y}{5}$

or $33 - 15 = 2y$

or $\dfrac{18}{2} = y$

$y = 9$

155. If a leap year is selected randomly, then what is the probability of having 53 Mondays in this year?

(1) $\dfrac{1}{7}$ (2) $\dfrac{2}{7}$

(3) $\dfrac{53}{366}$ (4) $\dfrac{52}{365}$

Answer (2)

Sol. Required probability $= \dfrac{2}{7}$

156. If the length of circumference of a circle is 60 cm more than its diameter, then length of its circumference is

(1) 14π cm   (2) 28π cm

(3) 35π cm   (4) 42π cm

Answer (2)

Sol. Circumference = 60 + 2r

$2\pi r = 60 + 2r$

$\Rightarrow 2\pi r - 2r = 60$

$\Rightarrow 2r(\pi - 1) = 60$

$r = \dfrac{30}{\pi - 1}$

$\therefore 2\pi r = 2\pi \times \dfrac{30}{\pi - 1} = \dfrac{60\pi}{\pi - 1}$

$= \dfrac{60}{15} \times 7\pi = 28\pi$
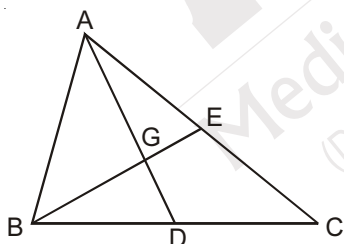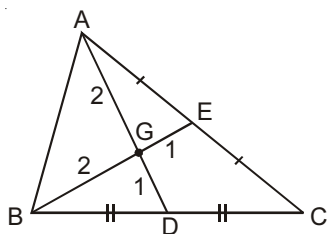
157. In given ΔABC, AD and BE are medians of triangle which intersect each other at point G. If area of ΔBDG is 1 cm², then what is the area of $DCEG$?

(1) 2 cm²   (2) 3 cm²

(3) 4 cm²   (4) 1 cm²

Answer (1)

Sol.

$\dfrac{ar(BDG)}{ar(ABG)} = \dfrac{GD}{AG}$

$\dfrac{1}{ar(ABG)} = \dfrac{1}{2}$

$ar(ABG) = 2\,cm^2$

$ar(ADC) = 3\,cm^2$

Also, $\Delta BGD \sim \Delta AGE$ (SAS)

$\therefore \quad ar(BGD) = ar(AGE)$

$\therefore \quad ar(DCEG) = ar(ADC) - ar(AGE)$

$= 3 - 1 = 2$ cm²

158. What is the radian value of angle 60°30′?

(1) $\dfrac{\pi^c}{3}$ (2) $\dfrac{121}{360}\pi^c$

(3) $\dfrac{121\pi^c}{180}$ (4) $\dfrac{121}{540}\pi^c$

Answer (2)

Sol. Angle = 60°30′

$= \left(60 + \dfrac{1}{2}\right)^\circ = \left(\dfrac{121}{2}\right)^\circ$

$180° \to \pi$ radian

$\therefore \quad 1° = \dfrac{\pi}{180}$

$\therefore \quad \left(\dfrac{121}{2}\right)^\circ = \dfrac{\pi}{180} \times \dfrac{121}{2} = \dfrac{121}{360}\pi^c$

159. The diameter of a sphere is decreased by 25%. By what per cent does its curved surface area decrease?

(1) 25%   (2) 56.25%

(3) 43.75%   (4) 62.5%

Answer (3)

Sol. New diameter, d'

$d' = d - \dfrac{25}{100} \times d$

$= \dfrac{3}{4}d$

Original diameter = d

Original radius = r

Original CSA = $4\pi r^2$

New radius, $r' = \dfrac{3}{4}r$

New (CSA)′ = $4\pi r'^2$

$$= 4\pi\left(\frac{3}{4}r\right)^2 = \frac{9\pi r^2}{4}$$

$\therefore$ %age decrease $= \dfrac{CSA - (CSA)'}{CSA} \times 100$

$$= \frac{4\pi r^2 - \frac{9}{4}\pi r^2}{4\pi r^2} \times 1N$$

$$= \frac{4 - \frac{9}{4}}{4} \times 100$$

$$= 43.75\%$$

160. Value of $(x - y)^3 + (y - z)^3 + (z - x)^3$ is

(1) $(x - y)^3 (y - z)^3 (z - x)^3$

(2) $3(x - y) (y - z) (z - x)$

(3) $x^3 + y^3 + z^3 - 3xyz$

(4) $x^3 + y^3 + z^3 - 2x^2y - 2y^2z - 2z^2x$

Answer (2)

Sol. $a = x - y$; $b = y - z$; $c = z - x$

$a + b + c = x - y + y - z + z - x = 0$

$\therefore \quad a^3 + b^3 + c^3 = 3abc$

$= \quad 3(x - y)(y - z)(z - x)$

161. Match List I with List II correctly and choose the correct code from the following :

List-I

(a) Meeting of the Estates General

(b) Bastille was destroyed on

(c) Abolishment of feudal system in France

(d) Swore of Tennis Court

List II

(i) 20th June, 1789   (ii) 4th August, 1789

(iii) 14th July, 1789   (iv) 5th May, 1789.

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

Answer (2)

162. The state of India where the Jallianwalla Bagh is situated, is

(1) Haryana   (2) Uttar Pradesh

(3) Punjab   (4) Rajasthan.

Answer (3)

163. The German King in 1871 was

(1) William I   (2) Nepoleon III

(3) Frederik William IV   (4) Emmanuel II.

Answer (1)

164.   Who discovered the spinning jenny ?

(1) John Ke

(2) T.E. Nicholson

(3) Raphael Samuel

(4) James Hargreaves.

Answer (4)

165. The year of the Partition of Bengal was

(1) 1903   (2) 1905

(3) 1907   (4) 1909

Answer (2)

166. Which one of the following countries was not among the Allied Powers ?

(1) England   (2) France

(3) Russia   (4) Germany

Answer (4)

167. When was the publication of Bengal Gazette initiated ?

(1) 1750   (2) 1780

(3) 1850   (4) 1880

Answer (2)

168. Consider the following Points :

(A) Mahatma Gandhi started salt March with his 78 confidential volunteers.

(B) Mahatma Gandhi violated the salt law at Dandi on April 20th, 1930.

Choose the correct answer from the codes given below.

(1) only (A)

(2) only (B)

(3) both (A) and (B)

(4) None of these

Answer (1)

169. After which war the British rule was founded in India?

(1) Battle of Sabrao

(2) Battle of Panipat

(3) Battle of Plassey

(4) Second Anglo Mysore war

Answer (3)

170. When was the Great Economic Depression between the two World Wars held ?

(1) 1921

(2) 1929

(3) 1935

(4) 1939

Answer (2)

171. Who composed Ananda Math ?

(1) Rabindranath Tagore

(2) Munsi Premchand

(3) Mahatma Gandhi

(4) Bankim Chandra Chattopadhyay.

Answer (4)

172. 'Khadar' is found in

(1) the northem mountain region

(2) Thar desert

(3) the vast northern plain

(4) the peninsular plateau.

Answer (3)

173. The rising place of the largest river of peninsular plateau is

(1) Betul

(2) Nasik

(3) Jabalpur

(4) Cuddalore

Answer (2)

174. The quantity of rainfall received on the Western Ghats by south-west monsoon is

(1) 100 - 150 cm

(2) 150 - 200 cm

(3) 200 - 250 cm

(4) above 250 cm'

Answer (4)

175. In which Indian forest are silver, fir and pine trees found ?

(1) Tropical deciduous forest

(2) Montane forest

(3) Mangrove forest

(4) Tropical evergreen rain forest.

Answer (2)

176. Match List - I and List II and choose the correct code from the following:

List - I	List - II
(A) Northern end	(i) 8° 4' N
(B) Southern end	(ii) 37° 6' N
(C) Eastern end	(iii) 68° 7' N
(D) Western end	(iv) 97° 25' N

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

Answer (3)

177. Which of the following is the major sugarcane producing state ?

(1) Uttar Pradesh

(2) Rajasthan

(3) West Bengal

(4) Madhya Pradesh

Answer (1)

178. Important deposits of which mineral are found in Koraput in Odisha ?

(1) Iron ore   (2) Coal

(3) Copper   (4) Bauxite

Answer (4)

179. In which year was the first successful cotton textile mill established in India ?

(1) 1853   (2) 1854

(3) 1855   (4) 1856

Answer (2)

180. Indian population policy 2000 not includes

(1) free education

(2) free from diseases

(3) reducing infant mortality rate below 30

(4) increase the employment opportunities.

Answer (4)

181. Gas transportation pipeline which passes through Kota in Rajasthan is

(1) Guwahati - Barauni - Allahabad - Kanpur

(2) Barauni - Rajbandh - Haldia

(3) Hazira - Vijaipur - Jagdishpur

(4) Salaya - Viramgam - Mathura - Delhi.

Answer (3)

182. In which state of India is red and yellow soil found ?

    (1) Chhattisgarh   (2) Rajasthan

    (3) Jammu and Kashmir (4) None of these.

Answer (1)

183. In which House is the finance bill presented first ?

    (1) Rajya Sabha

    (2) Lok Sabha

    (3) Both Lok Sabha and Rajya Sabha anywhere

    (4) Reserve Bank of India

Answer (2)

184. Who among the following is a part of the political executive ?

    (1) District Collector

    (2) Secretary of the Ministry of Home Affairs

    (3) Home Minister

    (4) Director General of Police'

Answer (3)

185. Which of the following institutions can make changes to an existing law of our country ?

    (1) Supreme Court of India

    (2) International Court of Justice

    (3) Prime Minister

    (4) Parliament.

Answer (4)

186. Which one of the following is considered as a fundamental right according to the Constitution of India ?

    (1) Right to work

    (2) Right to adequate livelihood

    (3) Right to protect one's culture

    (4) Right to get higher education

Answer (3)

187. Match the following in reference to constitution making Process :

    (A) B.N. Rao   (i)   President of the Constituent Assembly

    (B) B.R. Ambedkar   (ii) Member of the Drafting Committee

    (C) Rajendra Prasad   (iii) Chairman of the Drafting Committee

    (D) T.T. Krishnamachari (iv) Legal Advisor

    (1) (A) - iv, (B) - iii, (c) - i, (D) - ii

    (2) (A) - iv, (B) - ii, (c) - i, (D) - iii

    (3) (A)- i,   (B)- iii,   (c)- iv, (D)- ii

    (4) (A) - iii, (B) - iv, (c) - i, (D) - ii.

Answer (1)

188. Choose the correct statement describing the word 'code of conduct' :

    (A) A set of norms and guidelines to be followed by Political Parties

    (B) A set of norms and guidelines to be followed by candidates in Election

    (C) Guidelines for Election Commission

    (D) Compulsory voting for voters.

    (1) A, B, C

    (2) A, B

    (3) B, C

    (4) C, D

Answer (2)

189. According to the Constitution of India, how many maximum no. of judges can be appointed in Supreme Court ?

    (1) 29 + 1

    (2) 30 + 1

    (3) 28 + 1

    (4) 31 + 1

Answer (2)

190. How many members will be nominated in Legislative Council ?

    (1) 1/3

    (2) 1/2

    (3) 1/6

    (4) 1/4

Answer (3)

191. By which Article of the Constitution of India is the Prime Minister appointed ?

    (1) 74th

    (2) 75th

    (3) 52nd

    (4) 61st

Answer (2)

192. The Vice-President of India is elected by

    (1) elected members of Lok Sabha

    (2) all members of Rajya Sabha

    (3) elected members of Lok Sabha & Rajya Sabha

    (4) all members of Lok sabha, Rajya sabha and all state legislative assemblies

Answer (3)

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

	List - I		List - II
(A)	Union list	(i)	Computer Software
(B)	State list	(ii)	Communications
(C)	Concurrent list	(iii)	Police
(D)	Residuary powers	(iv)	Forests.

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

Answer (2)

194. The example of capital is

(1) Water

(2) Forest

(3) Climate

(4) Machine

Answer (4)

195. The rabi crop is

(1) Jowar

(2) Bajra (Millet)

(3) Maize

(4) Wheat.

Answer (4)

196. In India the currency note is issued by

(1) Reserve Bank of India

(2) State Bank of India

(3) NABARD

(4) Bank of India

Answer (1)

197. The source of institutional credit is

(1) Money lender   (2) Landlord

(3) Bank   (4) Relatives.

Answer (3)

198. The example of tertiary sector is

(1) Agriculture

(2) Fisheries

(3) making sugar from sugarcane

(4) Banking services

Answer (4)

199. The Government of India enacted the law of "Right to Information" Act in.

(1) October, 2005   (2) November, 2006

(3) December, 2007   (4) January, 2008

Answer (1)

200. The Multinational Company of india is

(1) Infosys   (2) Asian Paints

(3) Tata Motors   (4) All of these.

Answer (4)

❑   ❑   ❑