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 : 1 - 100 questions

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

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

    Example :

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

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

5. Students are not allowed to scratch / alter / change out an answer once marked on OMR Sheet, by using white fluid / eraser / blade / tearing / wearing or in any other form.

6. Separate sheet has been provided for rough work in this test booklet.

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

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

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

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

PART-I : MENTAL ABILITY TEST (MAT)

Directions (Q.1 to Q.10) : In the number series given below, one number is missing, Each series is followed by four alternatives(1), (2), (3) and (4). One of them is the right answer. Identify and indicate it as per the "Instructions".

1. 26, 4, 20, 10, 14, 16, 8, 22, 2, 28, _____

    (1) 6   (2) 34

    (3) −4   (4) −6

    Answer (3)

2. 17, 37, 77, 157, _____

    (1) 317   (2) 347

    (3) 417   (4) 217

    Answer (1)

3. 0, 6, 24, 60, 120, _____

    (1) 196   (2) 210

    (3) 206   (4) 216

    Answer (2)

4. 789, 678, 567, 456, 345, _____

    (1) 111   (2) 234

    (3) 244   (4) 254

    Answer (2)

5. 39, 56, 73, 90, 107, 124, _____

    (1) 137   (2)   147

    (3) 161   (4) 141

    Answer (4)

6. 4, 32, 8, 64, 16, 128, _____

    (1) 64   (2) 156

    (3) 48   (4) 32

    Answer (4)

7. 14, 11, 13, 10, 12, 9 _____

    (1) 11   (2) 15

    (3) −3   (4) 6

    Answer (1)

8. 6, 24, 60, 120, _____

    (1) 224   (2) 210

    (3) 240   (4) 180

    Answer (2)

9. 0, 9, 21, 36, 54, _____

    (1) 144   (2) 75

    (3) 69   (4) 77

    Answer (2)

10. 12, 15, 27, 42, 69, 111, _____

    (1) 160   (2) 164

    (3) 174   (4) 180

    Answer (4)

Directions (Q.11 to Q.20) : Questions have become wrong due to wrong order of signs. Choose the correct order of signs from the four alternatives given under each question, so that the equation becomes right. Write it in your answer sheet against the corresponding question number.

11. 59 − 21 × 8 = 10

    (1) − = +   (2) + = ×

    (3) = + −   (4) − = ×

    Answer (2)

12. 17 = 3 + 43 × 8

    (1) − = +   (2) ÷ = +

    (3) × = +   (4) + − =

    Answer (3)

13. 22 = 14 + 48 − 12

    (1) −×÷   (2) × = −

    (3) + = −   (4) = + ÷

    Answer (3)

14. 6 + 12 = 48 − 24

    (1) ÷ = +   (2) + − =

    (3) + = ÷   (4) ×− =

    Answer (4)

15. 30 ÷ 26 × 8 = 7

    (1) + = ×   (2) ×− =

    (3) −× =   (4) − + =

    Answer (1)

16. 6 − 3 = 12 ÷ 6

    (1) = + −   (2) − = +

    (3) + = ÷   (4) × = +

Answer (4)

17. 48 + 8 ÷ 8 = 2

    (1) = + ×   (2) ÷ = −

    (3) −÷ =   (4) + = ÷

Answer (2)

18. 5 = 4 + 11 − 9

    (1) + = −   (2) −× =

    (3) + = ÷   (4) × = +

Answer (4)

19. 4 × 9 = 6 + 1

    (1) = − +   (2) = − +

    (3) + − =   (4) = + −

Answer (1)

20. 3 × 8 = 19 ÷ 5

    (1) × = +   (2) ÷ x =

    (3) = + −   (4) × + =

Answer (1)

Directions (Q.21 to Q.30) : In each of the following questions, a letter series is given, in which some letters are missing. The missing letters are given in the proper sequence as one of the alternatives. Find the correct alternative.

21. _ BAA_BBB_AB_

    (1) AABB

    (2) BAAB

    (3) ABAB

    (4) BBAB

Answer ()

22. _ _ ABA_ _ BA _ AB

    (1) BAABB   (2) ABBAB

    (3) BBABA   (4) ABBBA

Answer (2)

23. C_BBA_CAB_AC_AB_AC

    (1) BCACB   (2) ABCBC

    (3) BABCC   (4) ACBCB

Answer (4)

24. _op_mo_n_ _pnmop _

    (1) mnpmon   (2) mnompn

    (3) mnpomn   (4) mpnmop

Answer (1)

25. A_BAB_AB_ABB

    (1) AAA   (2) BBB

    (3) BBA   (4) ABB

Answer (2)

26. AC_CAB_BACA_ABA_ACAC

    (1) AACB   (2) BCBB

    (3) BABB   (4) ACBC

Answer (1)

27. ABB_ _ AB _ B _ BBA _ A

    (1) BBBAB   (2) ABAAB

    (3) BBABB   (4) BABBA

Answer (4)

28. PQR _ _ RSPRS _ _ SPQ_

    (1) QRSPQ   (2) SPQPQ

    (3) SQPQR   (4) RPQSQ

Answer (3)

29. U V_V_U_W V_U V_V U U_W V U

    (1) V U W V U W   (2) U V W V U W

    (3) W V V U W V   (4) W U V U W V

Answer (4)

30. W _ V _ _ X V _ W _ V W _ X V

    (1) X W W W X W   (2) X W V X W V

    (3) X V W X W X   (4) V W X V W X

Answer (1)

Directions (Q.31 to Q.40) : Out of the four figures (1), (2), (3), (4) given in each question, three are similar in a certain way. Choose the figure which is different from the other figures.

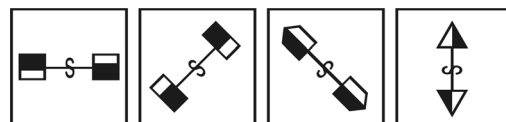31. Choose the figure which is different from the rest.
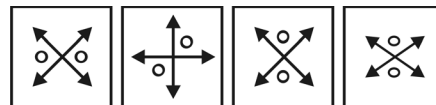
    (1) 1   (2) 3

    (3) 2   (4) 4

Answer (4)
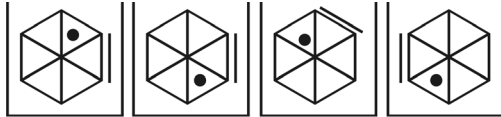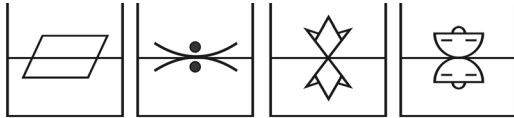
32. Choose the figure which is different from the rest.

    (1) 2   (2) 1

    (3) 4   (4) 3

Answer (4)

33. Choose the figure which is different from the rest
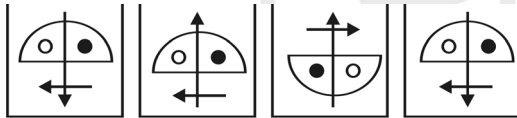
(1) 1 (2) 4
(3) 3 (4) 2
Answer (4)

34. Choose the figure which is different from the rest.
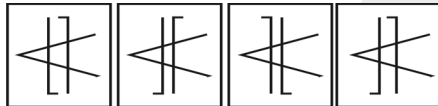
(1) 3 (2) 4
(3) 1 (4) 2
Answer (3)

35. Choose the figure which is different from the rest
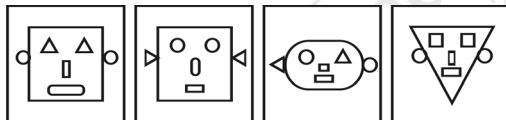
(1) 4 (2) 2
(3) 3 (4) 1
Answer (2)

36. Choose the figure which is different from the rest.

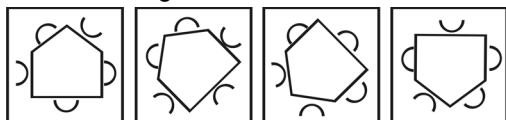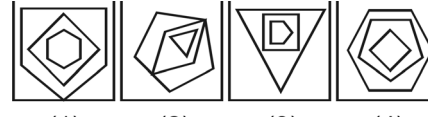(1) 1 (2) 3
(3) 4 (4) 2
Answer (3)

37. Choose the figure which is different from the rest.

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

38. Choose the figure which is different from the rest.

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

39. Choose the figure which is different from the rest.

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

40. Choose the figure which is different from the rest.

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

Directions (Q.41 to Q.50) : The following questions consists of two sets of figures A, B, C and D constitute the problem set while figures 1, 2, 3 and 4 constitute the answer set. A definite relationship exists between figures A and B. You are required to establish a similar relationship between figures C and D by choosing a suitable figure D from the answer set.

41. Problem figures
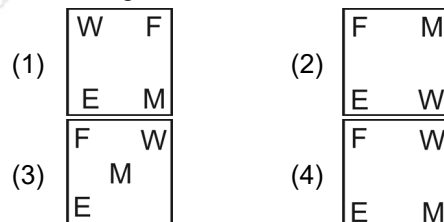
Answer figures

Answer (4)
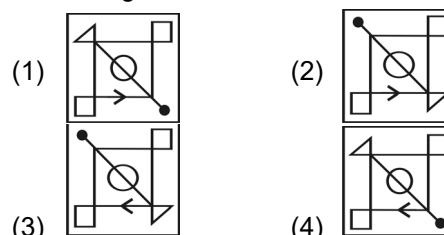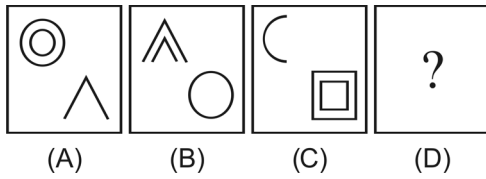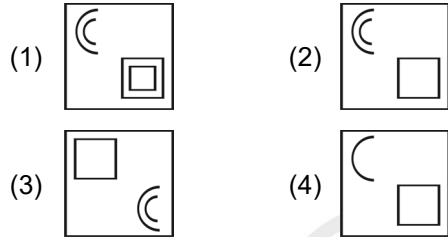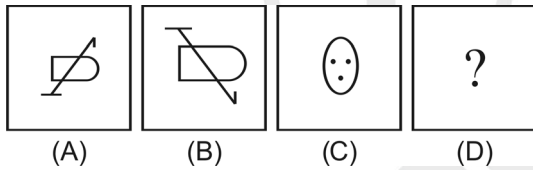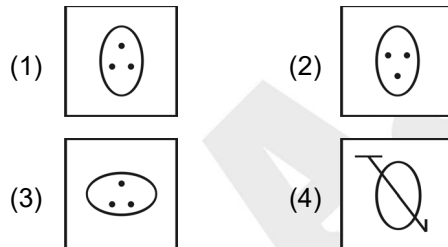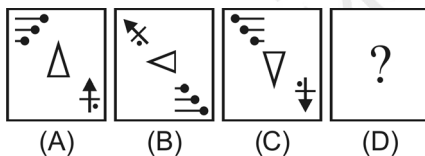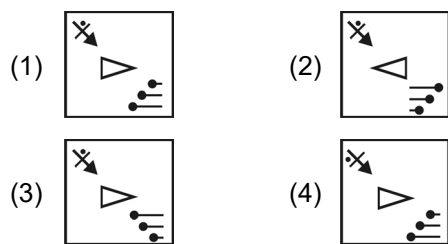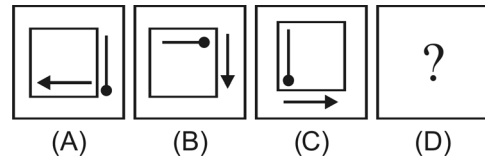
42. Problem figures

Answer figures

Answer (3)

43. Problem figures

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

Answer figures

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

Answer (3)

44. Problem figures

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

Answer figures

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

Answer (1)

45. Problem figures

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

Answer figures

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

Answer (1)

46. Problem figures

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

Answer figures

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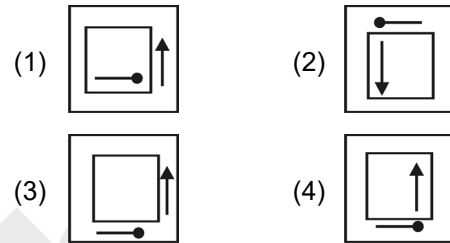
Answer (4)

47. Problem figures

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

Answer figures

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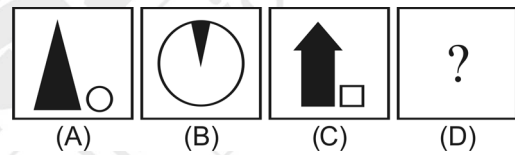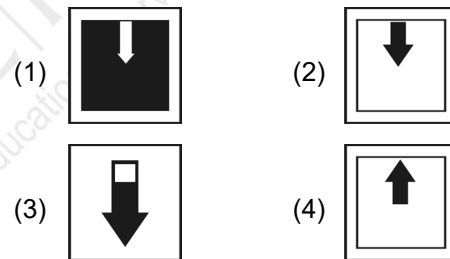
Answer (2)

48. Problem figures

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

Answer figures

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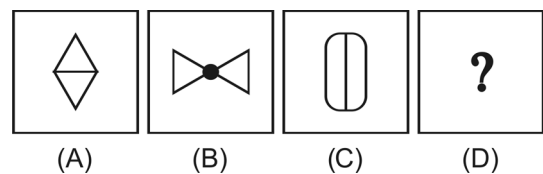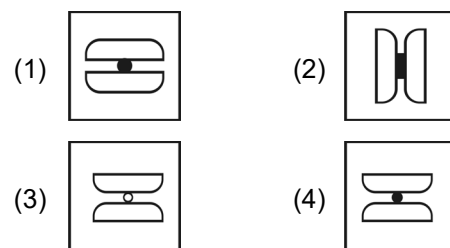
Answer (4)

49. Problem figures

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

Answer figures

(1)   (2)

(3)   (4)
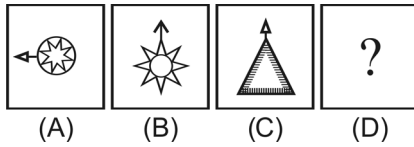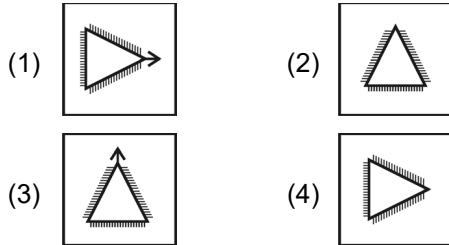
Answer (1)

50. Problem figures

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

Answer figures

(1)   (2)

(3)   (4)
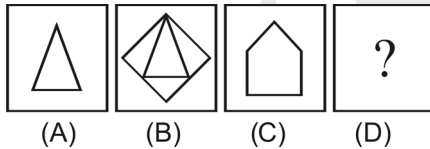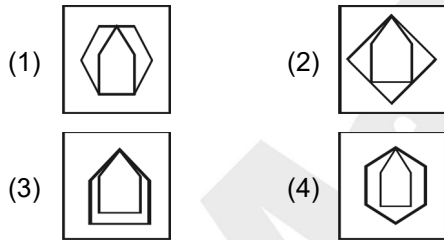
Answer (4)

***Directions (Q.51 to Q.60) :** The following questions consists of two sets of figures A, B, C and D constitute the problem set while figures 1, 2, 3 and 4 constitute the answer set. A definite relationship exists between figures A and B. You are required to establish a similar relationship between figures C and D by choosing a suitable figure D from the answer set.*

51.
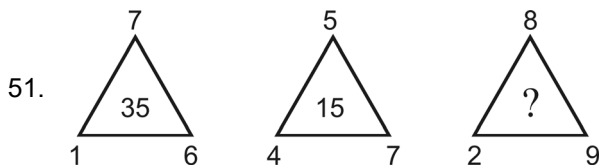
(1) 46   (2) 56

(3) 72   (4) 74

Answer (2)

52.
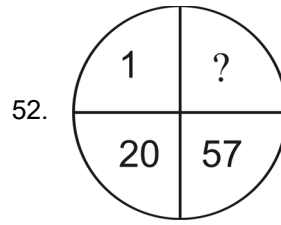
(1) 121   (2) 114

(3) 115   (4) 118

Answer (4)

53.

(1) 72   (2) 56

(3) 77   (4) 74

Answer (4)

54.

(1) 691   (2) 964

(3) 649   (4) 694

Answer (4)

55.

(1) 4   (2) 9

(3) 3   (4) 11

Answer (3)

56.

3	2	1
6	5	4
7	8	9
39	38	?
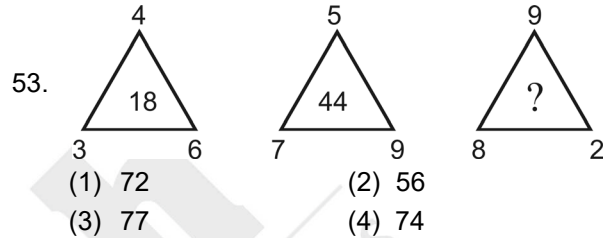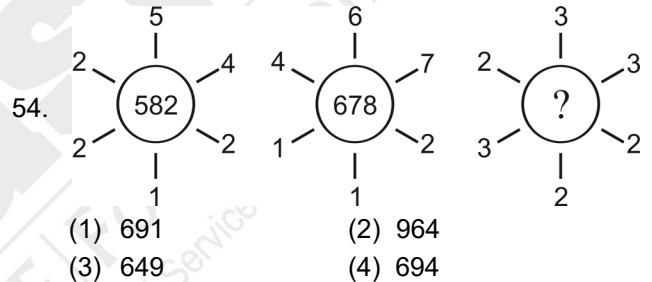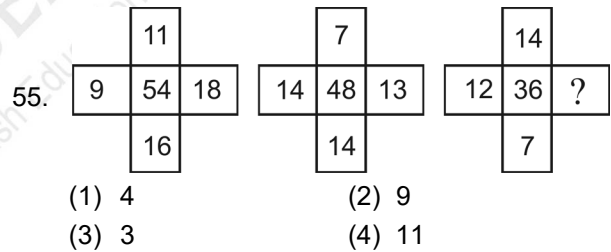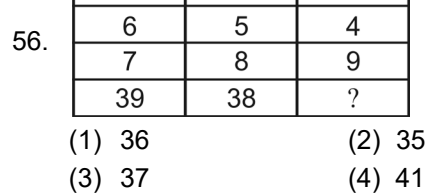
(1) 36   (2) 35

(3) 37   (4) 41

Answer (2)

57.

(1) 18   (2) 20

(3) 16   (4) 27

Answer (1)

58.
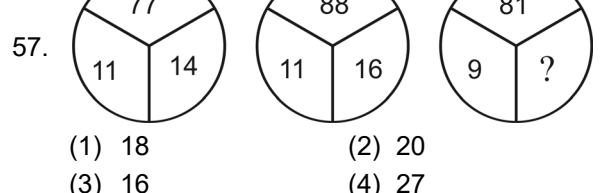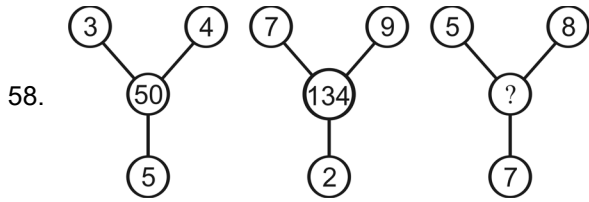
(1) 138
(2) 144
(3) 136
(4) 140

Answer (1)

59.

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

Answer (3)

60.
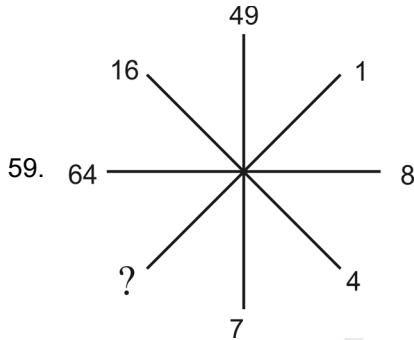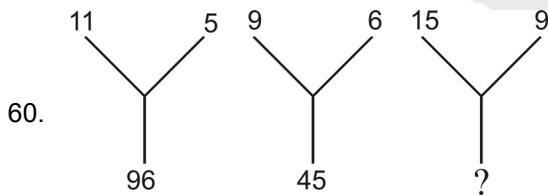
(1) 138
(2) 140
(3) 135
(4) 144

Answer (4)

Directions (Q.61 to Q.65) : Read the following information carefully and answer the questions that follows:

(i) There is a group of five persons A, B, C, D and E.

(ii) One of them is Teacher, one is a Doctor, one is a Journalist, one is an Industrialist and one is an advocate.

(iii) Three of them – A, C and advocate prefer tea to coffee and two of them – B and the journalist prefer coffee to tea.

(iv) The industrialist and D and A are friends to one another but two of these prefer coffee to tea.

(v) The Teacher is C's brother.

61. Who is Teacher?
(1) B
(2) A
(3) C
(4) D

Answer (2)

62. Which of the following groups includes a person who likes tea but is not an advocate?
(1) B, D
(2) B, C
(3) A, C
(4) A, B

Answer (3)

63. Which of the above statements is Superfluous?
(1) None
(2) iii
(3) ii
(4) v

Answer (1)

64. Who is a Doctor?
(1) D
(2) B
(3) C
(4) A

Answer (3)

65. Who is an Industrialist?
(1) D
(2) E
(3) B
(4) C

Answer (3)

Directions Q.(66 to Q.70) : Some letters are given in Column I and some digits are given in Column II. Each digit of column II represents any letter of column I. Study the columns and write the alternative letter choosing the correct alternative against the corresponding question.

Column - I	Column - II
AMRVT	65479
RTHIB	46128
MRBZI	86317
IAMRV	85679
HIBZA	39218
MRTAB	47961
MVRTH	47526
RZIBH	38621
BZIRV	83156
IMVRH	75826

66. The code for I is_____
(1) 1
(2) 7
(3) 8
(4) 2

Answer (3)

67. The code for Z is _____
    (1) 2   (2) 8
    (3) 1   (4) 3
Answer (4)

68. The code for A is _____
    (1) 8   (2) 6
    (3) 3   (4) 9
Answer (4)

69. The sum of the codes H and Z is _____
    (1) 9   (2) 5
    (3) 10   (4) 6
Answer (2)

70. The code for H is _____
    (1) 3   (2) 2
    (3) 6   (4) 1
Answer (2)

Directions (Q.71 to Q.75) : Some letters are given in Column I and some digits are given in Column II. Each digit of column II represents any letter of column I. Study the columns and write the alternative letter after choosing the correct alternative against the corresponding question.

Column - I	Column - II
DMBQZ	67024
ANYQD	84917
MBTYC	58603
TQCNM	54316
BDZAT	72509
ZQYAB	48902
QNTYM	41586
YBTCZ	80532
ZNMAC	29631
MTQYZ	46528

71. The product of the codes D and N is _____
    (1) 21   (2) 5
    (3) 7   (4) 8
Answer (3)

72. The code for A is
    (1) 8   (2) 3
    (3) 0   (4) 9
Answer (4)

73. The sum of the codes T and Q is _____
    (1) 11   (2) 9
    (3) 12   (4) 10
Answer (2)

74. The code for M is _____
    (1) 6   (2) 4
    (3) 2   (4) 5
Answer (1)

75. The code for T is _____
    (1) 3   (2) 8
    (3) 5   (4) 6
Answer (3)

Directions (Q.76 to Q.85) : There are four terms in each question. The term right to symbol :: have some relationship as the term of the left to the symbol :: and out of the four, one term is missing, which is among one of the given four alternatives, find the correct alternatives.

76. PMG : SIX :: TIN : _____
    (1) WEB   (2) SEE
    (3) WEE   (4) BEE
Answer (3)

77. Factory : Production :: School : _____
    (1) Discipline   (2) Education
    (3) Building   (4) Teacher
Answer (2)

78. EART : CCPV :: BATH : _____
    (1) CDBA   (2) ZCRJ
    (3) DCBA   (4) DZJR
Answer (2)

79. AFC : DIF :: BED : _____
    (1) EHG   (2) EGH
    (3) CGF   (4) EIG
Answer (1)

80. Gir : Gujarat :: Kaziranga : _____
    (1) Bihar   (2) Kerala
    (3) Assam   (4) Bengal
Answer (3)

81. Doctor : Patient :: Lawyer : _____
    (1) Magistrate   (2) Client
    (3) Customer   (4) Accused
Answer (2)

82. Earth : Moon :: _____ : Phobos
    (1) Venus   (2) Mars
    (3) Jupiter   (4) Mercury
Answer (2)

83. P.V. Sindhu : Badminton :: Deepak Puniya : _____

   (1) Cricket   (2) Boxing

   (3) Wrestling   (4) Hockey

Answer (3)

84. Durand Cup : Football :: Uber Cup : ____

   (1) Badminton   (2) Cricket

   (3) Chess   (4) Hockey

Answer (1)

85. Chandrayan : 2019 :: Mangalyan : _____

   (1) 2020   (2) 2017

   (3) 2016   (4) 2014

Answer (4)

Directions:(86 to 90) : Read the following and answer the questions given below :

In a united family, there are six members.

(i) They are A, B, C, D, E and F.

(ii) A and B are married couple.

(iii) A is a male member.

(iv) D is the only son of C, who is the brother of A.

(v) E is the sister of D.

(vi) B is the daughter-in-law of F, whose husband has died.

86. How many male members are there in the family?

   (1) Four   (2) Two

   (3) One   (4) Three

Answer (4)

87. How is F related to C ?

   (1) Mother   (2) Sister

   (3) Sister-in-law   (4) Mother-in-law

Answer (1)

88. Who is C to B ?

   (1) Brother   (2) Brother-in-law

   (3) Nephew   (4) Son

Answer (2)

89. How is F related to A ?

   (1) Mother   (2) Sister-in-law

   (3) Sister   (4) Mother-in-law

Answer (1)

90. How is E related to C ?

   (1) Mother-in-law   (2) Sister

   (3) Mother   (4) Daughter

Answer (4)

Directions (Q.91 to Q.100) : Each of the following questions consists of the five figures marked A, B, C, D and E called the problem figures followed by four alternatives marked 1, 2, 3 and 4 called the answer figures. Select a figure which will continue the same series established by the five problem figures.

91. Problem Figures

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

Answer figures

(1)   (2)

(3)   (4)
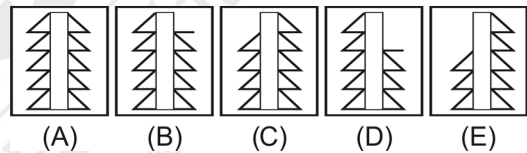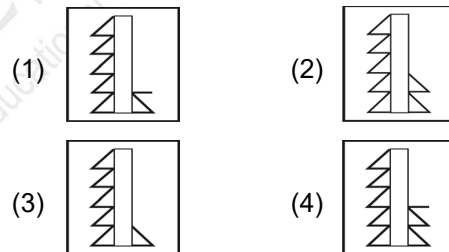
Answer (4)

92. Problem figures

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

Answer figures

(1)   (2)

(3)   (4)
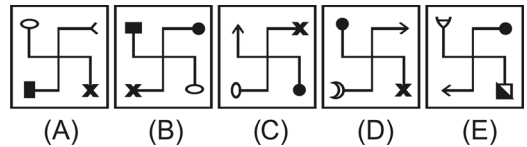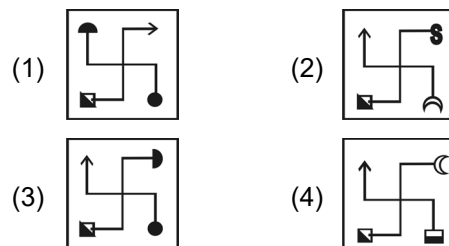
Answer (2)

93. Problem figures

(A)　(B)　(C)　(D)　(E)

Answer figures

(1) 　(2)

(3) 　(4)
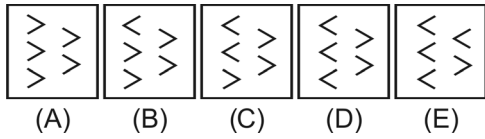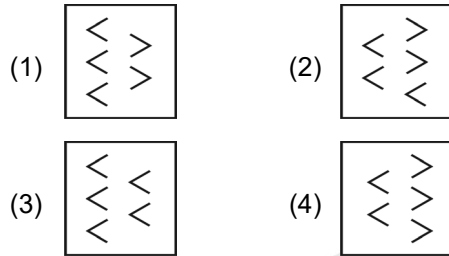
Answer (3)

94. Problem figures

(A)　(B)　(C)　(D)　(E)

Answer figures

(1) 　(2)

(3) 　(4)
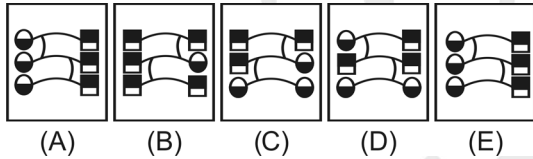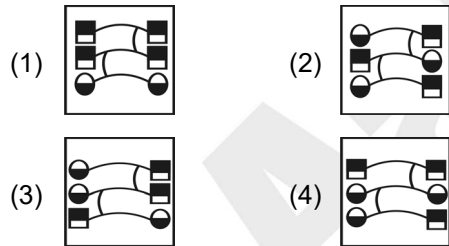
Answer (4)

95. Problem figures

(A)　(B)　(C)　(D)　(E)

Answer figures

(1) 　(2)

(3) 　(4)
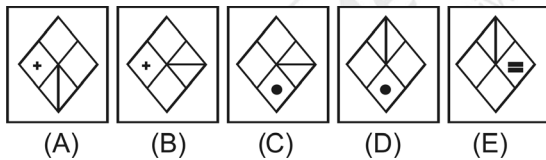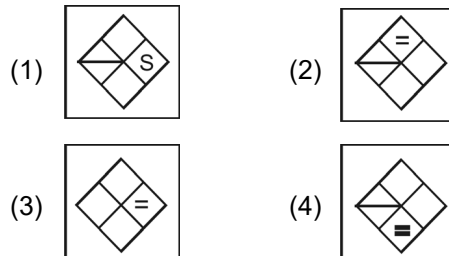
Answer (3)

96. Problem figures

(A)　(B)　(C)　(D)　(E)

Answer figures

(1) 　(2)

(3) 　(4)
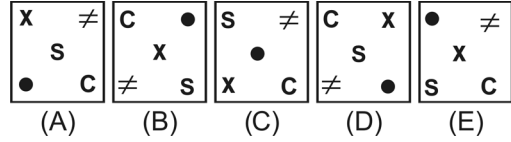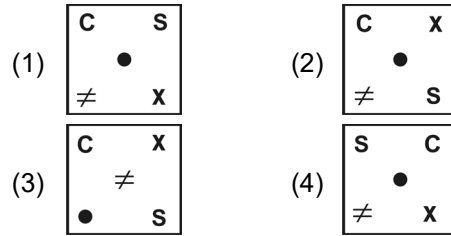
Answer (1)

97. Problem figures

(A)　(B)　(C)　(D)　(E)

Answer figures

(1)

(2)

(3)

(4)
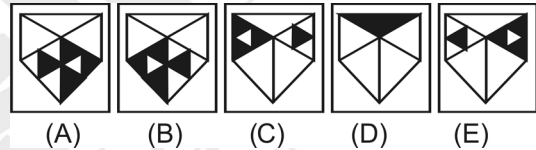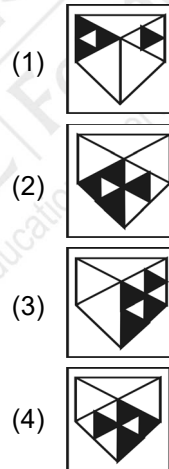
Answer (4)

98. Problem figures

(A)　(B)　(C)　(D)　(E)

Answer figures

(1) 　(2)

(3) 　(4)

Answer (2)

99.

T C △	△ □ +	+ S △	△ ↑ ○	○ □ △
★ + S	S T ★	★ ○ □	□ + ★	★ P ↑
(A)	(B)	(C)	(D)	(E)

(1)

△	0	P
↑	○	★

(2)

△	=	○
P	↑	★

(3)

△	★	○
↑	0	□

(4)

△	P	□
↑	○	★

Answer (1)

100. Problem figures
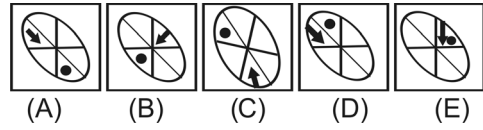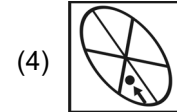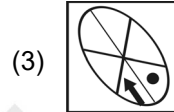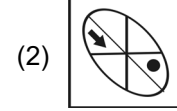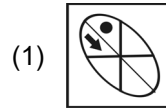
(A)　(B)　(C)　(D)　(E)

Answer figures

(1)　(2)　(3)　(4)

Answer (3)

PART-II : SCHOLASTIC APTITUDE TEST (SAT)

ECONOMICS

1. Which of the following are correct regarding WTO?

   (i) Its main aim is to liberalise international trade.

   (ii) It was started at the initiative of the developed countries.

   (iii) The rules of WTO are framed to favour the developing countries.

   (iv) It establishes rules regarding international trade.

   (1) Only (ii) and (iii)　(2) Only (i), (ii) and (iv)

   (3) Only (iii) and (iv)　(4) All of these

Answer (2)

2. Which of the following is not correct relating to service sector?

   (1) Service sector in India employs many different kinds of people.

   (2) 25% of people are engaged in service sector.

   (3) All the people who employed in service sector are earning high income.

   (4) All service sector activities are not growing equally well.

Answer (4)

3. Terms of credit does not include

   (1) Interest rate

   (2) Collateral

   (3) Cheque

   (4) Mode of repayment

Answer (3)

4. In the rural areas, the unorganised sector mostly comprises of

   (i) Landless agricultural labourer.

   (ii) Garment makers.

   (iii) Street vendors.

   (iv) Sharecroppers and artisans.

   (1) (iii) and (iv)　(2) (i) and (iv)

   (3) (i) and (ii)　(4) (ii) and (iii)

Answer (2)

5. Which of the following is not a feature of liberalisation?

   a. Businesses are allowed to make decisions freely about what they wish to import or export.

   b. Government removes restrictions from foreign trade.

   c. MNCs are allowed to work in the country.

   d. It establishes rules regarding international trade.

   (1) Only b, c　(2) Only c, d

   (3) All of these　(4) Only a, b, d

Answer ( )

6. For calculating Body Mass Index (BMI), weight of the person is divided by the

   (1) Square root of the height

   (2) Square of the sum of height and weight

   (3) Square of the weight

   (4) Square of the height

Answer (4)

7. Which of the following methods can be used by the government for a fair globalisation?

   (i) impose trade barriers.

   (ii) negotiate at the WTO for fairer rules.

   (iii) align with other developing countries

   (iv) close its market for foreign trade.

   (1) Only (i) and (ii)

   (2) Only (ii) and (iv)

   (3) All of these

   (4) Only (i), (ii) and (iii)

Answer (4)

8. Choose the wrong pair from given below.

   (1) Per capita income US $ 1,035 and above - low countries

   (2) Per capita income - World Bank

   (3) Per capita income US $ 12,600 and above- rich countries.

   (4) Human Development Index - UNDP

Answer (1)

BIOLOGY

9. In human eye, the cornea formed from
   (1) Retina   (2) Iris
   (3) Choroid   (4) Sclera

Answer (4)

10. The hormone "Ghrelin" is secreted by
    (1) Wall of the Stomach
    (2) Wall of the Intestine
    (3) Wall of the Esophagus
    (4) Salivary Glands

Answer (1)

11. In animal kingdom, the first organism possessing back bones:
    (1) Fishes   (2) Reptiles
    (3) Amphibians   (4) Aves

Answer (1)

12. Ecological pyramid was first introduced by
    (1) Darwin   (2) Mendel
    (3) Charles Elton (4) William Elton

Answer (3)

13. If you think chest cavity is a room, in this the diaphragm may be
    (1) Floor   (2) Windows
    (3) Roof   (4) Walls

Answer (1)

14. Parthenogenesis is
    (1) Asexual Reproduction
    (2) Sexual Reproduction
    (3) Artificial Propagation
    (4) Natural Propagation

Answer (1)

15. Nodes of Ranvier absent in
    (1) Myelinated neurons
    (2) Sensory Neurons
    (3) Motor Neurons
    (4) Non-myelinated Neurons

Answer (4)

16. One of the following is not related to "Pea" plant:
    (1) It has well defined characters.
    (2) It prefers self fertilization.
    (3) Presence of bisexual flowers.
    (4) It is a biennial plant.

Answer (4)

17. The scientific name of Human is "Homo sapiens". In this the word "Sapiens" represents
    (1) Species   (2) Family
    (3) Class   (4) Genera

Answer (1)

18. In a living cell the fluid present inside the Nucleus called as
    (1) Cytoplasm   (2) Endoplasm
    (3) Protoplasm   (4) Nucleoplasm

Answer (4)

19. Find out the Renewable Resource.
    (1) Natural Gas   (2) Coal
    (3) Water   (4) Petrol

Answer (3)

20. One of the following digestive juices which contains no enzyme:
    (1) Trypsin   (2) Lipase
    (3) Bile   (4) Amylase

Answer (3)

21. The enzyme thrombokinase released by
    (1) Red blood cells   (2) Platelets
    (3) Plasma   (4) White blood cells

Answer (2)

22. Match the item in Column – I with Column – II

Column – I	Column – II
A. Plants Excrete Material	1. Tears
B. Animals Excrete Material	2. Saliva
C. Plants Secretion	3. Falling of leaves
D. Animals Secretion	4. Gums

    (1) A-2, B-1, C-3, D-4
    (2) A-1, B-3, C-2, D-4
    (3) A-3, B-1, C-4, D-2
    (4) A-4, B-2, C-1, D-3

Answer (3)

POLITICAL SCIENCE

23. Which of the following statement is incorrect regarding with first general elections of India?
    (1) Only 10% of the population could vote in that elections.
    (2) Massive campaign to encourage the voters.
    (3) Separate ballot boxes for each candidate.
    (4) Symbols were introduced.

Answer (1)

24. With reference to the Fundamental Rights, consider the following statements:

(A) Indian Constitution guarantees Fundamental Rights to its citizen.

(B) Fundamental Rights are absolute and never suspended.

Which of the statement/s given above is/are correct?

(1) Both (A) & (B)

(2) Neither (A) Nor (B)

(3) (A) only

(4) (B) only

Answer (3)

25. Observe the given 'Logo' and answer the question.

This 'Logo' represents to

(1) United Nation Educational, Scientific and Cultural Organisation

(2) United Nations Organisation

(3) United Nations Human Rights Commission

(4) United Nations Children's Fund

Answer (3)

26. Observe the map given below:
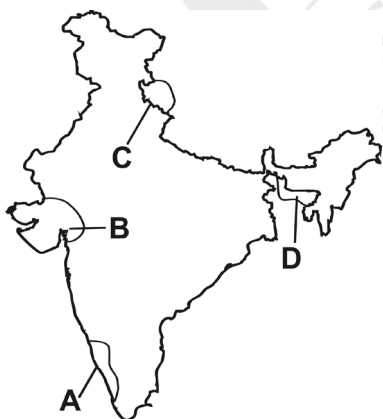
Identify the pointed states with their corresponding Social and Environment Movements and select the correct option using the codes given below.

(1) A – Narmada Bachao Andolan, B – Silent Valley Movement, C – Chipko Movement, D – Meira Paibi Movement

(2) A – Chipko Movement, B – Narmada Bachao Andolan, C – Silent Valley Movement , D – Meira Paibi Movement

(3) A – Silent Valley Movement, B – Narmada Bachao Andolan, C – Chipko Movement, D – Meira Paibi Movement

(4) A – Silent Valley Movement, B – Chipko Movement, C – Narmada Bachao Andolan, D – Meira Paibi Movement.

Answer (3)

27. Match Column – I with Column – II and select the correct answer using the codes given below the columns.

Column – I	Column – II
Political Party	State
A. SAD	1. Uttar Pradesh
B. DMK	2. Assam
C. AGP	3. Tamil Nadu
D. BLD	4. Punjab

(1) A-4, B-3, C-2, D-1

(2) A-4, B-2, C-3, D-1

(3) A-1, B-2, C-3, D-4

(4) A-1, B-3, C-2, D-4

Answer (1)

28. With reference to democracy, consider the following statements:

(A) In a democracy, only leaders elected by people should rule the country.

(B) People have the freedom to express views, freedom to organize and freedom to protests.

Which of the statement(s) given above is/are correct?

(1) (A) only

(2) Both (A) & (B)

(3) (B) only

(4) Neither (A) nor (B)

Answer (2)

29. Which of the following statement is correct regarding with "Coliation Government"?

(1) Power shared by two or more political parties.

(2) Power shared among Governments at different levels.

(3) Power shared among different organisations of Government.

(4) Power shared by different social groups.

Answer (1)

30. What type of information is not accessible to the citizen as per RTI?

    (1) The particulars of its organization, functions and duties.

    (2) The powers and duties of its officers and employees.

    (3) Endanger the life or physical safety of a person.

    (4) The manner of executions of subsidy programmes, including amounts allocated.

Answer (3)

CHEMISTRY

31. The elements A, B, C and D have atomic numbers 9, 10, 11 and 12 respectively. The correct order of ionization energy is

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

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

Answer (1)

32. Match the following:

List – P		List – Q
A.	Ethane	1.	2 sp carbons
B.	Ethylene	2.	6 sp^2 carbons
C.	Acetylene	3.	2 sp^3 carbons
D.	Benzene	4.	2 sp^2 carbons

    The correct answer is

    (1) A-3, B-2, C-4, D-1

    (2) A-3, B-4, C-1, D-2

    (3) A-4, B-3, C-1, D-2

    (4) A-2, B-3, C-1, D-4

Answer (2)

33. IUPAC name of

$$CH_3 - \overset{\overset{\displaystyle C}{|}}{\underset{\underset{\displaystyle OH}{|}}{C}} - C - COOH$$

    (1) 3-Ethyl – 2 Methyl – Propane

    (2) 3-3 Diethyl Butane

    (3) 2-Hydroxy – 2 Methyl – Butane

    (4) 3-Hydroxy – 3 Methyl – Butanoic acid

Answer (4)

34.
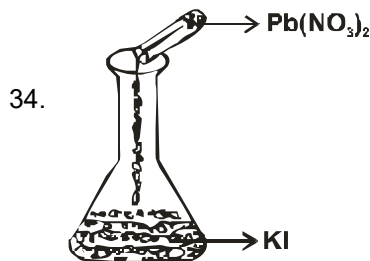
    From the above experimental set-up, what precipitate we obtain and what is the colour of obtained precipitate?

    (1) Lead Iodide - Yellow

    (2) Potassium Nitrate - Yellow

    (3) Lead Iodide - Red

    (4) Potassium Nitrate – Red

Answer (1)

35. Find the composition of Stainless Steel.

    (1) Fe, Cr, Ni   (2) Fe, C, Ni

    (3) Fe, Cr, Cu   (4) Fe, Ni, Cu

Answer (1)

36. Find the correct matching

	Bond		Band Energy (k.J/mol)
A.	H – H	1.	193
B.	Br – Br	2.	366
C.	H – Cl	3.	432
D.	H – Br	4.	436

    (1) A-4, B-1, C-3, D-2   (2) A-3, B-4, C-2, D-1

    (3) A-4, B-3, C-1, D-2   (4) A-2, B-3, C-4, D-1

Answer (1)

37. Find the correct increasing order of Ionic radius among Al^{3+}, Mg^{2+}, O^{2-}, F^-

    (1) $Mg^{2+} < F^- < O^{2-} < Al^{3+}$

    (2) $Al^{3+} < Mg^{2+} < O^{2-} < F^-$

    (3) $Al^{3+} < Mg^{2+} < F^- < O^{2-}$

    (4) $F^- < Mg^{2+} < Al^{3+} < O^{2-}$

Answer (3)

38. **Assertion (A) :** Isotopes are electrically neutral.

    Reason (R) : Isotopes are species with same mass number but different atomic number.

    (1) Both (A) and (R) are true, but (R) is not the correct explanation to (A).

    (2) Both (A) and (R) are true and (R) is the correct explanation to (A).

    (3) (A) is true, but (R) is false.

    (4) (A) is false but (R) is true.

Answer (3)

39. An atom 'A' belongs to III A group and another atom "B" belongs to VI A group. The formula of the compound formed is

(1) A_2B_3 (2) A_3B_6

(3) A_2B (4) A_3B_2

Answer (1)

40. The allowable combinations of quantum numbers for each of the electron in 4s, 3p, 5d orbitals respectively

(1) $n = 4$, $l = 0$, $m_l = 0$; $n = 3$, $l = 2$, $m_l = -1$; $n = 5$, $l = 3$, $m_l = -2$

(2) $n = 4$, $l = 0$, $m_l = 0$; $n = 3$, $l = 1$, $m_l = 0$; $n = 5$, $l = 2$, $m_l = -1$
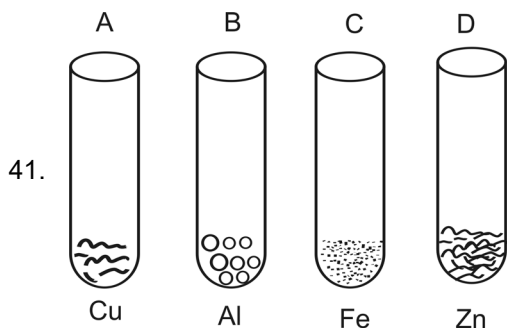
(3) $n = 4$, $l = 0$, $m_l = +1$; $n = 3$, $l = 2$, $m_l = 1$; $n = 5$, $l = 3$, $m_l = 0$

(4) $n = 4$, $l = 0$, $m_l = 0$; $n = 3$, $l = 1$, $m_l = 0$; $n = 5$, $l = 1$, $m_l = 0$

Answer (2)

41.

A — Cu, B — Al, C — Fe, D — Zn

If we added $FeSO_4$ to above four test tubes, in which test tube we observe black residue?

(1) "A" and "B"   (2) "B" and "C"

(3) "A" and "C"   (4) "B" and "D"

Answer (4)

42. Set of elements with the following atomic numbers belongs to the same group:

(1) 12, 20, 4, 38   (2) 11, 19, 27, 5

(3) 9, 16, 35, 3   (4) 24, 47, 42, 55

Answer (1)

43. Electro-negativity of the following elements increase in the order:

(1) C, N, Si, P   (2) Si, P, C, N

(3) P, Si, N, C   (4) N, Si, C, P

Answer (2)

PHYSICS

44. Bulb 'P' marked as 100 W, 220 V and bulb Q marked as 60 W, 110 V. The resistance ratio of P and Q is

(1) 12 : 7   (2) 5 : 7

(3) 5 : 12   (4) 12 : 5

Answer (4)

45. Match the following.

Name of the Plane		Gravitation m/s²	
A.	Earth	1.	25.95
B.	Jupiter	2.	3.7
C.	Saturn	3.	9.8
D.	Mars	4.	11.8

(1) A-2, B-1, C-3, D-4   (2) A-4, B-2, C-3, D-1

(3) A-3, B-2, C-1, D-4   (4) A-3, B-1, C-4, D-2

Answer (4)

46. **Assertion (A) :** The velocity of a particle may vary even when it's speed is constant.

Reason (R) : The particle is moving in circular path.

(1) (A) is true, but (R) is false.

(2) Both (A) and (R) are true, but (R) is not correct explanation to (A).

(3) (A) is false, but (R) is true.

(4) Both (A) and (R) are true and (R) is correct explanation to (A).

Answer (4)

47. Match the following :

	List – P		List – Q
A.	1 joule	1.	4.186 J
B.	1 WH	2.	3.6×10^6 J
C.	1 kWh	3.	10^7 ergs
D.	1 calorie	4.	3.6 kJ

The correct match is
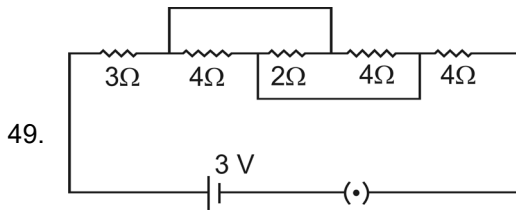
(1) A-3, B-4, C-2, D-1   (2) A-1, B-3, C-4, D-2

(3) A-2, B-1, C-4, D-3   (4) A-4, B-3, C-1, D-2

Answer (1)

48. The radius of curvature of a plano-convex lens which has 2 refractive index is 20 cm. By applying Silver Bromide on its surface to change it as a concave mirror, what is the focal length of the formed mirror?

(1) 40 cm   (2) 20 cm

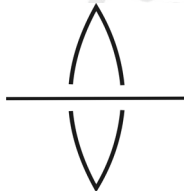(3) 5 cm   (4) 10 cm

Answer (3)

49.

Find the current flowing through the above circuit.

(1) 3.75 A　　　　(2) 0.375 A

(3) 0.374 A　　　　(4) 3.74 A

Answer (2)

50. A convex lens of focal length 20 cm is cut into two halves. Each of which is placed 0.5 mm and a point object placed at a distance of 30 cm from the lens as shown.

Then the image is at

(1) 60 cm　　　　(2) 30 cm

(3) 70 cm　　　　(4) 50 cm

Answer (1)

51. **Assertion (A) :** Work done by gravitational force in a moving body path is independent.

Reason (R) : Gravitational force is non-conservative force.

(1) Both (A) and (R) are true, but (R) is not correct explanation to (A).

(2) (A) is true, but (R) is false.

(3) Both (A) and (R) are true and (R) is correct explanation to (A).

(4) (A) is false, but (R) is true.

Answer (2)

52. Identify the following colours in the ascending orders of their frequencies.

(1) Red, blue, yellow, green

(2) Blue, green, yellow, red

(3) Red, green, yellow, blue

(4) Red, yellow, green, blue

Answer (4)

53. Which of the graph represents non-uniform acceleration?
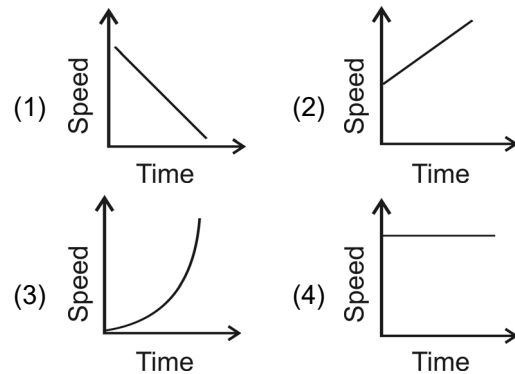
Answer (3)

54. A person fired a gun standing at a distance of 55 m from a wall. If the speed of sound is 330 m/s, the time for an echo heard is

(1) 0.4 s　　　　(2) 0.6 s

(3) 0.5 s　　　　(4) 0.3 s

Answer (4)

55. A point object is placed at a distance of 10 cm and its real image is formed at a distance of 20 cm from a concave mirror. When the object is moved by 0.1 cm towards the mirror, then the image will be moved by about

(1) 0.4 cm towards the mirror

(2) 0.8 cm away from the mirror

(3) 0.4 cm away from the mirror

(4) 0.8 cm towards the mirror

Answer (3)

Away from the mirror

56.
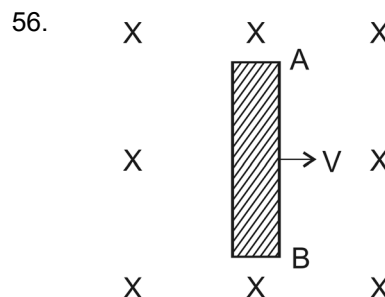
As per the above figure

(1) Electric current flows along the rod from A to B.

(2) The end "A" of the rod becomes positively charged.

(3) The end "B" of the rod becomes charged.

(4) The rod AB is uniformly charged.

Answer (2)

HISTORY

57. Which statement is <u>incorrect</u> with regard to "Tebhaga" Movement ?

    (1) This agitation was started in Bengal.

    (2) Bigger Landlords participated in this movement.

    (3) This movement about to tenancy reforms.

    (4) This movement was led by Provincial Kissan Sabha.

Answer (2)

58. Arrange the following events in correct chronological order with regard to Indian National Movement :

    A. Quit India Movement

    B. Three member Cabinet Mission came to India

    C. Direct Action Day

    D. Cripps Mission came to India

    (1) A, B, C, D   (2) D, A, B, C

    (3) A, D, B, C   (4) D, C, B, A

Answer (4)

59. Match Column – I with Column – II and select the correct answer using the codes given below the columns.

	Column – I		Column – II
A.	Spain	1.	Mexico
B.	Belgium	2.	Congo
C.	Portugal	3.	Brazil
D.	Britain	4.	Nigeria

    (1) A-2, B-3, C-1, D-4   (2) A-1, B-2, C-3, D-4

    (3) A-4, B-3, C-2, D-1   (4) A-3, B-1, C-2, D-4

Answer (2)

60. The "Zollverein" is known as

    (1) Tax

    (2) Customs Union

    (3) Administrative Union

    (4) Religious Union

Answer (2)

61. Eric Hobsbawm, a historian, called the 20th century "the age of extremes". This is not the reason for that statement.

    (1) Great Depression

    (2) Occurred two world wars

    (3) Women got their right to vote

    (4) Established colonies

Answer (4)

62. The French were keen to develop Vietnam as an exporter of Rice. For this purpose they did not adopt this strategy.

    (1) Encouraging landlords

    (2) Taken up of land reforms

    (3) Improving irrigation network

    (4) Facilitating marketing of agricultural produce like rice & rubber

Answer (2)

63. Which is not the main principle of United Nations Organization?

    (1) Promote social progress

    (2) Uphold human rights

    (3) Preserve peace

    (4) Achieve equality among different countries

Answer (4)

64. Consider the following statements :

    A. In 1937 the Muslim League got only 4.4 percent of the total Muslim votes.

    B. In 1946 when elections were held again for the provincial and central assemblies, the Muslim League succeeded in winning the Muslim seats decisively.

    C. It was occurred by sensitive response of Congress Party with Muslims.

    Which of the statements given above are correct?

    (1) A & C only   (2) A & B only

    (3) B & C only   (4) A, B & C

Answer (2)

65. In March 1945, the US president, Harry Truman, said "we have emerged from this war as the most powerful nation in the world-the most powerful nation, perhaps, in all history". This is not reason for this statement.

    (1) Only villages of USA had been completely destroyed.

    (2) This ensured full employment and high productivity in US during the Second World War.

    (3) Far from the theatres of war, the industries and agriculture of USA prospered.

    (4) Infact the Second World War helped USA grow out of its economic misery caused by the Great Depression.

Answer (1)

66. The following regional military and strategic alliances given below, is not related to U.S.A.

    (1) SEATO   (2) CENTO

    (3) WARSAW   (4) NATO

Answer (3)

67. Match Column – I with Column – II and select the correct answer using the codes given below the columns.

Column – I	Column – II
A. Bolsheviks	1. Mussolini
B. Mensheviks	2. Hitler
C. Nazism	3. Lenin
D. Fascism	4. Kerensky

    (1) A-3, B-4, C-2, D-1

    (2) A-4, B-3, C-2, D-1

    (3) A-2, B-4, C-3, D-1

    (4) A-1, B-2, C-3, D-4

Answer (1)

68. Arrange the following events in chronological order regard to Germany :

    i. Proclamation of the Weimar Republic.

    ii. Hitler becomes Chancellor of Germany.

    iii. Germany invades Poland.

    iv. Germany invades the USSR.

    (1) ii, i, iii, iv   (2) iv, iii, ii, i

    (3) i, ii, iii, iv   (4) i, iii, ii, iv

Answer (3)

69. A copper sphere of radius 3 cm is melted and recast into a right circular cone of height 3 cm. Then the radius of the base of the cone is

    (1) 5 cm   (2) 6 cm

    (3) 3 cm   (4) 4 cm

Answer (2)

70. The sum of a number and its reciprocal is $2\frac{1}{6}$ then the number is

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

    (3) $\frac{5}{6}$ or $\frac{6}{5}$ (4) $\frac{3}{4}$ or $\frac{4}{3}$

Answer (1)

71. If α and β are the zeroes of the quadratic polynomial $P(x) = x^2 + qx - p$, then the value of $\frac{1}{\alpha} + \frac{1}{\beta}$ is

    (1) $\frac{-q}{p}$ (2) $\frac{p}{q}$

    (3) $\frac{-p}{q}$ (4) $\frac{q}{p}$

Answer (4)

72. If α and β are the zeroes of the polynomial $P(x) = x^2 + 3x + k$ such that $\alpha - \beta = 5$, then the value of k is

    (1) -4 (2) 5

    (3) -3 (4) 2

Answer (1)

73. The solution of the line equation $\cos 30° x + \sin 30° y = 3$ is

    A. $(2, 3)$ B. $(0, 6)$ C. $(2\sqrt{3}, 0)$ D. $(0, 2\sqrt{3})$

    (1) B and C   (2) C and D

    (3) A   (4) A and D

Answer (1)

74. If $\triangle ABC$ is an equilateral triangle such that $AD \perp BC$, then $AD^2 =$

    A. $\frac{3a^2}{4}$ B. $\frac{3a^2}{2}$ C. $\frac{3}{4}BC^2$ D. $\frac{\sqrt{3}}{2}a$

    (1) A and C   (2) A

    (3) D   (4) B and C

Answer (1)

75. Which of the following statement is not correct?

    (1) If $\tan\theta + \cot\theta = 5$, then $\tan^2\theta + \cot^2\theta = 23$

    (2) If the pair of linear equations $4x + 5y = 9$ and $8x + ky = 18$ has infinitely many solutions, then k = 10.

    (3) The line $\csc 60° x + \cos 45° y = 4$ passing through the point $(\tan 60°, \sec 45°)$.

    (4) If α, β are the zeroes of the quadratic polynomial $x^2 - 2x + 1$, then $\alpha^3 + \beta^3 = 2$.

Answer (3)

76. If the mean of first 'n' natural numbers is $\frac{6n}{11}$ then n =

(1) 9   (2) 10

(3) 11   (4) 12

Answer (3)

77. If $\frac{x-y}{xy} = 5$ and $\frac{x+y}{xy} = 7$, then the value of 'x' is

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

(3) $\frac{1}{2}$ (4) $\frac{1}{6}$

Answer (1)

78. If − 2 is a root of the quadratic equation $x^2 - px + 6 = 0$ and $x^2 + px - k = 0$ has equal roots, then the value of k is

(1) 10   (2) 14

(3) 18   (4) 6

Answer ()

79. If the points (a, 2a), (3a, 3a) and (3, 1) are collinear then the value of 'a' is

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

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

Answer (4)

80. If $\cos\theta = \frac{a}{b}$ then $\mathrm{cosec}\,\theta + \cot\theta$ in terms of a and b is

(1) $\sqrt{\frac{a-b}{a+b}}$ (2) $\sqrt{\frac{b+a}{b-a}}$

(3) $\sqrt{\frac{a+b}{a-b}}$ (4) $\sqrt{\frac{b-a}{b+a}}$
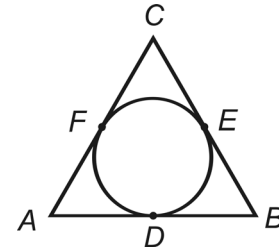
Answer (2)

81. If two positive integers 'a' and 'b' are expressible in the form of $a = p^3q^2$ and $b = p^2q^4$, p and q being prime numbers, then LCM (a, b) is

(1) p^2q^4 (2) p^3q^4

(3) p^2q^3 (4) p^3q^3

Answer (2)

82. In the adjacent figure if AB = 10 cm, BC = 12 cm and AC = 14 cm, then AD =

(1) 8 cm   (2) 5 cm

(3) 6 cm   (4) 7 cm

Answer (3)

83. 20 cards numbered 1, 2, 3 ... 20 are put in a box and mixed thoroughly. One person draws a card from the box, the probability that the number on the card is divisible by 2 and 3 both is

(1) $\frac{1}{5}$ (2) $\frac{3}{10}$

(3) $\frac{3}{20}$ (4) $\frac{1}{10}$

Answer (3)

84. Match the item in Column – I with Column – II .

Column – I	Column – II
A. Slope of x-axis	1. Sec0°
B. Slope of y-axis	2. Sin0°
C. Distance between the points $(\sin 55°, 0)$ and $(0, \sin 35°)$	3. Cot0°

(1) A-1, B-2, C-3   (2) A-2, B-3, C-1

(3) A-3, B-1,C-2   (4) A-2, B-1, C-3

Answer (2)

85. From the adjacent figure $\triangle ABC$, DE || BC and $AD = \frac{1}{2}BD$. If BC = 6cm then DE is
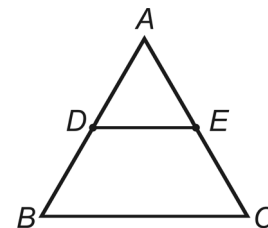
(1) 3 cm   (2) 2 cm

(3) 4 cm   (4) 1.5 cm

Answer (2)

86. If AP is a tangent to the circle with centre 'O' such that OP = 4cm and $\angle OPA = 60°$, then the radius of the circle is

(1) 3 cm
(2) 2 cm
(3) $2\sqrt{2}$ cm
(4) $2\sqrt{3}$ cm

Answer (4)

87. Metallic spheres of radii 15 cm, 20 cm, and 25 cm respectively are melted to form a single solid sphere. Then the radius of the resulting sphere is

(1) 35 cm
(2) 30 cm
(3) 25 cm
(4) 20 cm

Answer (2)

88. The 10th term from end of the A.P. 5, 12, 19,....173 is

(1) 96
(2) 103
(3) 117
(4) 110

Answer (4)

GEOGRAPHY

89. Which of the following statements is not true regarding India's climate?

(1) The climate of India is described as the monsoon type

(2) The North-East monsoons are responsible for most of the rainfall in India

(3) The climate of India is strongly influenced by

(4) India's climate has characteristics of tropical as well as subtropical climate

Answer (2)

90. Population Change in place is

(1) (No. of births – No. of in migrants) – (No. of births – No. of out migrants)

(2) (No. of births + No. of in migrants) – (No. of deaths + No. of out migrants)

(3) (No. of births + No. of in migrants) – (No. of deaths + No. of out migrants)

(4) (No. of births + No. of in migrants) + (No. of deaths + No. of out migrants)

Answer (3)

91. Which of the following lakes is a fresh water lake?

(1) Sambhar
(2) Dal
(3) Pulicat
(4) Chilka

Answer (2)

92. Which of the following is not true with reference to the climatic condition required for the cultivation of rice?

(1) It requires 210 frost free days.

(2) It requires annual rainfall above 100 cm.

(3) It requires high temperature i.e. above 25 °C

(4) It requires high humidity

Answer (1)

93. Which is correct regarding Rural – Urban migration?

a. Migration mainly due to insufficient employment opportunities in rural areas.

b. Migration does not necessarily involve movement of all members of the family.

c. They have greater exposure to new ideas in cities and try to challenge older notions in village.

(1) None of these
(2) a, b, c
(3) b, c
(4) a, b

Answer (2)

94. Match the following:

Column – I		Column – II
A. Loo	1.	Coromandal Coast
B. Mango showers	2.	Andhra Pradesh
C. Winter rainfall	3.	Dry and hot winds
D. Upper air currents	4.	Jet Streams

Which of the correct set?

(1) A-4, B-3, C-2, D-1
(2) A-2, B-3, C-1, D-4
(3) A-3, B-2, C-1, D-4
(4) A-1, B-2, C-3, D-4

Answer (3)

95. Kudremukh is an important Iron ore mine of

(1) Andhra Pradesh
(2) Karnataka
(3) Madhya Pradesh
(4) Kerala

Answer (2)

96. Which of the following is the correct statement?

    I. The peninsular plateau is one of the most ancient land blocks on the earth's surface.

    II. One of the remarkable features of the peninsular plateau is black soils formed due to volcanic activity.

    (1) Only I is true.

    (2) Only II is correct.

    (3) I and II are correct.

    (4) I and II are incorrect.

Answer (3)

97. **Statement I:** Density of population in North-East states is less due to heavy rainfall.

    Statement II: Density of population in Kerala is high due to flat surface fertile soil and abundant rainfall.

    (1) Both I, II are true.

    (2) Both I, II are false.

    (3) I is true, but II is false.

    (4) I is false, but Ii is true.

Answer (4)

98. Among the following statements, which is not true?

    (1) Himachal range is mainly composed of highly compressed rocks.

    (2) The portion of range found south of the Greater Himalayas is known as 'Lesser Himalayas'.

    (3) The average elevation of Himachal range is about 6,100 mts. above MSL.

    (4) The Pirpanjal and Mahabharata ranges form the important ranges of the Himachal.

Answer (3)

99. The ocean beds are rich in

    (1) Copper   (2) Iron

    (3) Manganese   (4) Gold

Answer (3)

100. Which of the following is not correct regarding 'Jet Streams'?

    (1) These causes rain from clouds.

    (2) Jet streams develops at about 35° N.

    (3) These causes the neighbouring atmosphere cool.

    (4) These are fast flowing air currents in a narrow belt in the upper atmosphere.

Answer (2)

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