DATE : 04/11/2018

Test Booklet Code

E

TELANGANA

Aakash

Medical | IIT-JEE | Foundations

(Divisions of Aakash Educational Services Limited)

Regd. Office : Aakash Tower, 8, Pusa Road, New Delhi-110005 | Ph.: 011-47623456

Answers & Solutions

for

NTSE (Stage-I) 2018-19

INSTRUCTIONS TO CANDIDATES

1. Use blue/black ball point pen only. There is no negative marking.
2. All the questions are compulsory. This test booklet contains 200 questions (Paper-I : 100 & Paper-II : 100) of one mark each.
3. Paper-I : MAT : 1 - 100 questions

   Paper-II : SAT : 1 - 100 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.
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 answers 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.

PAPER-I : MENTAL ABILITY TEST (MAT)

Directions : (Q1 to Q10) : *In the Number series given below, one Number is missing. Each series is followed by five alternatives (1), (2), (3), (4) and (5). One of them is the right answer. Identify and indicate it as per the "Instructions".*

1. 4, 18, 48, 100, ...
   (1) 180 (2) 196
   (3) 204 (4) 160
   (5) 192

Answer (1)

Sol. $1(2^2), 2(3^2), 3(4^2), 4(5^2), 5(6^2) = 180$

2. 8, 15,....., 53, 102, 199
   (1) 30 (2) 23
   (3) 29 (4) 31
   (5) 28

Answer (5)

Sol. x2-1 x2-2 x2-3 x2-4 x2-5
8, 15, (28) 53 102 199

3. 4, 9, 25, 49,.....,169, 289, 361
   (1) 36 (2) 64
   (3) 121 (4) 100
   (5) 73

Answer (3)

Sol. $2^2, 3^2, 5^2, 7^2, (11^2), 13^2, 17^2, 19^2$
$11^2 = 121$

4. 430, 345, 270, 205,.....
   (1) 155 (2) 150
   (3) 175 (4) 155
   (5) 120

Answer (2)

Sol. -85 -75 -65 -55
430, 345, 270, 205, (150)

5. 1, 1, 4, 8, 9, 27,.....,64
   (1) 36 (2) 16
   (3) 25 (4) 49
   (5) 32

Answer (2)

Sol. $1^2, 1^3, 2^2, 2^3, 3^2, 3^3, (4^2), 4^3$
$4^2 = 16$

6. 25, 25, 5, 21, 18, 5, 14,.....
   (1) 11, 5 (2) 11, 8
   (3) 10, 7 (4) 5, 10
   (5) 10, 5

Answer (1)

Sol. -7 -7
28, 25, (5) 21, 18, (5) 14, 11 (5)
-7 -7

7. 13, 29, 15, 26, 17, 23, 19,
   (1) 20, 21 (2) 21, 23
   (3) 22, 20 (4) 21, 17
   (5) 25, 27

Answer (1)

Sol. -3 -3 -3
13, 29, 15, 26, 17, 23, 19, (20), (21)
+2 +2 +2 +2

8. 70, 71, 76,.....,81, 86, 70, 91,.....
   (1) 96 (2) 70
   (3) 80 (4) 71
   (5) 95

Answer (1 & 2)

Sol. +10 +10
70, 71, 76, (70), 81, 86, 70, 91, (96)
+10 +10

9. 1, 20, 58, ...,191
   (1) 116 (2) 115
   (3) 105 (4) 111
   (5) 110

Answer (2)

Sol.
+19 +38 +57 +76
1, 20, 58, 115, 191

10. 36, 34, 30, 28, 24,.....
    (1) 26 (2) 22
    (3) 20 (4) 25
    (5) 23

Answer (2)

Sol. 36, 34, 30, 28, 24, (22)
-2 -4 -2 -4 -2

Directions: (Q11 to Q15): *Questions have become wrong due to wrong order of signs. Choose the correct order of signs from the five alternatives given under each question.*

11. $5-0\times3\div5=20$

(1) $=\times+-$ (2) $-+\times=$

(3) $+\ -\times=$ (4) $\times+-=$

(5) $\div+-=$

Answer (2)

Sol. $5-0+3\times5=20$

12. $3-3\times6\div6+2=12$

(1) $+\div\times-=$ (2) $\times\div-+=$

(3) $+\times-\div=$ (4) $\times+-\div=$

(5) $=\times+-\div$

Answer (4)

Sol. $3\times3+6-6\div2=12$

13. $20=7-4\times8$

(1) $=\times-$ (2) $-\times=$

(3) $+\times=$ (4) $-=\times$

(5) $\times+=$

Answer (1)

Sol. $20=7\times4-8$

14. $20=4+6\div11$

(1) $\div=+$ (2) $+\div=$

(3) $+=\div$ (4) $\div+=$

(5) $=+\div$

Answer (4)

Sol. $20\div4+6=11$

15. $6=5\times6\div36$

(1) $+\times=$ (2) $\times=+$

(3) $\times\div=$ (4) $\times=\div$

(5) $\times+=$

Answer (1 or 5)

Sol. 6+5 × 6 = 36, 6 × 5 + 6 = 36

16. $7\times4=2+5$

(1) $-=\div$ (2) $\div-=$

(3) $\div=-$ (4) $\times-=$

(5) $=\div+$

Answer (5)

Sol. $7=4\div2+5$

17. $8+4=7-5$

(1) $\div-=$ (2) $\times+-$

(3) $-=\div$ (4) $-\div=$

(5) $\div=-$

Answer (5)

Sol. $8\div4=7-5$

18. $11\times2-10=9$

(1) $=-\times$ (2) $=\times-$

(3) $\times+=$ (4) $\times-+$

(5) $\times\div=$

Answer (2)

Sol. $11=2\times10-9$

19. $5-4\times7=13$

(1) $\times=-$ (2) $+-=$

(3) $\times-=$ (4) $+=-$

(5) $-+=$

Answer (3)

Sol. $5\times4-7=13$

20. $16\div4=2\div8$

(1) $\div\times=$ (2) $\div=\times$

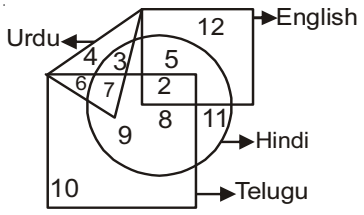
(3) $-=\times$ (4) $-+=$

(5) $+=\times$

Answer (1)

Sol. $16\div4\times2=8$

Directions: (Q21 to Q25): *In the following figure, small square represents the persons who know English, Triangle to those who know Urdu, big sqaure to those who know Telugu and circle to those who know Hindi.*



21. How many persons can speak English and hindi both, the language only?

(1) 2 (2) 5

(3) 13 (4) 19

(5) 8

Answer (2)

22. How many persons can speak Urdu and Telugu both?

(1) 13 (2) 10
(3) 11 (4) 9
(5) 17

Answer (1)

23. How many persons an speak only Hindi?

(1) 10 (2) 4
(3) 12 (4) 19
(5) 11

Answer (5)

24. How many persons can speak English, Hindi and Telugu?

(1) 4 (2) 2
(3) 7 (4) 8
(5) 3

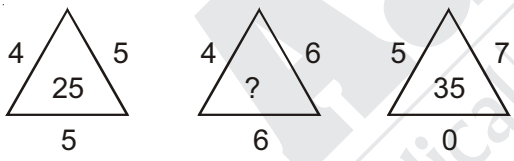
Answer (2)

25. How many persons can speak Hindi and Urdu only?

(1) 4 (2) 6
(3) 7 (4) 3
(5) 10

Answer (4)

Directions: (Q26 to Q30): *In these questions, number are placed on the basis of some rules. One place is vacant which is indicated as?. Find out the correct alternative to replace the question mark.*

26. 

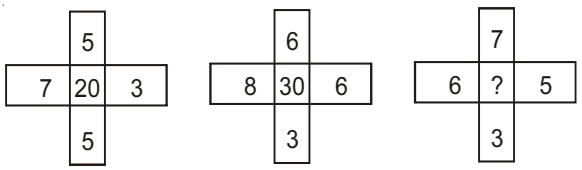
(1) 30 (2) 36
(3) 24 (4) 28
(5) 35

Answer (1)

Sol. $4\times5+5=25$

$5\times7+0=35$

$4\times6+6=30$

27. 

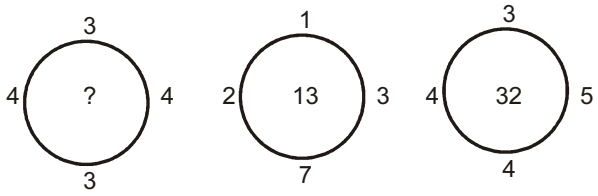
(1) 57 (2) 27
(3) 21 (4) 51
(5) 40

Answer (2)

Sol. $(7\times5)-(3\times5)=20$

$(8\times6)-(3\times6)=30$

$(6\times7)-(3\times5)=27$

28. 

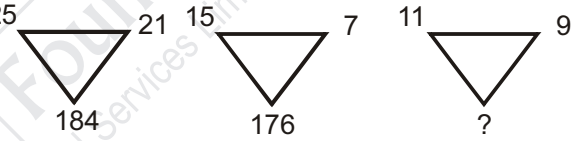
(1) 24 (2) 17
(3) 25 (4) 22
(5) 16

Answer (3)

Sol. $(1\times7)+(2\times3)=13$

$(3\times4)+(4\times5)=32$

$(3\times3)+(4\times4)=25$

29. 

(1) 30 (2) 202
(3) 20 (4) 40
(5) 50

Answer (4)

Sol. $(25-21)(25+21)=184$

$(15-7)(15+7)=176$

$(11-9)(11+9)=40$

30.

6	4	2
4	3	7
9	?	3

(1) 6 (2) 12
(3) 7 (4) 10
(5) 5

Answer (1)

Sol. 6 - 2 = 4

7 - 4 = 3

9 - 3 = 6

Directions: (Q31 to Q40): *(Problem deals with is Relationship)*

31. A and B is a married couple. X and Y are brothers. X is the brother of A. How is Y related to B?

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

(3) Son (4) Cousin

Answer (2)

Sol. y + x + A B

32. If B's mother was A's mother's daughter, how was A related to B?

(1) Maternal uncle (2) Father

(3) Brother (4) Sister

Answer (1)

Sol.

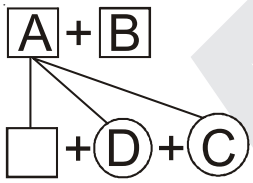
33. A and B are brothers, C and D are sister. A's son is D's brother. How is B related to C?

(1) Father (2) Mother

(3) Uncle (4) Aunt

Answer (3)

Sol.



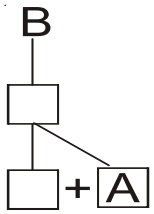
34. If A is the brother of the son of B's son. How is A related B?

(1) Son (2) Brother

(3) Cousin (4) Grandson

Answer (4)

Sol.



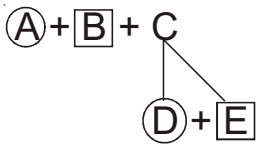
35. B is the brother of C; A is sister of B; E is the brother of D; D is the daughter of C. Who are the cousins of B?

(1) C and A (2) A and E

(3) B and E (4) D and E

Answer (Bonus)

Sol.



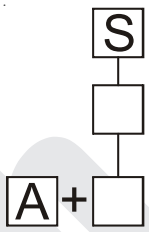
36. If Ajit is the brother of the son of Sethi's son, what is the relationship between Ajit and Sethi?

(1) Cousin (2) Grandson

(3) Brother (4) Nephew

Answer (2)

Sol.



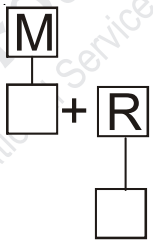
37. Pointing to a man, Rohit said, "His son is my son's uncle". How is the man related to Rohit?

(1) Brother (2) Uncle

(3) Father (4) Grand-father

Answer (3)

Sol.



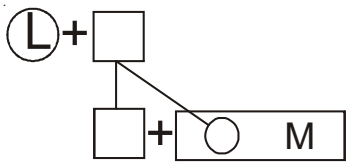
38. Pointing to a lady, a man said, "The son of her only brother is the brother of my wife". how is the lady related to the man?

(1) Maternal aunt (2) Mother-in-law

(3) Mother's sister (4) Sister of fatehr-in-law

Answer (4)

Sol.



39. Q's mother is sister of P and daugher of M. S is daughter of P and sister if T. How is M related to T?

(1) Father

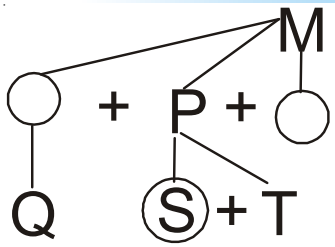
(2) Grand mother

(3) Grand fatehr

(4) Either Grand mother or Grand fatehr.

Answer (4)

Sol.



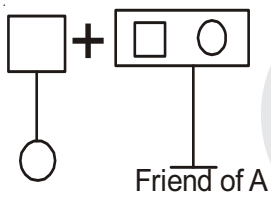
40. Anu told Mani, "The girl met yesterday at the beach was the youngest daughter of the brother-in-law of my friend's mother." How is girl related to Anu's friend?

(1) Cousin (2) Niece

(3) Aunt (4) Friend

Answer (1)

Sol.



Directions: (Q31 to Q40): *Choose alternative as the answer (Series of small latters).*

41. bc - b - c - b - ccb

(1) cbcb (2) bbcb

(3) cbbc (4) bcbc

Answer (1)

Sol. |bccb|bccb|bccb|

42. a - c - abb - a - bc - bc - ab

(1) cbcaaa (2) bcccab

(3) bccaac (4) acbabc

Answer (3)

Sol. abcc|abbc|aabc|abcc|ab

43. a - ba - cbaac - aa - ba

(1) ccbb (2) cabc

(3) cbcb (4) bbcc

Answer (2)

Sol. acba|acba|acba|acba

44. aaa - bb - aab - baaa - bb

(1) abab (2) bbaa

(3) babb (4) baab

Answer (3)

Sol. aaa bbb aaa bbb aaa bbb

45. - bam - amb - m - a - bam

(1) mbabm (2) abmab

(3) mabma (4) ambbm

Answer (1)

Sol. mba mba mba mba mba m

46. - - abb - abba - - ba

(1) bbaab (2) abbba

(3) baaaa (4) babab

Answer (1)

Sol. bba | bbaa| bbaa| bba |

47. - b - a - ba - b - abab - a

(1) ababab (2) baabba

(3) bbaabb (4) bababa

Answer (1)

Sol. a b b|a a b|a b b|a a b|a b b|a

48. b - ba - - bb - - aa - bba

(1) ababab (2) bababa

(3) baabab (4) abbaba

Answer (3)

Sol. b b b|a a a|b b b|a a a|b b b|a

49. - a - bb - ba - bb - - aab

(1) abbaba (2) aabbb

(3) bbabba (4) baaaab

Answer (4)

Sol. b a a|b b a|b a a|b b a|b a a|b

50. - b - a - bb - - ab - bbaa

(1) abaaba (2) ababab

(3) babbab (4) bbaabb

Answer (3)

Sol. b b|a a|b b|b b|a a|b b|b b|a a|

51. If Z = 2197 and R = 729. How would J be written in that code ?

(1) 216 (2) 124

(3) 512 (4) 125

Answer (4)

Sol. $Z = \left(\frac{26}{2}\right)^3 = 2197,\ J = \left(\frac{10}{2}\right)^3 = 125$

52. If PRIVATE is coded as 1234567 and RISK is coded as 2398, how is RIVETS coded ?

(1) 234679 (2) 243769

(3) 234769 (4) 234976

Answer (3)

Sol. Take corresponding numbers of given letters

Eg. P = 1

R = 2

I = 3

V = 4

A = 5

T = 6

E = 7

53. In a certain code, LAKSHMI is coded as 32. How can SHIVA be coded ?

(1) 8 (2) 16

(3) 19 (4) 20

Answer (3)

Sol. $\frac{(\text{Number of letters} +1)^2}{2} = 32$

$\frac{(\text{Shiva} +1)^2}{2} = 18$

54. If in a certain language, MADRAS is coded as NBESBT, how is BOMBAY coded in that code ?

(1) CPNCBX (2) CPNCBZ

(3) CPOCBZ (4) CQOCBZ

Answer (2)

Sol. BOMBAY

CPNCBZ

B + 1 = C

O + 1 = P

M + 1 = N

B + 1 = C

A + 1 = B

Y + 1 = Z

55. If VICTORY is coded as YLFWRUB, how can SUCCESS be coded ?

(1) VXEEIVV (2) VXFFHVV

(3) VYEEHVV (4) VYFFIVV

Answer (2)

Sol. SUCCESS

VXFFHVV

Adding +3 to each letter

56. If ENGLAND is written as 1234526 and FRANCE is written as 785291, how is GREECE coded.?

(1) 381171 (2) 381191

(3) 832252 (4) 835545

Answer (2)

Sol. Take corresponding numbers of given letters

Eg. E = 1

N = 2

G = 3

L = 4

A = 5

N = 2

D = 6

II. Questions (57 to 60)

The number in each question below is to be codified in the following code.

Digit	7	2	1	5	3	9	8	6	4
Letter	W	L	M	S	I	ND		J	B

57. 184632

(1) MDJBSI (2) MDJBIL

(3) MDJBWL (4) MDBJIL

Answer (4)

Sol. Take corresponding numbers of given letters

58. 879341

(1) DWNIBS (2) DWNBIM

(3) DWNIBM (4) NDWBIM

Answer (3)

Sol. Take corresponding numbers of given letters

59. 64928

(1) JBNLD (2) JBLND

(3) BJNLD (4) DBNLS

Answer (1)

Sol. Take corresponding numbers of given letters

60. 23549

(1) LISBJ (2) LISBN

(3) LSINB (4) LSIMW

Answer (2)

Sol. Take corresponding numbers of given letters

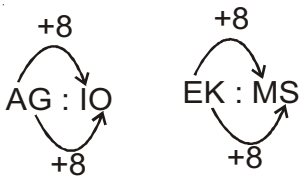
Questions (61 to 70) : *Find the correct alternatives.*

61. AG : IO :: EK : ...

(1) LR (2) MS

(3) PV (4) SY

Answer (2)

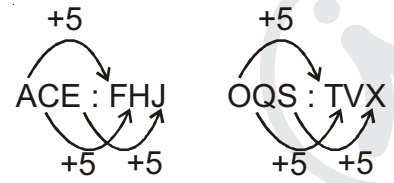
Sol. 

62. ACE : FHJ :: OQS :

(1) PRT (2) RTU

(3) TVX (4) UWY

Answer (3)

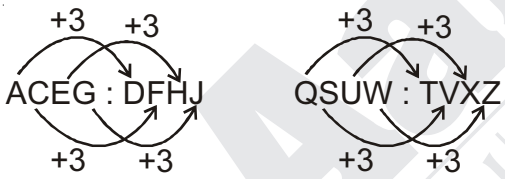
Sol. 

63. ACEG : DFHJ :: QSUW :

(1) KMND (2) MNPR

(3) TQST (4) TVXZ

Answer (4)

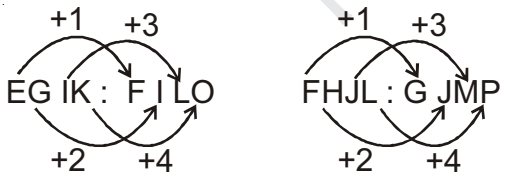
Sol. 

64. EGIK : FILO :: FHJL :

(1) GHMP (2) GMJP

(3) GJMP (4) JGPM

Answer (3)

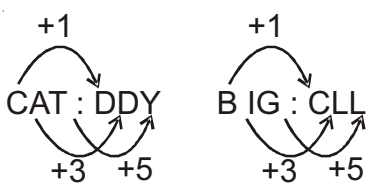
Sol. 

65. CAT : DDY :: BIG : ...

(1) CLL (2) CLM

(3) CML (4) CEP

Answer (1)

Sol. 

66. ODOMETER : MILEAGE :: COMPASS : ...

(1) SPEED (2) HIKING

(3) NEEDLE (4) DIRECTION

Answer (4)

Sol. COMPASS for DIRECTION

67. MARATHON : RACE :: HIBERNATION :

(1) WINTER (2) BEAR

(3) DREAM (4) SLEEP

Answer (4)

Sol. MARTHANA is LONG RACE

HIBERNATION is LONGSLEEP

68. CUP : COFFEE :: BOWL :

(1) DISH (2) SOUP

(3) SPOON (4) FOOD

Answer (2)

Sol. CUP is for COFFEE

BOWL is for SOUP

69. REPTILE : LIZARD :: FLOWER :

(1) PETAL (2) STEM

(3) DAISY (4) ALLIGATOR

Answer (3)

Sol. LIZARD is a type of REPTILE

DAISY is a type of FLOWER

70. PLAY : ACTOR :: CONCERT :

(1) SYMPHONY (2) MUSICIAN

(3) PIANO (4) PERCUSSION

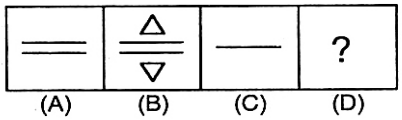
Answer (2)

Sol. An ACTOR performes in PLAY

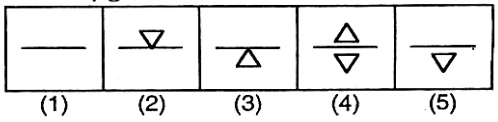
A MUCISIAN performs at a CONCERT

Directions : (Q71 to Q80) : *In each of the following questions figures (A) and (B) have a definite relationship, find out from (1), (2), (3), (4) and (5). The figure that has a similar relationship with figure (C).*

71. *Problem figures*

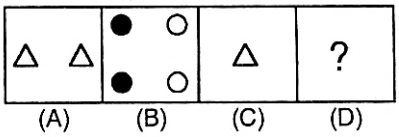


Answer figures

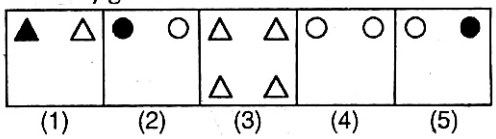


Answer (4, 5)

72. *Problem figures*

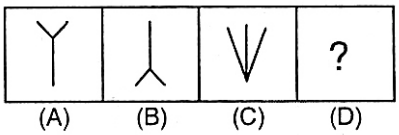


Answer figures

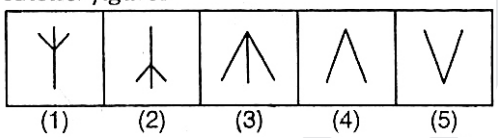


Answer (2)

73. *Problem figures*

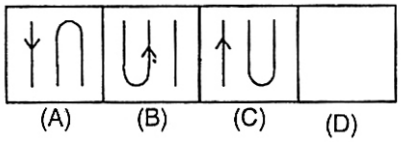


Answer figures

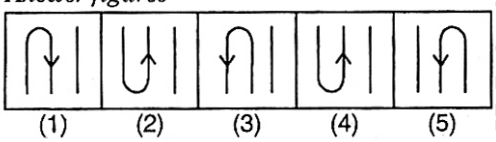


Answer (3)

74. *Problem figures*



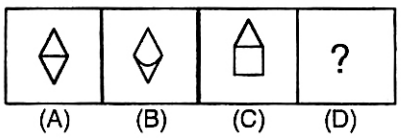
Answer figures



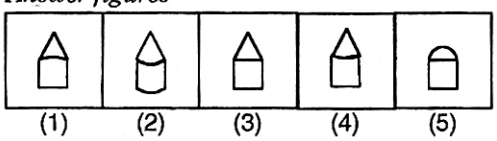
Answer (1)

Sol. Rotate figure-A anti-clockwise to get figure - B same way Rotate Figure-C anticlock wise to get figure - D

75. *Problem figures*



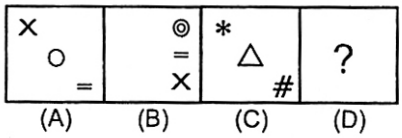
Answer figures



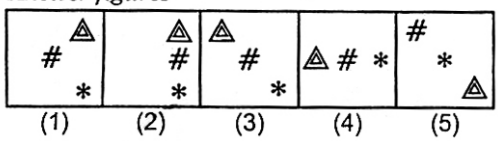
Answer (4)

Sol. Line is change to curve in figure A to B same way C to D

76. *Problem figures*



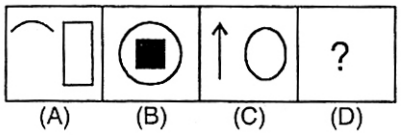
Answer figures



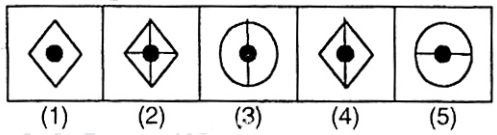
Answer (2)

Sol. = shifting half a side in anti-clockwise same way # is moving half side anti-clockwise

77. *Problem figures*



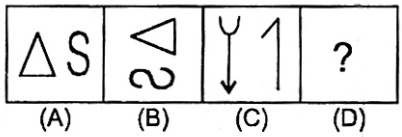
Answer figures



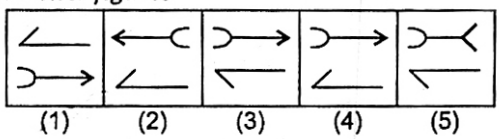
Answer (1)

Sol. Arc is changing to circle same way line is changing to square

78. *Problem figures*



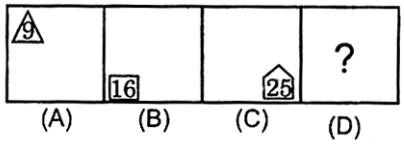
Answer figures



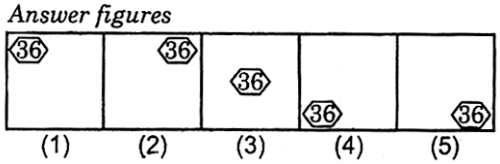
Answer (4)

Sol. Rotate figure A anti-clockwise and take water image.

79. *Problem figures*



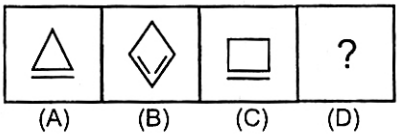
Answer figures



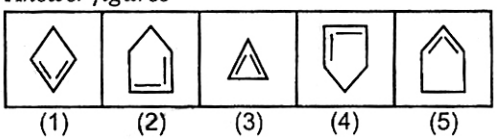
Answer (2)

Sol. Element shifts one side in anti-clockwise direction

80. *Problem figures*



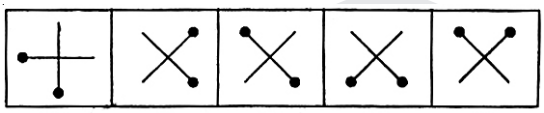
Answer figures



Answer (5)

Directions : (Q81 to Q90) : *Out of the five figures (1), (2), (3), (4) and (5) given in each problem, four are similar in a certain way. Choose the figure which is different from the other figures.*

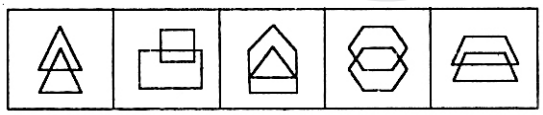
81.



Answer (3)

Sol. Except Option -3, rest all are common

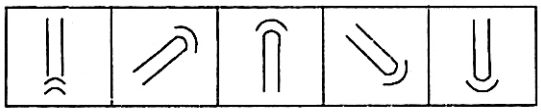
82.



Answer (2)

Sol. Except square rest all figures are in equal in size.

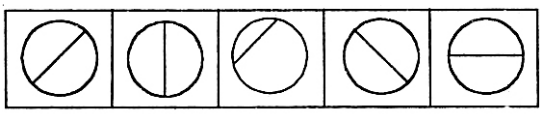
83.



Answer (1)

Sol. Except Option - 1, rest all curves are towards the given image.

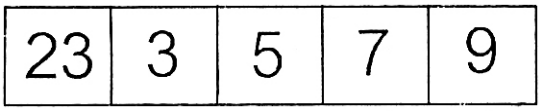
84.



Answer (3)

Sol. Except Option - 3 rest all figures are semi-circles

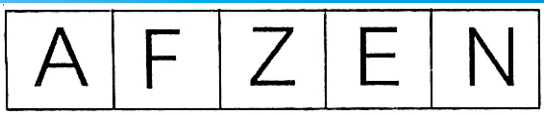
85.



Answer (5)

Sol. Except Option - 5 rest all are prime numbers

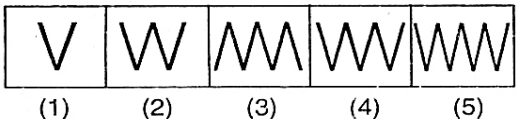
86.



Answer (4)

Sol. Except Option - 5 rest all figures have 3 lines

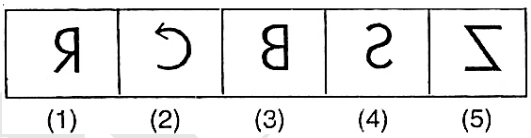
87.



Answer (3)

Sol.

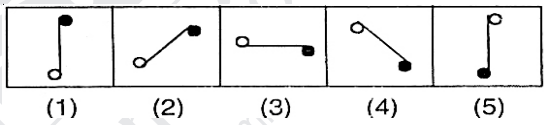
88.



Answer (2)

Sol. Except Option - 2 rest all figures are alphabets

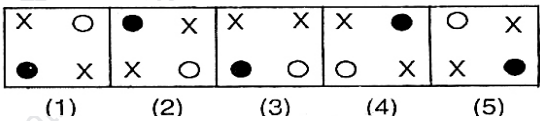
89.



Answer (4)

Sol. Except Option - 4 rest all are opposite in direction

90.



Answer (3)

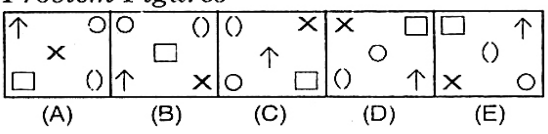
Sol. Except Option - 3 rest all figures circles are opposite to each other

Directions :

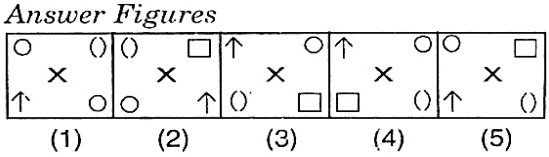
Questions (91 to 100) :

Each of the following questions consists of five figures marked A, B, C, D and E called the problem figures; followed by five alternatives marked 1, 2, 3, 4 and 5 called the answer figures. Select a figure which will continue the same series established by the five problem figures.

91. *Problem Figures*



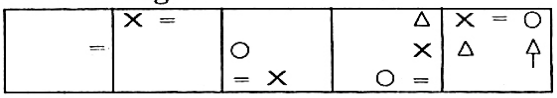
Answer Figures



Answer (4)

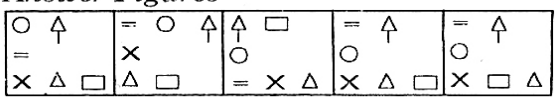
Sol. Shifiting one side anti-clockwise direction

92. *Problem Figures*



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

Answer Figures

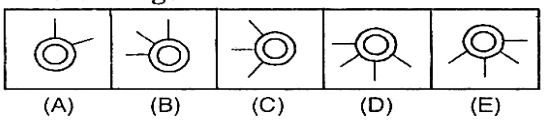


(1) (2) (3) (4) (5)

Answer (1)

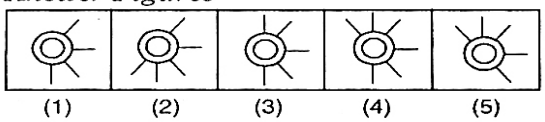
Sol. = symbol shifts anti-clockwise one side, one and half side respectively.

93. *Problem Figures*



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

Answer Figures

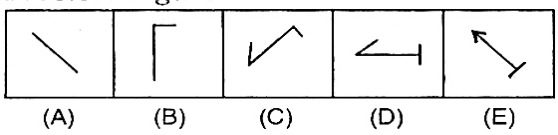


(1) (2) (3) (4) (5)

Answer (3)

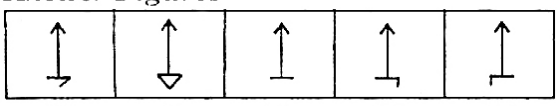
Sol. Rotate the figure in anti-clockwise direction and adding one line

94. *Problem Figures*



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

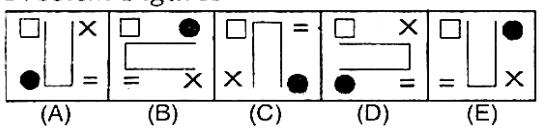
Answer Figures



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

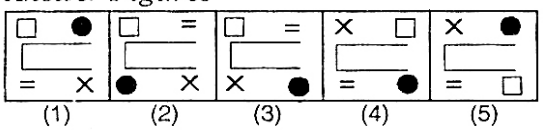
Answer (4 or 5)

95. *Problem Figures*



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

Answer Figures

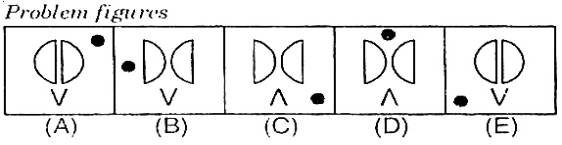


(1) (2) (3) (4) (5)

Answer (3)

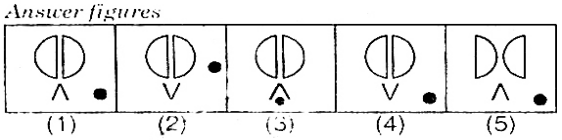
Sol. Shaded circle shifts one side clockwise direction, but because square position it shifts one more side

96. *Problem figures*



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

Answer figures

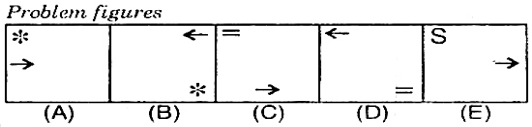


(1) (2) (3) (4) (5)

Answer (2)

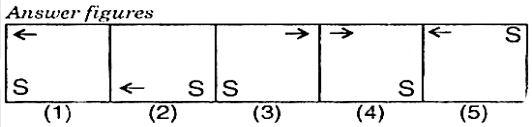
Sol. Dot shifts one and half side anti-clockwise direction

97. *Problem figures*



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

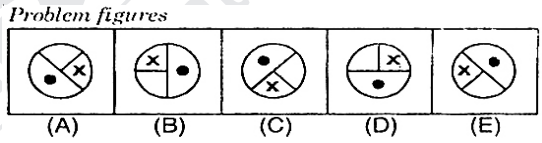
Answer figures



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

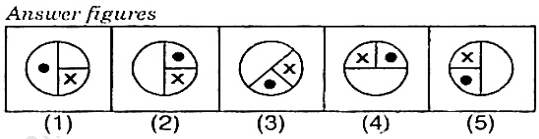
Answer (2)

98. *Problem figures*



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

Answer figures

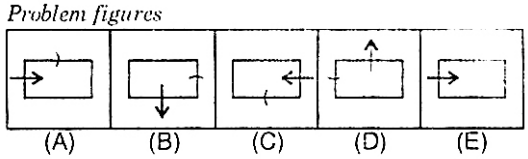


(1) (2) (3) (4) (5)

Answer (1)

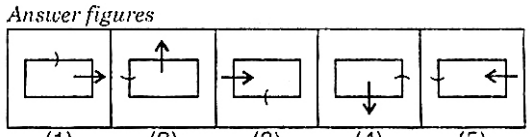
Sol. Dot is in semicircle

99. *Problem figures*



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

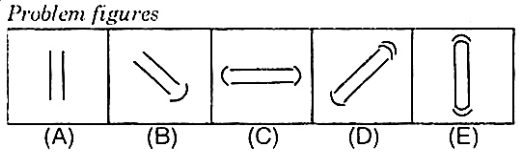
Answer figures



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

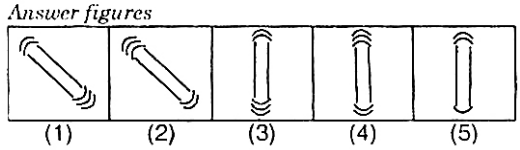
Answer (4)

100. *Problem figures*



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

Answer figures



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

Answer (2)

PAPER-II : SCHOLASTIC APTITUDE TEST (SAT)

1. The radius of curvature of a spherical mirror is 20 cm.What is its focal length ?

(1) 10 cm (2) 15 cm

(3) 25 cm (4) None

Answer (1)

Sol. $f = \frac{R}{2} = \frac{20}{2} = 10\ cm$

2. There is an object infront of convex mirror at a distance of 5 cm. If its focal length is 10 cm, then its magnification is ...

(1) 0.44 cm (2) 0.66 cm

(3) 0.88 cm (4) None

Answer (4)

Sol. $u = -5\ cm$

$f = +10\,cm$

$m = \frac{f}{f-u} = \frac{10}{10+5} = \frac{10}{15} = 0.666$

magnification has no units

3. The mirror used by dentists is ...

(1) Convex (2) Plane

(3) Concave (4) None

Answer (3)

Sol. Mirror used by dentist is concave mirror which provides magnified, upright images

4. The lens maker's formula is ...

(1) $\frac{1}{n} = (f-1)\left[\frac{1}{R_1} - \frac{1}{R_2}\right]$

(2) $\frac{1}{R} = (n-1)\left[\frac{1}{f_1} - \frac{1}{f_2}\right]$

(3) $\frac{1}{f} = (n-1)\left[\frac{1}{R_1} - \frac{1}{R_2}\right]$

(4) None

Answer (3)

Sol. From Len's maker's formula

$\frac{1}{f} = (n-1)\left[\frac{1}{R_1} - \frac{1}{R_2}\right]$

5. Focal length of the plano-convex lens is..., when its radius of curvature of the surface is R and n is the refractive index of the lens.

(1) $f = R$ (2) $f = \frac{R}{2}$

(3) $f = \frac{R}{(n-1)}$ (4) $f = \frac{(n-1)}{R}$

Answer (3)

Sol. $\frac{1}{f} = (n-1)\left[\frac{1}{R_1} - \frac{1}{R_2}\right]$

$R_1 = \infty \quad R_2 = -R$

$\frac{1}{f} = (n-1)\frac{1}{R}$

$f = \frac{R}{(n-1)}$

6. The ray passing through the ... of the lens is not deviated.

(1) Focus (2) Optic centre

(3) Centre of curvature (4) None

Answer (2)

Sol. Optic centre

7. The size of an object as perceived by an eye depends primarily on...

(1) actual size of the object

(2) distance of the object from the eye

(3) aperture of the pupil.

(4) size of the image formed on the retina.

Answer (4)

Sol. Conceptual

8. The process of re-emission of absorbed light in all directions with different intensities by the atom or molecule is called..

(1) Scattering of light

(2) Dispersion of light

(3) Reflection of light

(4) Refraction of light

Answer (1)

Sol. *Definition of Scattering of light.*

9. The value of 1 KWH in Joules is...

(1) 2.6×10^6 *Joules* (2) 1.6×10^6 *Joules*

(3) 3.6×10^6 *Joules* (4) None

Answer (3)

Sol. $1\,KWH = 10^3 W\,x\,3600\ s$

$= 3600\times10^3\ Ws$

$= 3.6\times10^6\ J$

10. If the resistance of your body is 100000 Ω , what would be the current that flows in your body when you touch the terminasl of a 12V battery ?

(1) $10\times10^{-5}\ A$ (2) $14\times10^{-5}\ A$

(3) $12\times10^{-5}\ A$ (4) None

Answer (3)

Sol. $V = 12V$

$$I = \frac{V}{R} = \frac{12}{10^5} = 12\times10^{-5}\ A$$

11. Which of the following converts electrical energy into mechanical energy ?

(1) Motor (2) Battery

(3) Generator (4) Switch

Answer (1)

Sol. Conceptual

12. The S.I. unit of magnetic field induction is...

(1) $Weber / m^2$ (2) Tesla

(3) $Weber - m^2$ (4) Weber

Answer (2)

Sol. Conceptual

13. If an object is moving with constant velocity, then the motion is ....

(1) Speed (2) Uniform acceleration

(3) Uniform motion (4) Non-uniform motion

Answer (3)

Sol. Conceptual

14. Change of solid into vapour without changing into liquid is known as...

(1) Evaporation (2) Vapourisation

(3) Sublimation (4) Boiling

Answer (3)

Sol. The process of transformation of solid directly to gas is sublimation

15. If water turns into ice at a pressure of atmosphere at 0°C,then the temperature of this system in this process

(1) Decreases (2) Increases

(3) Remains same (4) None

Answer (3)

Sol. Phase transformation take place at constant temperature.So temperature remains same.

16. The physical mixtures of two substances is called..

(1) Mixture (2) Compound

(3) Colloid (4) Suspension

Answer (1)

Sol. Concept

17. The phenomenon of scattering of a visible light by the particle of a colloid is known as...

(1) Tyndall effect (2) Chromatography

(3) Sublimation (4) Reflection

Answer (1)

Sol. Concept

18. Chemical formula of Aluminium Sulphate is...

(1) Al_2SO_4 (2) $(Al_2)_2(SO_4)_3$

(3) $Al_2(SO_4)_3$ (4) $AlSO_4$

Answer (3)

Sol.

	Al^{+3}	SO_4^{2-}
Symbol	Al	SO_4
Valency	3	2

$=Al_2(SO_4)_3$

19. The other name of Tungsten...

(1) Natrium (2) Kalium

(3) Wolfram (4) Cuprum

Answer (3)

Sol. Concept

20. Hydraulic Jack works on the principle of...

(1) Archimedes principle (2) Buoyancy

(3) Pascal's priniciple (4) Air pressure.

Answer (3)

Sol. Concept

21. The electronic configuration of Sodium is...

(1) 2,8 (2) 8,2,1

(3) 2,1,8 (4) 2,8,1

Answer (4)

Sol. Concept

22. Deuterium and Tritium are the isotopes of...
(1) Nitrogen (2) Oxygen
(3) Hydrogen (4) Helium

Answer (3)

Sol. Concept

23. Colour of Silver bromide is...
(1) Red (2) Silver
(3) Light yellow (4) Blue

Answer (3)

Sol. Concept

24. Which one of the following types of medicines is used for treating indigestion?
(1) Antibiotic (2) Analgesic
(3) Antacid (4) Antiseptic

Answer (3)

Sol. Concept

25. Acid rain occurs,when pH value of rain water is less than...
(1) 6.5 (2) 5.6
(3) 7.2 (4) 2.7

Answer (2)

Sol. Concept

26. Formula of Bleaching powder...
(1) $CaSO_4$ (2) Na_2CO_3
(3) $NaHCO_3$ (4) $CaOCl_2$

Answer (4)

Sol. Concept

27. During the cellular respiration, one molecule of Glucose is first broken down into two molecules of...
(1) Acetic acid (2) Pyruvic acid
(3) Lactic acid (4) Sulphuric acid

Answer (2)

Sol. $C_6H_{12}O_6 \xrightarrow[Glycolysis]{in\ cytoplasm} 2C_3H_4O_3$

28. When two individuals are similar in external apperance but different in their genetic makeup, these are called...
(1) Allele
(2) Dominant
(3) Homozygous
(4) Heterozygous

Answer (4)

Sol. When individuals are similar in external apperance (phenotype) but different in genetic makeup(genotype), these are called Heterozygous.

example: *Tt (Tall)* & *TT (Tall)*
↓ ↓
Heterozygous tall phenotype *Homozygous tall phenotype*

29. Villi present on the inner lining of the intestinal wall...
(1) secretes enzymes for digestion
(2) secretes hormones.
(3) decreases the surface area for absorption
(4) increases the surface area for absorption

Answer (4)

Sol. Villi are the finger like projections which are meant for increasing the area of absorption in intestine.

30. Which of the following are not examples of analogous structures ?
(1) Wings of bat and butterfly.
(2) Wings of bat and forelimbs of cattle.
(3) Thorn and spine
(4) Tendril of Lathyranthus and tendril of Gloriosa.

Answer (2)

Sol. Wings of bat and forelimbs of cattle have similar origin and different functions. So are homologous organs.

31. What will be the genotypic ratio of the cross between Rr and Rr ?
(1) 1 : 1 (2) 3 : 1
(3) 1 : 2 : 1 (4) 1 : 1 : 1

Answer (3)

Sol. Genotypic ratio: 1 : 2 : 1 (Homozygous round :Heterozygous round :wrinkled)

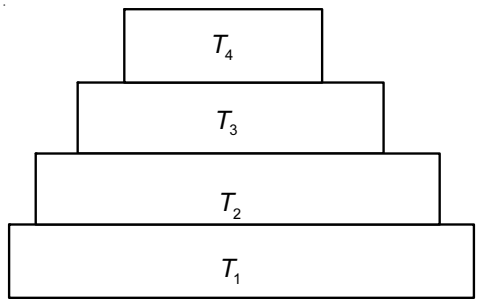
Phenotypic ratio:3:1 (Round : Wrinkled)

32. Which is the key intermediate compound linking glycolysis to Kreb's cycle ?
(1) Mallic acid
(2) Acetyl-CoA
(3) Pyruvic acid
(4) Citric acid

Answer (2)

Sol. Two molecules of pyruvate were produced form glycolysis and converted into two molecules of acetyl CoA.

33. In the given figure, various tropic levels are shown in a pyramid. At which tropic level is maximum energy available ?



(1) T_4 (2) T_2

(3) T_1 (4) T_3

Answer (3)

Sol. T_1 will have maximum energy and reduces as we proceed to the next tropic level.

34. The part of the human body which is called as Second Brain, is...

(1) Small intestine (2) Large Intestine

(3) Stomach (4) Mouth

Answer (1)

Sol. More number of neurons are connected to small Intestine as it is longer than other parts of the alimentary canal.

35. Stock and Scion are attached , which type of characters will come into the offspring ?

(1) Characters of Scion

(2) Characters of Stock

(3) Special desired characters

(4) Cannot expect.

Answer (1)

Sol. Scion(part of desired plant variety with superior characters) is grafted on a matured stock (plant with strong root system). Hence Progeny will have characters of scion.

36. Which of the following is not a part of female reproductive system in human beings ?

(1) Ovary

(2) Uterus

(3) Vas deferens

(4) Fallopian Tube

Answer (3)

Sol. Vas deferens is the male reproductive part.

37. The best way to dispose waste is ...

(1) Making a paste of all domestic waste and putting them in a river.

(2) Separating bio-degradable and non-degradable waste in bins before disposing.

(3) Throw the waste on roadside.

(4) Dumping all domestic waste in litter bin.

Answer (2)

Sol. Seperating bio degradable and non-bio degradable waste in bins before disposing is the best way to dispose waste.

38. Which of the following is the correct sequence of events of sexual reproduction in a flower ?

(1) Pollination, Fertilization, Seedling, Embryo.

(2) Seedling, Enmbryo,Fertilization, Pollination.

(3) Pollination,Fertilization, Embryo,Seedling.

(4) Embryo,Seedling,Pollination,Fertilization.

Answer (3)

Sol. Pollination $\rightarrow$ Fertilization $\rightarrow$ Embryo $\rightarrow$ Seedling.

39. Conservation of wildlife includes...

(1) Preventing poaching of animals

(2) Construction of National Parks, Sanctuaries.

(3) Ban on trading endangered species

(4) All of the above

Answer (4)

Sol. We can conserve wild life by preventing poaching of animals , by construction of national parks,sanctuaries, by banning on trading endagered species.

40. What is the breath rate in human beings ?

(1) 5-6 times/minute

(2) 15-18 times/minute.

(3) 40-45 times/minute

(4) 70-80 times/minute.

Answer (2)

Sol. Adult Human breathes 15-18 times per minute.

41. Let x be real number such that $x^3 + 4x = 8$, then the value of $x^7 + 64x^2$ is ...

(1) 136 (2) 146

(3) 128 (4) 156

Answer (3)

Sol. $x^3 + 4x = 8$

$\boxed{x^3 = 8 - 4x}$ ... (1)

$x^7 + 64x^2 =$

$\Rightarrow (x^3)^2.x + 64x^2$

$\Rightarrow (8 - 4x)^2x + 64x^2$

$\Rightarrow (64 + 16x^2 - 64x)x + 64x^2$

$\Rightarrow 64x + 16x^3 - 64x^2 + 64x^2$

$16(x^3 + 4x) = 16(8) = 128$

42. If $10^{2017} - 2017$ is expressed as integer, what is the sum of its digits?

(1) 18,144 (2) 17,468

(3) 16,466 (4) 18,564

Answer (1)

Sol. $10^{2017} - 2017$

$= \underbrace{999...9}_{2013\text{times}}7983$

$\therefore$ Their sum $= 2013 \times (9) + 7 + 9 + 8 + 3$

$= 18144$

43. If $P(x) = x^4 + ax^3 + bx^2 + cx + d$, $a, b, c, d \in z$ and $P(1) = P(2) = P(3) = 0$

Then the value of $P(4) + P(0)$ will be ...

(1) –12

(2) 24

(3) 16

(4) 18

Answer (2)

Sol. $P(x) = (x - k)(x - 1)(x - 2)(x - 3)$

$P(4) + P(0) = (4 - k)(3)(2)(1) + (-k)(-1)(-2)(-3)$

$= 24 - 6k + 6k$

$= 24$

44. If $3^9 + 3^{12} + 3^{15} + 3^n$ is a perfect cube (of an integer) where $n \in N$, then find the value of n.

(1) 18

(2) 14

(3) 16

(4) 17

Answer (2)

Sol. $3^9(1 + 3^3 + 3^6 + 3^{n-9})$

When n = 14

$= 3^9(10^3)$

$= (3^3 \times 10)^3$

45. If $a + b + c = 1$, $a^2 + b^2 + c^2 = 9$ and $a^3 + b^3 + c^3 = 1$, then the value of $\frac{1}{a}+\frac{1}{b}+\frac{1}{c}$ is ...

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

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

Answer (3)

Sol. $a^3 + b^3 + c^3 - 3abc = (a + b + c)(a^2 + b^2 + c^2 - ab - bc - ca)$

$\Rightarrow 1 - 3abc = 1\ (9 - (ab + bc + ca))$ ...(1)

$(a + b + c)^2 = a^2 + b^2 + c^2 + 2(ab + bc + ca)$

$\Rightarrow ab + bc + ca = -4$

From (1)

$1 - 3abc = (9 + 4)$

$\Rightarrow 3abc = -12$

$abc = -4$

$$\frac{1}{a}+\frac{1}{b}+\frac{1}{c}=\frac{ab+bc+ca}{abc}=\frac{-4}{-4}=1$$

46. A finite sequence of 16 numbers such that ...

(i) It reads the same from left to right as right to left.

(ii) The sum of any 7 consecutive terms is –1.

(iii) The sum of any 11 consecutive terms is +1, then the sum of 16 numbers in the sequence is

(1) 142 (2) 56

(3) 24 (4) 8

Answer (4)

Sol. Let $T_1 + T_2 + ... + T_{11} = 1$

$T_1 + T_2 + ... + T_7 = -1$

$\Rightarrow \boxed{T_8 + T_9 + T_{10} + T_{11} = 2}$

$\therefore$ Sum of any 4 consecutive terms = 2

$\therefore$ Sum of 16 terms $= 4 \times 2 = 8$

47. Compute

$$\frac{\text{L.C.M. of } (1,2,3,.....,200)}{\text{L.C.M. of } (102,103,104,....,200)}$$

(1) 101 (2) 106

(3) 184 (4) 176

Answer (1)

Sol. $\frac{\text{L.C.M. } (1,2,3,.....,200)}{\text{L.C.M.}(102,103,104,....,200)} = 101$

48. If $x+\frac{1}{x}=5$, then $\frac{2x}{3x^2-5x+3}$ is equal to .....

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

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

Answer (2)

Sol. $x+\frac{1}{x}=5$

$$\frac{2x}{3x^2-5x+3}=\frac{2}{3\left(x+\frac{1}{x}\right)-5}=\frac{2}{10}=\frac{1}{5}$$

49. If every side of a triangle is doubled, then increase in the area of the triangle is .....

(1) $100\sqrt{2}\%$ (2) 200%

(3) 300% (4) 400%

Answer (3)

Sol. $A_{old}=\sqrt{s(s-a)(s-b)(s-c)}$

$A_{new}=\sqrt{s'(s'-a)(s'-b)(s'-c)}$

$s'=\frac{2a+2b+2c}{2}=2\left(\frac{a+b+c}{2}\right)$

$\boxed{s'=2s}$

$\boxed{A_{new}=4A_{old}}$

$A_{new} = 4A_{old}$

$\therefore$ Increasing area $=\frac{A_{new}-A_{old}}{A_{old}}\times 100$

$= 300\%$

50. When $x^3 + 3x^2 - kx + 4$ is divided by $x - 2$, the remainder is 2k, then the value of k is ....

(1) 6 (2) –6

(3) 2 (4) –2

Answer (1)

Sol. f(2) = 2k

$\Rightarrow$ 8 + 12 – 2k + 4 = 2k

4k = 24

k = 5

51. Number 50, 42, 35, 2x + 10, 2x – 8, 12, 11, 8 are written in desending order and their medain is 25 find x.

(1) 20 (2) 25

(3) 12 (4) 11

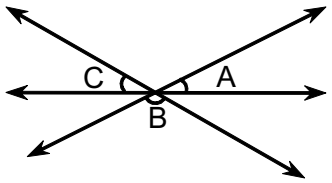
Answer (3)

Sol. $\frac{2x+10+2x-8}{2}=25$

4x + 2 = 50

x = 12

52. The value of angle B will be in the given figure, if $\angle A = 50°$, $\angle C = 60°$.



(1) 60° (2) 50°

(3) 70° (4) 80°

Answer (3)

Sol. B = 70°

53. If $\sin^3\theta + \cos^3\theta = 0$,

Then θ will be ....

(1) 60° (2) 45°

(3) 0° (4) –45°

Answer (4)

Sol. $\tan^3\theta = -1$

$\Rightarrow \theta = -45°$

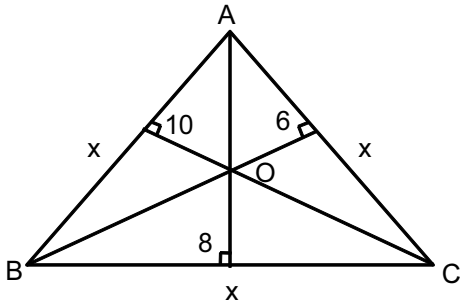
54. The measures of the perpendiculars drawn from a point situated inside an equilateal triangle are 6 cm, 8 cm and 10 cm. The area of the triangle will be ....

(1) $256\sqrt{3}$ (2) $192\sqrt{3}$

(3) $64\sqrt{3}$ (4) $3\sqrt{3}$

Answer (2)

Sol.



Ar(ΔABC) = Ar(ΔAOB) + Ar(ΔBOC) + Ar(ΔAOC)

$\frac{\sqrt{3}}{4}x^2 = 12x$

$x = 16\sqrt{3}$

$\therefore$ Area $=\frac{\sqrt{3}}{4}\times 256\times 3 = 192\sqrt{3}$

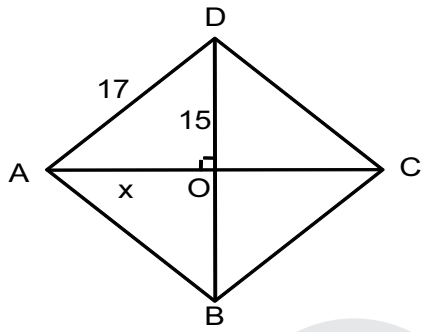
55. There is a rhombus of one side 17 cm and one diagonal 30 cm. The area of the rhombus will be ...

(1) 60 cm^2 (2) 240 cm^2

(3) 305 cm^2 (4) 750 cm^2

Answer (2)

Sol.



x = 8cm

$\therefore$ Area of rhombus $= \frac{1}{2} \times 16 \times 30$

$= 240\ cm^2$

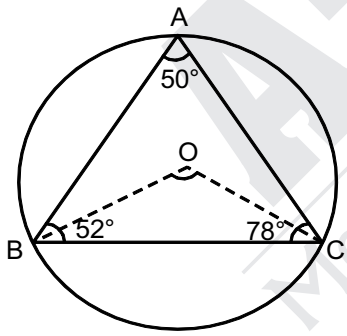
56. The points A, B and C be on a circle in such a way that $\angle ABC = 52°$ and $\angle ACB = 78°$. The measure of the angle subtended at the centre by the arc BC will be ...

(1) 26° (2) 50°

(3) 100° (4) 115°

Answer (3)

Sol.



$\angle BOC = 2\angle BAC = 100°$

57. If $x = 7 - 4\sqrt{3}$, the value of $x^2 + \frac{1}{x^2}$ will be .....

(1) 146 (2) 148

(3) 194 (4) 196

Answer (3)

Sol. $x = 7 - 4\sqrt{3}$

$\Rightarrow x = 7 - 4\sqrt{3}$

$\Rightarrow x^2 + \frac{1}{x^2} = \left(x + \frac{1}{x}\right)^2 - 2$

$= 196 - 2 = 194$

58. If θ is in the first quadrant and $\cos\theta = \frac{3}{5}$, then the valeu of $\frac{5\tan\theta - 4\,\text{cosec}\,\theta}{5\sec\theta - 4\cot\theta}$ will be ....

(1) $\frac{5}{16}$ (2) $\frac{5}{34}$

(3) $-\frac{5}{34}$ (4) $-\frac{5}{16}$

Answer (1)

Sol. $\cos\theta = \frac{3}{5}$

$\Rightarrow \tan\theta = \frac{4}{3}, \sec\theta = \frac{5}{3}$

$\Rightarrow \text{cosec}\,\theta = \frac{5}{4}, \cot\theta = \frac{3}{4}$

$$\frac{5\tan\theta - 4\,\text{cosec}\,\theta}{5\sec\theta + 4\cot\theta} = \frac{5\times\frac{4}{3} - 4\times\frac{5}{4}}{5\times\frac{5}{3} - 4\times\frac{3}{4}}$$

$$= \frac{5}{16}$$

59. If $\log_4 7 = x$, then the valeu of $\log_7 16$ will be....

(1) x^2 (2) 2x

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

Answer (4)

Sol. $\log_4 7 = x$

$\Rightarrow \log_7 4 = \frac{1}{x}$

$\Rightarrow 2\log_7 4 = \frac{2}{x}$

$\log_7 16 = \frac{2}{x}$

60. The sum of the integers from 1 to 100 that are divisible by 2 or 5 is ...,

(1) 2550 (2) 3050

(3) 3550 (4) 3600

Answer (2)

Sol. Total sum = sum of multiples of 2 + sum of multiples of 5 – sum of multiples of 2 & 5

Sum of multiples of 2 = 2 + 4 + ... 100

$= 2\times\frac{50\times51}{2} = 2550$

Sum of multiples of 5 = 5 + 10 + ... 100

$$= 5 \times \frac{20 \times 21}{2} = 1050$$

Sum of multiples of 10 = 10 + 20 + ... 100

$$= 10 \times \frac{10 \times 11}{2} = 550$$

$\therefore$ Total sum = 2550 + 1050 – 550

= 3050

61. Find the wrong one about hockey.

(1) Modern hockey evolved from trational games once current in Britain.

(2) the first hockey club in India was started in Calcutta in 1885-1886.

(3) Between 1928 and 1956, India won gold medals in six consecutive Olympic Games.

(4) None of the above

Answer (4)

62. In which princely state, women of the shanar caste were attacked by upper caste nairs for wearing a cloth across their upper bodies.

(1) Jammu & Kashmir (2) Rajaputana

(3) Mysore (4) Travancore

Answer (1)

Sol. ??

63. Which U.S. president called upon farmers "plant more wheat, wheat will win the war"?

(1) Woodrow Wilson (2) Franklin Roosevelt

(3) James Munroe (4) Harry S.Truman

Answer (1)

Sol. Woodrow Wilson

64. Match the followiing.

Pastoralists	**State**
(1) Monpas	(i) Gujarat
(2) Dhangars	(ii) Rajasthan
(3) Raikas	(iii) Maharashtra
(4) Maldharis	(iv) Arunachal Pradesh.

	(a)	(b)	(c)	(d)
(1)	(i)	(iv)	(iii)	(ii)
(2)	(ii)	(iv)	(i)	(iii)
(3)	(iv)	(iii)	(ii)	(i)
(4)	(iv)	(i)	(iii)	(ii)

Answer (3)

65. Which treaty recognised the independence of thirteen colonies?

(1) Treaty of Paris, 1783

(2) Treaty of Philadelphis, 1788

(3) Treaty of Rome, 1791

(4) Treaty of Vienna, 1803

Answer (1)

66. Find out the incident that is not related to the unification of Germany.

(1) Formation of Zollverein.

(2) The Schleswig-Hostein

(3) Civil war

(4) Ems Telegram

Answer (3)

67. Who are known as "Boers"?

(1) Dutch farmers settled in South Africa.

(2) Norwegian farmers settled in China.

(3) Spanish farmers settled in Chile.

(4) Portuguese farmers settled in Mexico.

Answer (1)

68. "That Smallpox signalled God's blessings for the colonist, the natives were near all dead of small pox, so as the lord had cleared our tittle to what we possess." Which Massachusetts Bay colony Governor wrote this to the England Government?

(1) George Popham (2) Ralegh Gilbert

(3) John Winthorp (4) William Bradfort

Answer (3)

69. The main reason for Gandhiji calling off Disobedience Movement is ...

(1) Chauri chaura incident.

(2) Poona pact.

(3) Gandhi - Irwin pact.

(4) Arrival of Simon

Answer (3)

70. Which among the following is a main draw back in formation of Simon commission?

(1) The Commission did not have a single Indian member.

(2) The Commission constituted of Military officers.

(3) It was more expensive.

(4) All the above.

Answer (4)

71. The Royal Indian Navy Revolt took place in the year
(1) 1942 (2) 1944
(3) 1946 (4) 1940

Answer (3)

72. We consider it natural that these two worlds remian distinct what the man gives in courage on the battle field, the gives in eternal self sacrifies, in eternal pain and suffering. Evey child that women bring to the world is a battle, a battle waged for the existence of her people." Who said this addressing women?
(1) Otto von Bismarck (2) Adolf Hitler
(3) Benito Mussolini (4) General Franco

Answer (3)

73. Who founded the Vietnamese Communist party?
(1) Chinh Phu Ngam
(2) Gia Huan Ca
(3) Ho Chi Minh
(4) Bao Dai

Answer (3)

74. Name of England poet, who organised funds and later went to fight the war for the independence of Greece, which was a part of Ottoman empire?
(1) Emily Bronte (2) Lord Byron
(3) John Clare (4) Rudyard Kipling

Answer (2)

75. Match the Following

(A)	**(B)**
(1) Mechanical Repair	(i) James Hargreaves
(2) Spinning Jenney	(ii) Cyrus Mc Cormick
(3) First modern Roads	(iii) Brindley
(4) Modern Canals	(iv) John Loudon Mc Adam

	a	b	c	d
(1)	(ii)	(iii)	(i)	(iv)
(2)	(iv)	(iii)	(ii)	(i)
(3)	(iii)	(ii)	(iv)	(i)
(4)	(ii)	(i)	(iv)	(iii)

Answer (4)

76. In which island of Lakshadweep, a bird sanctuary is located?
(1) Androtl island (2) Pitti island
(3) Minicoy island (4) Agatti island

Answer (2)

77. In Which plain region, Dudhwa National Park is located?
(1) Bhabar (2) Bhangar
(3) Khader (4) Terai

Answer (4)

78. Match the Following.

	A	**B**
(a)	Lake Sambhar	(i) Largest fresh water lake in India.
(b)	Lake Wular	(ii) Back waters of Bhakra Nangal Project
(c)	Guru Gobind Sagar	(iii) Water is used for producing salt
(d)	Ox-bow Lakes	(iv) Formed by Meandering river.

	(a)	(b)	(c)	(d)
(1)	(ii)	(iii)	(iv)	(i)
(2)	(iii)	(ii)	(iv)	(i)
(3)	(i)	(iv)	(iii)	(ii)
(4)	(iii)	(i)	(ii)	(iv)

Answer (4)

79. Arrange the onset of south west monsoons in an order, where they appear first?
(1) Mangalore, Daman, Sura, Vadodara.
(2) Daman, Surat, Mangalore, Vadodara.
(3) Mangalore, Surat, Daman, Vadodara.
(4) Vadodara, Daman, Mangalore, Surat.

Answer (1)

80. The roots of which plants are submerged under water?
(1) Tropical evergreen forests.
(2) Deciduous forests.
(3) Thorny forests.
(4) Mangroove forests.

Answer (4)

81. In India, most migrations have been from rural to urban areas because of the push factor in rural areas. Which among these is not a push factor?
(1) Unemployment
(2) Adverse conditions of poverty
(3) Seasonal employment
(4) Better living conditions.

Answer (4)

82. Consider the following statements about population.

(a) Internal migration does not change the size of the population.

(b) Migration among women is mainly due to marriages.

(c) The government of India initiated the comprehensive family planning programme in 1952.

(d) the highest annual growth rate was recorded in the decade 1981.

Which of the statements given above is /are correct.

(1) a only. (2) a and b.

(3) a,b,c (4) a, b, c, d

Answer (4)

83. Coriolis force is maximum at ..

(1) the Equator

(2) the Tropics.

(3) the Arctic and Antarctic Circles.

(4) the Poles.

Answer (4)

84. North South Corridor Project does not pass through...

(1) Jhansi (2) Nizamabad

(3) Bangalore (4) Indore

Answer (4)

85. Which of these minerals is used in hardening of steel?

(1) Cooking coal (2) Lime stone

(3) Manganese (4) Mica

Answer (3)

86. Find the wrong one about maize crop.

(1) Maize is Kharif crop but some states like Bihar grow it in Rabi also.

(2) It is used both as food and fodder.

(3) Major maize producing states are Karnataka and Uttar Pradesh.

(4) Maize is the third most important food crop with respect to area and production.

Answer (4)

87. Salal project is located on river...

(1) Chenab (2) Jhelum

(3) Beas (4) Ghagra

Answer (1)

88. In which of the following states is / are black soil found?

(1) Maharashtra

(2) Madhya Pradesh

(3) Telangana

(4) All of the above.

Answer (4)

89. Find out the writings which is not related to conservation of resources?

(1) Small is beautiful

(2) Our common future

(3) The silent spring

(4) None of the above

Answer (4)

90. Find out the wrong one about Tiger Reserves of India.

(1) Manas Tiger Reserve - Assam

(2) Bandhavagarh National Park -Maharashtra

(3) Periyar National Park - Kerala

(4) Corbett National Park - Uttaranchal.

Answer (2)

91. Which of the following statements is wrong about today's world?

(1) The relationship between different countries has become more democratic than ever before.

(2) In more and more countries, rulers are being elected by the people.

(3) There are no military rulers in the world.

(4) None of the above.

Answer (3)

92. Which of the following statements is not a character of democratic elections?

(1) Everyone should have one vote and every vote should have qual value.

(2) Elections must be held regularly after every few years.

(3) The candidate preferred by the people should get elected.

(4) The contestant can canvas on the grounds of caste

Answer (4)

93. Match the following.

	A	B
(a)	Founder of Republican party of Indian	(i) Shyam Prasad Mukherjee.
(b)	Founder president of Bharatiya Jana Sangh.	(ii) Jaipal Singh
(c)	Founder of the Swatantra party.	(iii) B.R.Ambedkar
(d)	Founder of Jharkand party.	(iv) K.M.Munshi.

	(a)	(b)	(c)	(d)
(1)	(ii)	(iv)	(iii)	(i)
(2)	(i)	(iii)	(ii)	(iv)
(3)	(ii)	(iv)	(iii)	(i)
(4)	(iii)	(i)	(iv)	(ii)

Answer (4)

94. Who was the president of the Constituent Assembly?
(1) Pt.Jawaharlal Nehru (2) Dr.Rajendra Prasad
(3) Dr.BR Ambedkar (4) K.M.Munshi.

Answer (2)

95. The Rajya Sabha can have a maximum strength of
(1) 250 (2) 275
(3) 300 (4) 325

Answer (1)

96. Largest income under indirect taxes is obtained from..
(1) Sales Tax (2) Excise Tax
(3) Customs Duty (4) Service Tax

Answer (1)

97. Which of the following statements is wrong about food grains in India?
(1) The production of the food graisn has increased five times over the last five decades.
(2) Today a farmer is able to produce nearly 800 kgs of food grains per acre of cultivable land.
(3) A large stock of food grains has also built up with the government through Central Warehousing Corporation.
(4) None of the above.

Answer (3)

98. A person is said to be over weight if the body mass index is more than...
(1) 18 (2) 22
(3) 16 (4) 25

Answer (4)

99. Which of the following neighbouring countries has better performance in terms of expected years of schooling than India?
(1) Bangladesh
(2) Srilanka
(3) Pakistan
(4) All the above

Answer (2)

100. Find out the wrong statement.
(1) Employment in the service sector has not increased to the same extent as production.
(2) Most of the workers in the organised sector enjoy the job security
(3) The activities in primary, secondary and tertiary sectors are interdependent.
(4) None of the above.

Answer (4)

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