# NTSE 2015 Stage-1 ( RAJASTHAN STATE)
## SOLUTIONS - MAT

**Direction (Q.no. 1 to 4)** *:* In each of the question 1 to 4 some of the letters are missing in the given series with one term missing shown by question mark (?). This term is one of the alternatives among the four groups of letters given under it. Find the right alternative.

**1.**    A, F, J, M, _?_ .
   (1) O                 (2) N                 (3) Q                 (4) P
**Ans.** *(1)*
**Sol.** Difference of +5, +4, +3, +2.

**2.**    BD, HJ, NP, _?_, ZB.
   (1) QS                (2) TV                (3) YC                (4) TU
**Ans.** *(2)*
**Sol.** Last letter of every term is increased by 4 to get next term and in every term one letter is missing between two letters.

**3.**    FOX, IQV, LST, OUR, _?_ .
   (1) RPW               (2) RWP               (3) QVS               (4) SXU
**Ans.** *(2)*
**Sol.** In every term first letter is increased by 3 and second letter is increased by 2.

**4.**    qpo, nml, _?_ .
   (1) ghf               (2) ijk               (3) kji               (4) hgj
**Ans.** *(3)*
**Sol.** Continuous alphabet series.

**Direction (Q.no. 5 to 8):** In each of the questions 5 to 8 some of the numbers are missing in the given series with one term missing shown by question mark (?). This term is one of the alternatives among the four numbers given under it. Find the right alternative.

**5.**    65, 48, 64, 49, 63, _?_ .
   (1) 53                (2) 52                (3) 51                (4) 50
**Ans.** *(4)*
**Sol.** There are two alternate series so in second series every term is increased by one.

**6.**    7, 23, _?_, 79, 119.
   (1) 47                (2) 49                (3) 44                (4) 46
**Ans.** *(1)*
**Sol.** In every term difference of 16, 24, 32, 40.

**7.**    16, 8, 12, _?_, 105.
   (1) 6                 (2) 30                (3) 24                (4) 35
**Ans.** *(2)*

**Sol.** $16 \times \dfrac{1}{2} = 8, \ 8 \times \dfrac{3}{2} = 12, \ 12 \times \dfrac{5}{2} = 30, \ 30 \times \dfrac{7}{2} = 105$

**8.**    748, 737, 716, 685, 644, _?_ .
   (1) 634               (2) 643               (3) 503               (4) 593
**Ans.** *(4)*

**Sol.** Difference of 11, 21, 31, 41, 51.

**Direction (Q.no.9 to 11) :** In each of the questions below are given two statements and two conclusions numbered *I* and *II*. You have to take the given two statements to be true even if they seem to be at variance from commonly known facts. Read the conclusions and then decide which of the given conclusions logically follows from the two given statements.
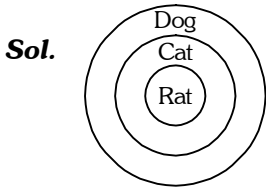
**9.** **Statements** (I) : All rats are cats.
(II) : All cats are dogs.
**Conclusions** (I) : All rats are dogs.
(II) : Some cats are rats.
(1) Only conclusion I is true
(2) Only conclusion II is true
(3) Both conclusions I and II are true
(4) Neither conclusion I nor conclusion II is true.

**Ans.** *(3)*

**Sol.**



**10.** **Statements** (I) : Some chalks are chairs.
(II) : Some chairs are tables.
**Conclusions** (I) : Some chalks are tables.
(II) : Some tables are chalks.
(1) Only conclusion I is true
(2) Only conclusion II is true
(3) Both conclusions I and II are true
(4) Neither conclusion I nor conclusion II is true.

**Ans.** *(4)*

**Sol.**
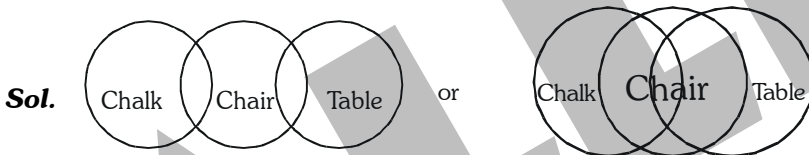


**11.** **Statements** (I) : Without rains the crops will not be good.
(II) : The crops were good.
**Conclusions** (I) : There were rains.
(II) : Crops were good due to good fertilizers.
(1) Only conclusion I is true
(2) Only conclusion II is true
(3) Both conclusions I and II are true
(4) Neither conclusion I nor conclusion II is true.

**Ans.** *(1)*
**Sol.** Crops were good because there were rains.

**12.** Which of the following venn diagrams correctly represents persons, trees and environment ?



**Ans.** *(1)*
**Sol.** Fact based.

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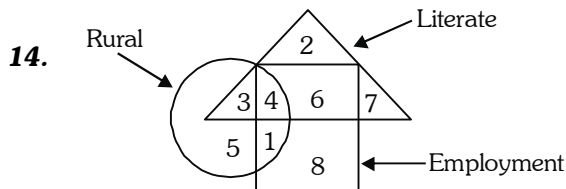**Ph: 0744-2405004, 2405005 | Email: prenurture@allen.ac.in**

**2**

**13.** Which of the following Venn diagrams correctly represents Jaipur, Rajasthan and India?
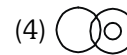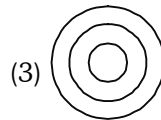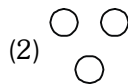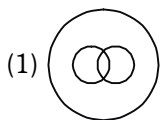


**Ans.** *(3)*
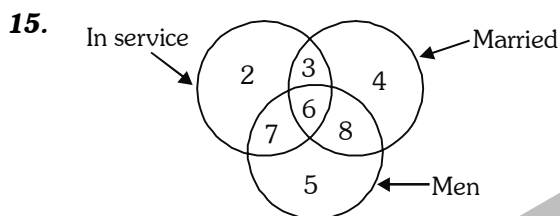**Sol.** Fact based.

**14.**



In the above diagram, how many literates are in employment ?
(1) 5　　　　　　　(2) 11　　　　　　　(3) 10　　　　　　　(4) 6

**Ans.** *(3)*
**Sol.** '10' represents literates are in employment.

**15.**



In the above diagram the number of men who are married and in service is
(1) 2　　　　　　　(2) 6　　　　　　　(3) 9　　　　　　　(4) 17

**Ans.** *(2)*
**Sol.** '6' represents men who are married and in service.

***Direction (Q.no. 16 to 19) :*** In questions 16 to 19 three alternatives are alike in a certain way but the rest one is different. Find out the odd one and write correct answer.

**16.** (1) ACEGF　　　(2) FHJLK　　　(3) KMOQP　　　(4) UWYZA
**Ans.** *(4)*
**Sol.** UWYZA is different.

**17.** (1) 125　　　　(2) 150　　　　(3) 300　　　　(4) 250
**Ans.** *(1)*
**Sol.** 125 is a cube of 5.

**18.** (1) 28, 4　　　(2) 35, 5　　　(3) 63, 7　　　(4) 56, 8
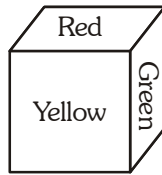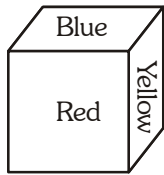**Ans.** *(3)*
**Sol.** 63, 7 is different because 7 divides 63 and quotient is 9.

**19.** Cement　　　(2) Brick　　　(3) Sand　　　(4) Colour
**Ans.** *(4)*
**Sol.** 'Colour' is different.

**20.** In the given dice the colour of opposite side of the face having blue colur will be



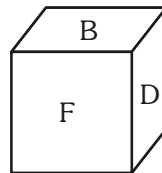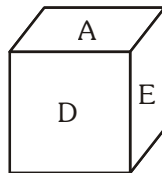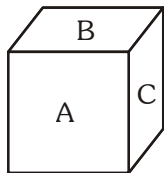(1) Red       (2) Green       (3) Yellow       (4) Blue

**Ans.** *(2)*

**Sol.** Blue and green are opposite because both are common adjacent to red and yellow.

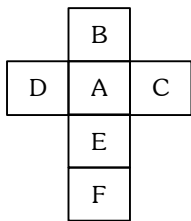**21.** Which alternative is correct in the given figures of dice?



(1) E is opposite of A                (2) C is opposite of E

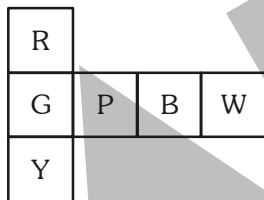(3) C is opposite of D                (4) F is not opposite of A

**Ans.** *(3)*

**Sol.**

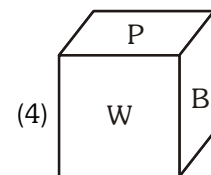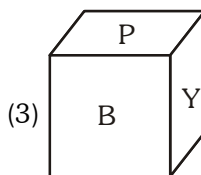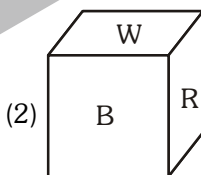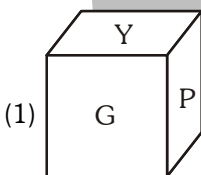|   | B |   |
|---|---|---|
| D | A | C |
|   | E |   |
|   | F |   |

**Direction (Q.no. 22 to 23) :** Answer on the basis of given figure that the different faces are folded in the form of cube.

**22.**

| R |   |   |   |
|---|---|---|---|
| G | P | B | W |
| Y |   |   |   |

Which figure of cube is not correctly formed in the following figure?



**Ans.** *(4)*

**Sol.** In actual figure P and W are opposite to each other.

**23.**

|   | 6 |   |
|---|---|---|
| 1 | 5 |   |
|   | 2 |   |
|   | 3 | 4 |

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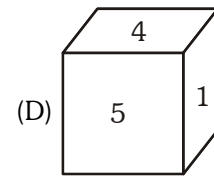Ph: 0744-2405004, 2405005 | Email: prenurture@allen.ac.in

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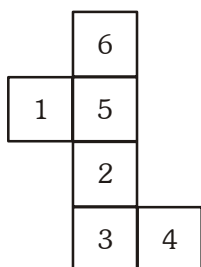
Which alternative is correct in the following figures of dice?
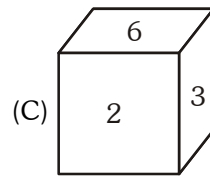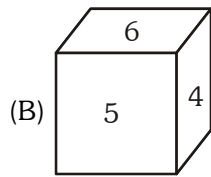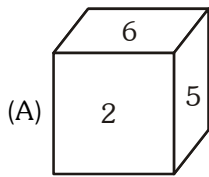


(1) Only A  (2) Only B  (3) Both A and C  (4) A, B, C and D

**Ans.** *(2)*

**Sol.** 5, 6, 4 are adjacent so option (2) is correct.

**24.** If in a coded language the word "EAST" is written as 'FAST' and 'BAT' is written as 'CAT', then in the same coded language 'RAT' will be written as

(1) TAP  (2) SAT  (3) PAT  (4) QAT

**Ans.** *(2)*

**Sol.** In every word first letter is increased by 1.

**25.** If P = 16, NC = 17 and AEO = 21, then what is the value of NEHLA?

(1) 41  (2) 40  (3) 48  (4) 46

**Ans.** *(2)*

**Sol.** Addition of ranking of alphabets in given word.

**26.** In a coded language 'Red colour pen = 276, 'Green colour flower = 789' and 'white colour pen = 247'. Then code for white is

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

**Ans.** *(3)*

**Sol.** 'Colour pen' is coded by 27 so 4 is the code for white.

**27.** In a coded language 'NUMBER' is written as 'PSOZGP'. Then in the same coded language 'BLOOD' will be written as

(1) ZJMMB  (2) ZNMQB  (3) DJQMF  (4) DNQQF

**Ans.** *(3)*

**Sol.** Series of +2 and –2.

**Direction (Q.no. 28 to 30) :** In each of the following questions a statement is given followed by two conclusion I and II. Read the conclusions and then decide which of the given conclusions logically follows from the two given statements.

**28.** **Statements :**     All students are boys.
                             No boy is dull.

**Conclusions** (i) :     There is no girl student in the class.
             (ii) :     No student is dull.

(1) Only conclusion I is true

(2) Only conclusion II is true

(3) Both conclusions I and II are true

(4) Neither conclusion I nor conclusion II is true.

**Ans.** *(3)*

**Sol.**



**29.** ***Statements :*** All poets are intelligent.

All singers are intelligent.

***Conclusions*** (i) : All singers are poet.

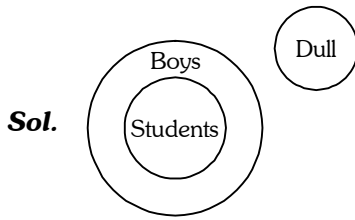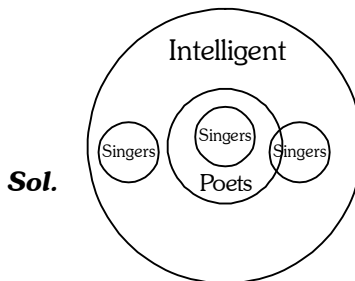(ii) : Some intelligent persons are not singers.

(1) Only conclusion I is true

(2) Only conclusion II is true

(3) Both conclusions I and II are true

(4) Neither conclusion I nor conclusion II is true.

**Ans.** *(4)*

**Sol.**



**30.** ***Statements :*** A car is required on rent – an advertisement.

***Conclusions*** (i) : All types of vehicles are available on rent.

(ii) : People will respond to the advertisement.

(1) Only conclusion I is true

(2) Only conclusion II is true

(3) Both conclusions I and II are true

(4) Neither conclusion I nor conclusion II is true.

**Ans.** *(2)*

**Sol.** Advertisement is given so people will respond.

**31.** A and B are brothers, C and D are sisters. The son of A is brother of D. Then the relation of B with C is

(1) Husband (2) Brother (3) Uncle (4) Nephew.

**Ans.** *(3)*

**Sol.** B is the brother of A and C is the son of A so B is the uncle of C.

**32.** Ram is the brother of Deepak, Sunita is sister of Rajesh, Deepak is the son of Sunita. How is Ram related to Sunita?

(1) Son (2) Brother (3) Nephew (4) Father

**Ans.** *(1)*

**Sol.** Ram is the son of Sunita

**33.** If $79 \oplus 86 = 6897$, then the value of $53 \oplus 47 =$

(1) 5347 (2) 7435 (3) 2491 (4) 3574

**Ans.** *(2)*

**Sol.** $53 \oplus 47 = 7435$.

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**6**

**34.** If the numbers 719, 609, 735, 689, 834, 937, 600, 798, 610 are arranged in ascending order, then the multiplication of digits of the mid-number is

(1) 96　　　　　　　(2) 9　　　　　　　(3) 17　　　　　　　(4) 63

**Ans.** *(4)*

**Sol.** $719 = 7 \times 1 \times 9 = 63$.

**35.** If $P > Q$, $Q > R$ and $R > S$, then $P$..?.. S.

(1) $P>S$　　　　　　(2) $P=S$　　　　　　(3) $P<S$　　　　　　(4) $P \geq S$.

**Ans.** *(1)*

**Sol.** $P > Q > R > S$ so $P > S$.

**36.** Urmila has 23rd rank from the right and 15th rank from the left. Then, how many persons are there in the row?

(1) 37　　　　　　　(2) 38　　　　　　　(3) 9　　　　　　　(4) 8.

**Ans.** *(1)*

**Sol.** Total persons $= 23 + 15 - 1 = 37$.

**37.** If 4th day of any month was Sunday, what will be the day on 27th day of the same month?

(1) Monday　　　　　(2) Tuesday　　　　　(3) Wednesday　　　　　(4) Saturday.

**Ans.** *(2)*

**Sol.** 27th day of the same month is Tuesday because there are two odd days.

**38.** If 3rd January, 2004 was Monday, what will be the day on 5th April, 2004 ?

(1) Wednesday　　　　(2) Monday　　　　(3) Sunday　　　　(4) Tuesday.

**Ans.** *(1)*

**Sol.** 5th April, 2004 is Wednesday because total no. of odd days will be two.

**39.** If 14th July of 1995 was Friday, then what was the day on 30th March of 1994?

(1) Sunday　　　　　(2) Monday　　　　　(3) Tuesday　　　　　(4) Wednesday

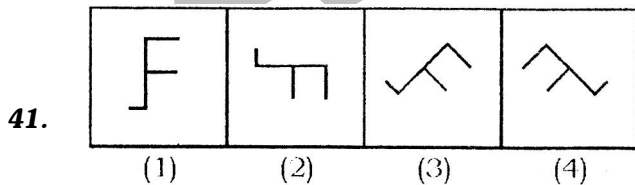**Ans.** *(4)*

**Sol.** 30th March of 1994 is Wednesday.

**40.** If 4 days before today it was Monday, what day will it fall on after 3 days?

(1) Sunday　　　　　(2) Monday　　　　　(3) Tuesday　　　　　(4) Wednesday.
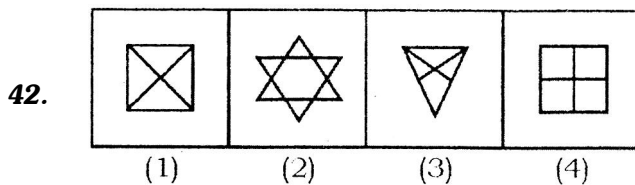
**Ans.** *(2)*

**Sol.** Today is Friday so after 3 days the day will be Monday.

**Direction (Q.no. 41 to 45) :** In questions **41** to **45** there are four figures given. One of these does not correlate with the rest of the figures. Find out that odd figure.
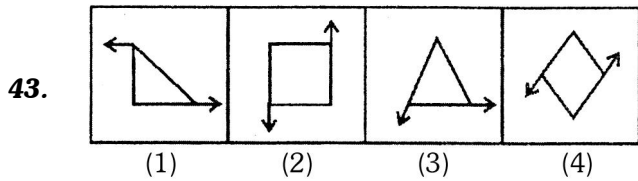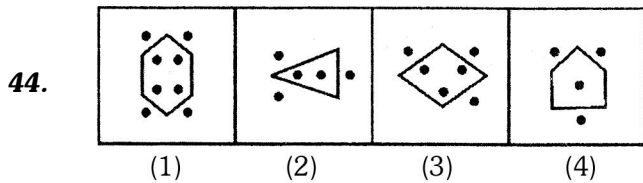
**41.**



(1)　　(2)　　(3)　　(4)

**Ans.** *(4)*

**Sol.** By visualization only.

**42.**



(1)　　(2)　　(3)　　(4)

**Ans.** *(2)*

**Sol.** By visualization only.

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**43.**



(1)　(2)　(3)　(4)

***Ans.*** *(1)*
***Sol.*** By visualization only.

**44.**



(1)　(2)　(3)　(4)

***Ans.*** *(4)*
***Sol.*** By visualization only.

**45.**



(1)　(2)　(3)　(4)
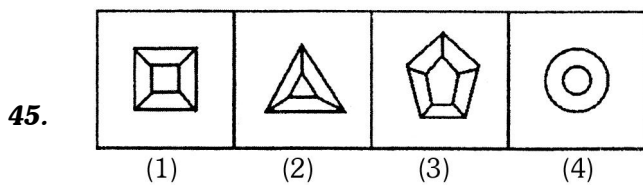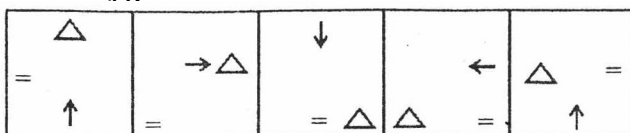
***Ans.*** *(4)*
***Sol.*** By visualization only.

***Direction (Q.no. 46 to 47)* :** In questions **46** to **47** there are tow sets of figures. One set contains problem-figures while the other has answer-figures. There is a sequence according to which the problem-figures are arranged. You have to select one figure from the set of answer-figures which can be placed in sequence after the set of problem-figures. Find out the correct figure.
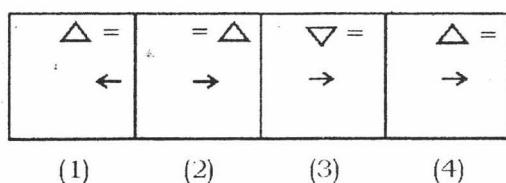
**46.**

Problem-figures

Answer-figures



(1)　(2)　(3)　(4)
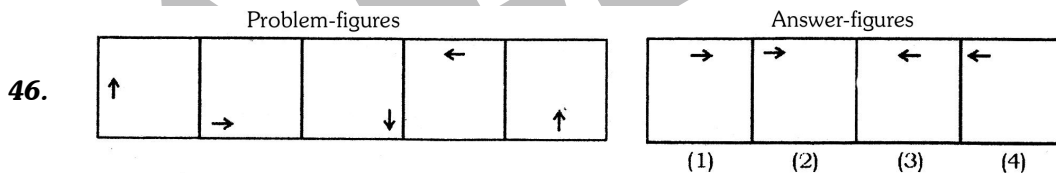
***Ans.*** *(2)*
***Sol.*** By visualization only.

**47.** ***Problem-figures***



***Answer Figure***



(1)　(2)　(3)　(4)

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**8**

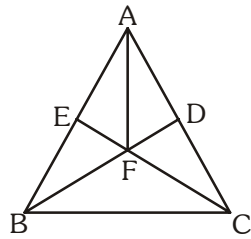***Ans.*** *(4)*
***Sol.*** By visualization only.

**48.** How many triangles are present in the following figure?



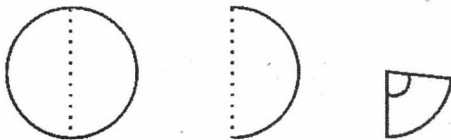(1) 14         (2) 10         (3) 12         (4) 09
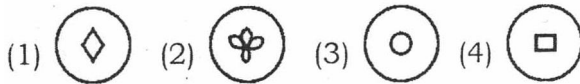
***Ans.*** *(3)*
***Sol.*** Following triangles are possible : AEF, BEF, AFD, BFC, DFC, ABF, AFC, ABD, AEC, BDC, BEC, ABC.

**49.** In the following question, three figures showing a sequence of folding a paper are given. Which could resemble the figure when the third figure is unfolded?
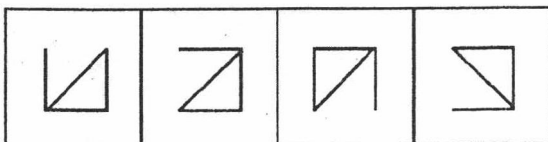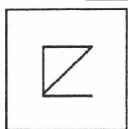
***Problem–figure***



***Answer–figure***



***Ans.*** *(3)*
***Sol.*** By visualization only.

**50.** Choose the correct mirror image of the given problem figure from given four alternatives.



***Ans.*** *(4)*
***Sol.*** By visualization only.

✳ ✳ ✳ ✳ ✳