IMPORTANT QUESTIONS

MAT

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1. Completing the Analogous Pair

Boat : Oar : : Bicycle : ?

(a) Pedal   (b) Seat   (c) Road   (d) Wheel

Ans: (a) Pedal

Sol: Second denotes that part of the first, on which the effort is applied to move it.

2. Choosing a Similar

Bhilai, Durgapur, Bokaro

(a) Baroda   (b) Chennai   (c) Chandigarh   (d) Rourkela
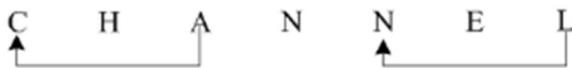
Ans: (d) Rourkela

Sol: (d) All cities are famous for steel plants

3. How many such pairs of letters are there in the word 'CHANNEL'**, which has as many letters between them in the word as in the English alphabet?**

(a) None   (b) One   (c) Two   (d) Three

(e) More than three

Ans: (c) Two

Sol: Such pairs are AC and LN

4. In a certain language, the word 'REJECT' is written as 'SGMIHZ'. How will the word 'ACCEPT' be written?

(a) BEFIUV   (b) BEFMUZ   (c) BEEIUZ   (d) BEFIUZ

Ans: (d) BEFIUZ

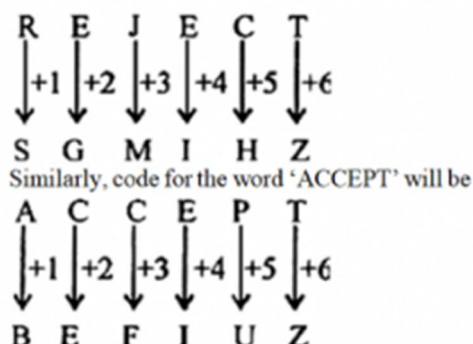**Sol:** Clearly, the pattern followed by the code is moving up in an increasing order
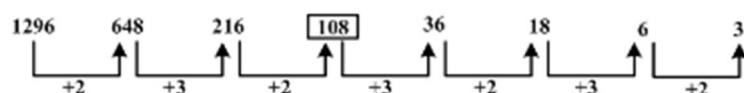
Similarly, code for the word 'ACCEPT' will be

Shortcut: Both words 'REJECT' as well as 'ACCEPT' contain 6 alphabets, where the position of the second E and T in REJECT are same as the E and T in 'ACCEPT' *i.e.*, positions 4 & 6 respectively. So, the code should have I and Z at positions 4 & 6 respectively. Thus options (1) and (3) are ruled out. Also, since the code has alphabets moved up in an increasing order. Therefore, option (2) is invalid. Hence option (4) is the correct answer.

5. **1296, 648, 216, ?, 36, 18, 6, 3**

    (a) 112   (b) 108   (c) 106   (d) 110

Ans: (b) 108

Sol:

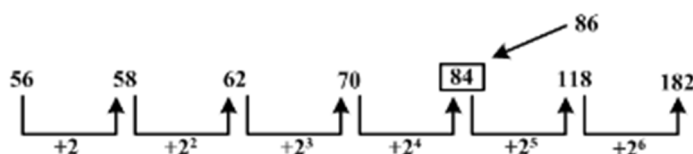Here terms are divided by 2 and 3 alternately. So missing term is obtained as 216/2 = 108

6. **Choose the incorrect**

    56, 58, 62, 70, 84, 118, 182

    (a) 58   (b) 62   (c) 84   (d) 118

Ans: (c) 84

Sol: The pattern is

Correct number $= 70 + 2^4 = 70 + 16 = 86$

7. **Pointing to a photograph, a lady tells, Amit, "I am the only daughter of this lady and her son is your maternal uncle." How is the speaker related to Amit's father?**
(a) Sister-in-law
(b) Wife
(c) Either (a) or (b)
(d) Neither (a) nor (b)

Ans: (b) Wife

Sol: The lady who is talking to Amit is the daughter of the lady in the photograph. The son of that lady who is the brother of the lady who is talking to Amit. The brother of this lady is the maternal uncle of Amit. The lady is the mother of Amit & wife of Amit's Father.

8. **A x B means A is the sister of B,**
A / B means A is the daughter of B,
A – B means A is the son of B.
On the basis of this information you have to tell, how is P related to S in the relationship P – Q x R / S
(a) Brother
(b) Son
(c) Grandson
(d) Daughters son

Ans: (d) Daughters son

Sol: (d) According to the directions
P is the son of the daughter of S.

9. **What was the day of the week on 15th August, 1947?**
(a) Monday
(b) Tuesday
(c) Friday
(d) Saturday

Ans: (c) Friday

Sol: 15th August, 1947 = (1946 years + Period from 1.1.1947 to 15.8.1947)
Odd days in 1600 years = 0
Odd days in 300 years = (5 x 3) = 15 = 146 years
= (11 leap years + 35 ordinary years)
= (11 x 2 + 35 x 1) odd days = 57 odd days
= (8 weeks + 1 day) = 1 odd day
Odd days in 1946 years
= (0 + 1 + 1) = 2
Jan. Feb. March April May June July Aug.
(31 + 28 + 31 + 30 + 31 + 30 + 31 + 15) = 227 days
227 days = (32 weeks + 3 days) = 3 odd days
Total number of odd days = (2 + 3) = 5
Hence, the required day is Friday.

10. **At 4 : 30, what is the angle formed between hour hand and minute hand?**

(a) 40° (b) 60° (c) 30° (d) 45°

Ans: 45°

Sol: At 4 O'clock angle between hour and min. hand is of 120° because in 30 min. minute hand make an angle of 180°

So, the resultant angle of 60°

But in 30 min. hour hand will also cover an angle of 15°

Hence, the final angle between both hands is 60° – 15° = 45°

11. **Directions (Ex. 1 to 4): Read the following information's carefully and answer the given questions.**

P, Q, R, S, T, V and W are the seven members of a family. There are three female members, each of them has a different profession – Lawyer, Chartered Accountant (CA), Engineer, Teacher, Doctor, Architect and Pharmacist. No lady is either Pharmacist or Chartered Accountant.

Each of them has a different monthly income. The Chartered Accountant earns the most. S, Engineer, earns less than V, the Doctor. R, the Teacher, earns more than P and less than S. W's wife earns the least. T is an unmarried lady lawyer and she earns less than P and more than only Q. The Pharmacist's income is not the lowest.

Ex 1. Who earns the least?

(a) P (b) Q (c) P or Q (d) R

(e) None of the above

Ex 2. What is P's profession?

(a) Pharmacist (b) Lawyer (c) Teacher

(d) Cannot be determined (e) None of the above

Ex 3. How many members earn less than the Doctor?

(a) 2 (b) 3 (c) 4 (d) 5

(e) None of these

Ex 4. **Which of the following represents the three female members of the family?**

(a) PTQ (b) TRQ (c) VTQ (d) VTR

(e) Cannot be determined

Solution all the given information's can be summarized in the following table:

Person	Profession	Sex
P	Pharmacist	M
Q	Architect	F
R	Teacher	M/F
S	Engineer	M/F
T	Lawyer	F
V	Doctor	M/F
W	Chartered Accountant	M

In terms of income

Q < T < P < R < S < V < W

1. **(b) Q earns the least**
2. **(a) P is Pharmacist.**
3. **(d) V is Doctor and Q, T, P, R and S earns less than V.**
4. **(e) The females are Q, T and one of R, S and V.**

12. **Which one of the four interchanges in signs and numbers would make the given equation correct?**
    3 + 5 – 2 = 4

    (a) + and –, 2 and 3   (b) + and –, 2 and 5   (c) + and –, 3 and 5   (d) None of these

Ans: (c) + and – 3, and 5

Sol: By making the interchange given in (a), we get the equation as 2 – 5 + 3 = 4 or 0 = 4, which is false.
By making the interchange given in (b), we get the equation as 3 – 2 + 5 = 4 or 6 = 4, which is false.
By making the interchange given in (c), we get the equation as 5 – 3 + 2 = 4 or 4 = 4, which is true.

13. Of the five villages P, Q, R, S and T situated close to each other, P is to the West of Q, R is to the South of P, T is to the North of Q and S is to the East of T. Then, in which direction R is with respect to S?

    (a) North – West   (b) South – East   (c) South – West   (d) Data inadequate
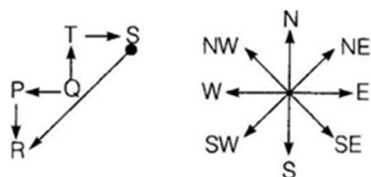
Ans: (c) South – West

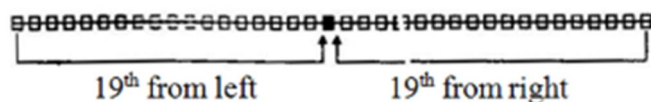**Sol:** (c) Locations of the given villages can be shown according to the figure.

Clearly, R lies to the South-West of S.

14. **In a class, boys stand in a single line. One of the boys is nineteenth in order from both the ends. How many boys are there in the class?**
(a) 27   (b) 37   (c) 38   (d) 39

Ans: (b) 37

Clearly, number of boys in the row = (18 + 18 + 1) =37
Alternative Method: Total number of person in a row class = (Rank of a person from upper end of left end) + (Rank of that person from lower or right end) – 1 (because that particular place counts two times)
Total number of boys in the class = 19 + 19 – 1 = 37

15. **Which of the following dice is identical to the unfolded figure as shown here ?**
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Ans: (a)

Sol: From the unfolded figure of dice, we find that number opposite to 2 is 4, for 5 it is 3 and for I it is 6. From this result we can definitely say that figure (2), (3) and (4) cannot be the answer figure as numbers lying on the opposite pair of surfaces are present on the adjacent surfaces. Hence figure (a) is our answer.

16. **Which of the following diagrams correctly represents the relationship among? Tennis fans, Cricket players and Students.**
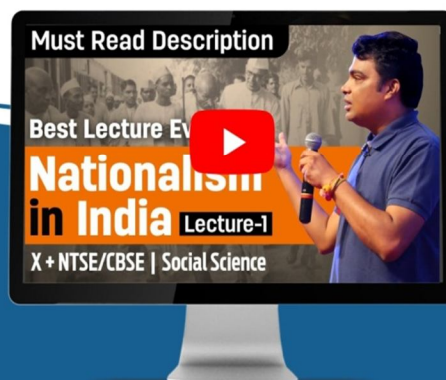

Ans: (a)

Sol: From the relationship given in the question, we observe that each of the objects carries something in common to one another. A Tennis fan can be a cricket player as well as student. hence Diagram (a) represents this relationship.
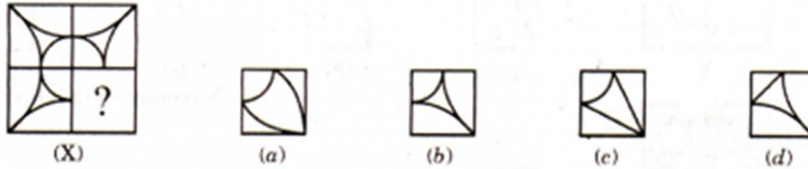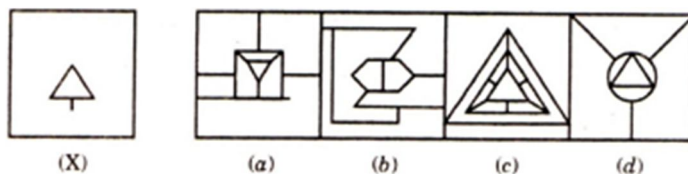
17. Select a figure from amongst the four alternatives, which when placed in the blank space of fig. (X) Would complete the pattern.

Ans: Fig. (b)

Sol: Clearly, fig. (b) will complete the pattern when placed in the blank space of fig. (X) as shown below:

18. In the questions, fig. (X) is embedded is any of the contains fig. (X) as its part

Ans: Fig. (c)

Sol: On close observation, we find that fig. (X) is embedded in fig. (c) as shown below:

19. Find the correct option for the mirror image for the Word WATER

Ans: (d)

Sol: We have to find the correct mirror image for the word 'WATER' for which we need to find the mirror image for each latter separately and then arrange it. Since, the word ends with R, i.e., where the mirror is placed, therefore the mirror image will start from the mirror images of R. Thus the mirror image for water is

We shall label the figure as shown below:

Clear, in this figure:

There are 3 horizontal lines namely AC, HD and GE.

There are 3 vertical lines namely AG, BF and CE.

There are 6 slanting lines namely AD, AE, GC, GD, CD and ED.

Thus, there are 3 + 3 + 6 = 12 straight lines in all.

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